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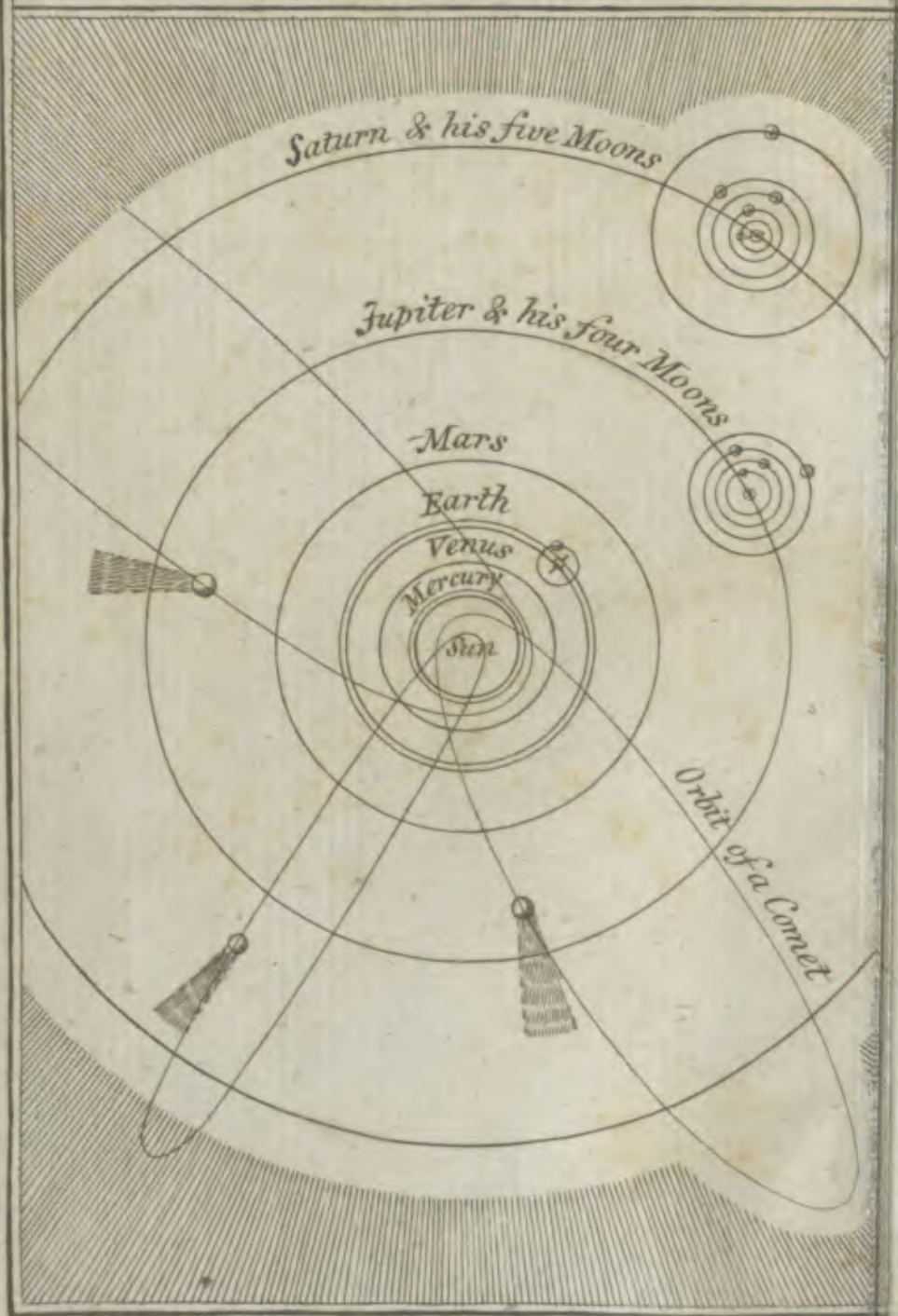

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THE

ELEMENTS

OF

USEFUL KNOWLEDGE,

IN SEVEN BOOKS:

COMPREHENDING SHORT SYSTEMS OF

ASTRONOMY AND GEOGRAPHY, MYTHOLOGY,
CHRONOLOGY, RHETORIC, BIOGRAPHY,
NATURAL PHILOSOPHY AND METALLURGY,
GOVERNMENT AND JURISPRUDENCE.

TO BE READ IN TURNS, WITH SUCH APPROVED SELECTIONS AS ARE GENERALLY USED IN SCHOOLS; AND TO BE CHIEFLY COMMITTED TO MEMORY.

BY THE REV. J. ADAMS, A. M.
AUTHOR OF THE ELEMENTS OF READING,
AND LECTIONES SELECTÆ.

THE SECOND EDITION,
MUCH IMPROVED AND ENLARGED.

" Sweet is the taſk to rear the tender mind,
" And teach the young idea how to ſhoot."

" The taking a taſte of every ſort of knowledge is neceſſary to form the mind, and is the only way to give the underſtanding its due improvement to the full extent of its capacity." LOCKE.

LONDON:
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TO THE PRESENT

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IN our intercourſe with the world, general knowledge is a great recommendation. It gives makind a favourable opinion of the underſtanding of thoſe who poſſeſs it, and is the ſource of much ſatisfaction. To lay the foundation of ſuch knowledge, in early youth, is, therefore, highly neceſſary, as well as to take every future opportunity of raiſing the ſuperſtructure.

To promote the culture of the mind is the deſign of the following performance; and the author flatters himſelf, that the peruſal of it will give young people a true reliſh for uſeful and polite literature. Encouraged by the reception given to a former large impreſſion, which exceeded his moſt ſanguine hopes, he

has reviſed and newly arranged the ſubjects treated of in this edition, corrected ſeveral chronological errors, and added an entire book of Biography, containing the lives of *fifteen eminent Britiſh characters*; and all this has been accompliſhed by the economy of printing, without increaſing the expence of purchaſe. Perhaps no book of the ſame price, contains a greater variety of important information to youth of both ſexes. The author has only to add, that if, during the ſale of the preſent impreſſion, he ſhall be furniſhed with any freſh hints for its ſtill greater improvement, he will not fail to make a proper uſe of them in the next edition.

ERRATUM.

In the Chronology, A. D. 1685, for *Kingedgemoor*, pleaſe to read *Sedgemoor*.

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ELEMENTS

OF

USEFUL KNOWLEDGE.

BOOK I.

ASTRONOMY AND GEOGRAPHY.

CHAP. I.

DEFINITION OF ASTRONOMY.

THE ſcience which treats of the planets, and other heavenly bodies, is called *Aſtronomy*. The moſt conſpicuous of the celeſtial bodies is that glorious luminary the *Sun*, the fountain of light and heat to the ſeveral planets, or habitable worlds which revolve round it. Theſe planets, together with the ſun, compoſe what aſtronomers have called the *Solar Syſtem*. They are ſix in number; and their names are Mercury, Venus, the Earth, Mars, Jupiter, and Saturn. With reſpect to their nearneſs to the centre, or middle point of the ſun, they are exactly in the order in which they are here mentioned. Mercury is the

to the ſun, Venus next, the earth next, Mars next, Jupiter next, and Saturn is at the greateſt diſtance of all.

Dr. Herſchel, the famous German aſtronomer, lately diſcovered another planet, to which he gave the name of the *Georgium Sidus* *.

CHAP. II.

DISTANCES OF THE PLANETS FROM THE SUN.

THE diſtances of the planets from the ſun may eaſily be conceived in the following manner. Suppoſing the diſtance of the earth from the ſun to be divided into ten equal parts, then that of Mercury will be four of theſe parts; that of Venus ſeven; that of Mars fifteen; that of Jupiter fifty-two; and that of Saturn ninety-five. Hence it appears, that the Earth is placed between Mars and Venus, having Mars, Jupiter, and Saturn above her, and Venus and Mercury below her; and for this reaſon it is, that the three firſt are called ſuperior, and the two laſt inferior planets.

But to expreſs the diſtances of the planets from the ſun, in Engliſh miles, the diſtance of Mercury from it is much about 37 *millions* of miles; of Venus 69 *millions* of miles; of the Earth 95 *millions* of miles;

* This planet was ſeen through a teleſcope, on the 2d of October, 1793, at two o'clock in the morning, in conjunction with that fixed ſtar of the firſt magnitude, called *Regulus*, or the *Lion's Heart*.

of

of Mars 145 *millions* of miles; of Jupiter 495 *millions* of miles, and of Saturn 908 *millions* of miles.

By theſe diſtances, however, are to be underſtood their mean diſtances; in order to comprehend which, it muſt be obſerved, that the orbit, or path, which a planet deſcribes about the ſun, is not a perfect *circle*, but a figure called an *ellipſis*; which, though ſomewhat reſembling a circle, is longer than it is broad. Hence the ſame planet is not always at the ſame diſtance from the ſun, and the mean diſtance of it is that which is exactly between its greateſt and leaſt diſtance.

CHAP. III.

DIFFERENCE BETWEEN A PLANET AND A FIXED STAR.

THE planets appear at firſt ſight like fixed ſtars; but, upon a more accurate view, they may eaſily be diſtinguiſhed from them, 1. By their never twinkling, as theſe laſt do. 2. By their being ſeen earlieſt in the evening, and lateſt in the morning. And 3. By their changing their poſition with regard to the fixed ſtars, and to one another.

Mercury can never be ſeen by the naked eye, on account of his nearneſs to the ſun, in the ſplendor of whoſe beams he is totally abſorbed. The only way of obſerving him is in his paſſage over the ſun, when he appears like a black ſpot on its ſurface. Venus is ſometimes our *evening*, and ſometimes our *morning* ſtar. Mars and Saturn may be eaſily known by their

deep *red* colour. And Jupiter is diſtinguiſhable from the fixed ſtars by the *largeneſs* of his ſize, and the *brightneſs* of his colour, which is ſo great, that it will ſometimes illuminate a *thin cloud* in the ſame manner as the moon.

CHAP. IV.

ON THE MOTION OF THE PLANETS.

ALL the planets, in different ſtated periods of time, perform their motion round the ſun from weſt to eaſt, in orbits nearly circular. Mercury performs his revolution in about *three months*; Venus in about *ſeven months* and half; the Earth in *a year*; Mars in about *two years*; Jupiter in *twelve*; and Saturn in about *thirty years*.

If we can form a notion of the manner in which any one of the planets, ſuppoſe our earth, moves round the ſun, we can eaſily conceive the manner in which all the reſt do it.

The earth, upon which we live, was long conſidered as one large extenſive *plane*. The heavens, above it, in which the ſun, moon, and ſtars, appeared to move daily from eaſt to weſt, were conceived to be at *no great diſtance* from it, and to be only deſigned for the uſe or ornament of our earth. Mankind, however, are now convinced that they live on a globe; and the ſpherical figure of the earth may be proved by a variety of arguments: 1. When we are on board a ſhip at ſea, we may

may be out of ſight of land, when the land is near enough to be viſible, if it were not hid from our eye by the convexity of the water. In this caſe, the tops of hills, cliffs, ſteeples, towers, &c. firſt appear to our view, next the buildings, and laſt of all the ſhore; which can proceed from nothing elſe but the roundneſs of the earth, whereby the lower objects are longer hid from the ſight, than thoſe which are higher.

2. When we ſtand upon the ſhore, the higheſt part of a ſhip is viſible at the greateſt diſtance. If a ſhip be going from us out to ſea, we ſhall continue to ſee the maſt, after the hull or body of the ſhip diſappears, and the top of the maſt will be ſeen longeſt. But if the ſurface of the ſea were quite flat, every part of an object would be equally viſible; and not the higheſt, but the largeſt part of an object would be viſible at the greateſt diſtance, ſo that we ſhould be able to ſee the hull of a ſhip farther off than the maſt. But this is contrary to experience; conſequently the earth is round.

3. Several navigators have ſailed quite round the earth; not in an exact circle, the winding of the ſhores preventing them from ſailing in a direct courſe; but by ſailing continually to the weſtward, they have reached the place from whence they at firſt departed. This was performed by Magellan, Cavendiſh, Sir Francis Drake, Lord Anſon, Bougainville, Commodore Byron, the Captains Carteret, Wallis, Cook, and others.

4. Eclipſes of the moon, which are occaſioned by the ſhadow of the earth falling on that planet, demonſtrate that the earth is of a globular figure; for this ſhadow is always circular, whatever ſituation the earth may be in at that time. Now a body muſt be *globular*, which always caſts a circular ſhadow.

Nor are the little unevenneſſes on the earth's ſurface, ariſing from hills and vallies, any material objections to its being conſidered as a round body; becauſe the higheſt mountains bear leſs proportion to the bulk of the earth, than the little riſings on the coat of an orange bear to that fruit; or a grain of ſand to an artificial globe, of nine inches diameter. And accordingly, we find that the mountains and vallies on the ſurface of the earth, cauſe no irregularities in the ſhadow, during a lunar eclipſe; the circumference thereof being even and regular, and appearing as if caſt by a body truly globular.

The roundneſs of the earth being thoroughly eſtabliſhed, a way is naturally opened for the diſcovery of its motion. For while it was conſidered as a plane, mankind had an obſcure notion of its being ſupported, like a ſcaffolding, on *pillars*, though they could not tell what ſupported theſe. But the figure of a globe is much better adapted to motion.

This is confirmed by conſidering, that, if the *earth* does not *move* round the ſun, not only the *ſun*, but *all the ſtars* and *planets*, muſt *move* round the earth. Philoſophers, by reckonings founded on the ſureſt obſervations, have been able to *gueſs* pretty nearly at the diſtances

diſtances of the heavenly bodies from the earth, and from each other, juſt as every body, who knows the firſt elements of mathematics, can meaſure the height of a ſteeple, or any object placed on it. It appears, therefore, that if we conceive the heavenly bodies to move round the earth, we muſt ſuppoſe them endowed with a motion, or velocity, ſo *immenſe* as to exceed all conception. All the appearances in nature, however, may be as well explained by imagining the earth to move round the ſun in the ſpace of a year, and to turn on its own axis once in twenty-four hours.

CHAP. V.

ON THE MOTION OF THE EARTH.

THE revolution of the earth round its axis, every twenty four hours, or its *diurnal* motion, alternately cauſes day and night, as either ſide is turned toward, or from the ſun; and its periodical revolution round that luminary, in three hundred and ſixty-five days ſix hours, or its *annual* motion, produces the four ſeaſons of the year.

To form a conception of theſe two motions of the earth, we may imagine a ball moving upon a billiard-table, or bowling-green. The ball proceeds forward upon the green or table, not by ſliding along like a plane upon wood, or a ſlate upon ice, but by turning round its own axis, which is an imaginary line drawn

through the centre or middle of the ball, and ending on its ſurface in two points, called its poles.

Conceiving the matter then in this way, and that the earth, in the ſpace of twenty-four hours, moves from weſt to eaſt, the inhabitants on the ſurface of it, like men on the deck of a ſhip, who are inſenſible of their own motion, and think that the banks move from them in a contrary direction, will conceive that the ſun and ſtars move from eaſt to weſt, in the ſame time of twenty-four hours, in which they, along with the earth, move from weſt to eaſt.

This daily or *diurnal* motion of the earth being once clearly conceived, we may eaſily form a notion of its *annual* or yearly motion round the ſun. For as that luminary ſeems to have a daily motion round our earth, which is really occaſioned by the daily motion of the earth round its axis, ſo, in the courſe of a year, he ſeems to have an annual motion in the heavens, and to riſe and ſet in different points of them, which is really occaſioned by the daily motion of the earth on its orbit or path round the ſun, which it completes in the time of a year.

This double motion of the earth may alſo be compared to a coach turning round in a court-yard. The wheels go round their *own axis*, at the ſame time that they move round the *yard*. It travels at the rate of fifty-eight thouſand miles every hour, which is one hundred and twenty times ſwifter than a cannon-ball; and by its rapid motion on its axis, the inhabitants of London are carried five hundred and eighty miles every hour.

hour. Thoſe at the Equator move much faſter: thoſe towards the Poles much ſlower; and thoſe at the very Poles hardly move at all.

What has been ſaid, with regard to the motion of the earth, the ſmalleſt reflection may lead us to apply to the other planets.

CHAP. VI.

AN OBJECTION ANSWERED.

THE following objection is made by ſome to the diurnal rotation of the earth on its own axis. If it moves, ſay they, from weſt to eaſt, will not a ball, fired perpendicularly upward in the air, fall conſiderably weſtward of the place from which it was ſhot? By no means. For, as both the gun and ball partake of the earth's motion, the ball will be carried forward with the air, as quick as the earth and air turn, and will therefore fall on the very ſpot from which it was fired. Thus, if one let fall a ſtone from the top of a main-maſt, it will fall on the deck, as near the foot of the maſt, when the ſhip ſails, as when ſhe is at reſt.

CHAP. VII.

OF THE SECONDARY PLANETS, OR MOONS.

BESIDES the *ſix primary* planets already mentioned, which move round the ſun, there are

other *ten* bodies which move round *three* of theſe, in the ſame manner as *they* do round the ſun. Of theſe our earth has *one*, called the moon; Jupiter has *four*, and Saturn has *five*. Theſe are all called moons from their agreeing with our moon, which was firſt attended to. They are alſo called *ſatellites*, and *ſecondary planets*, becauſe they ſeem to be attendants of the Earth, Jupiter, and Saturn, about which they move, and which are called *primary*. Saturn has, beſides, a thin, broad ring that furrounds his body, without touching it, in the ſame manner as a horizon does an artificial globe. It is twenty-one thouſand miles in breadth, and is as far from Saturn on every ſide.

CHAP. VIII.

ON THE SIZE OF THE PLANETS.

THE Earth is *twenty-ſeven* times as big as Mercury, very little bigger than Venus, and *five* times as big as Mars. But Jupiter is *more* than a *thouſand* times as big as the Earth, Saturn *five hundred and eighty-ſix* times as big, excluſive of his ring; and the Sun is near *nine hundred thouſand* times as big as the Earth.

The Moon is, at leaſt, *forty-three thouſand* times leſs than the Sun, and fifty times leſs than the Earth. The reaſon of her appearing as big as the Sun is, that ſhe is much nearer the Earth. Her diſtance from the Earth is only two hundred and forty thouſand miles; whereas that of the Sun is ninety-five millions.

CHAP.

CHAP. IX.

OF COMETS.

COMETS are certain dark or opaque bodies, like the planets, and move round the ſun, but in very eccentric orbits, being ſometimes ſo far from him, that their cold muſt be exceſſive, and ſometimes ſo near him, that their heat muſt be ſo intenſe, as would prove altogether intolerable to an inhabitant of this earth; and would even deſtroy, or at leaſt vitrify, the earth itſelf.

Sir Iſaac Newton computed the heat of the comet that appeared in the year 1680, when neareſt the ſun, to be two thouſand times hotter than red-hot iron, and that, being thus heated, it muſt retain its heat till it comes round again, although its period ſhould be more than twenty thouſand years; and it is computed to be only five hundred and ſeventy-five.

It is believed that there are at leaſt twenty-one comets belonging to our ſyſtem, moving in different directions. All thoſe which have been obſerved, have moved through the etherial regions and the orbits of the planets, without ſuffering the leaſt ſenſible reſiſtance in their motions, which ſufficiently proves that the planets do not move in ſolid orbs.

Of all the comets, the periods of three only are known with any degree of certainty, being found to return at intervals of 75, 129, and 575 years; and of theſe, that which appeared in 1680 is the

the moſt remarkable. This comet, at its greateſt diſtance, is about eleven thouſand two hundred millions of miles from the ſun, while its leaſt diſtance from the centre of the ſun is about four hundred and ninety thouſand miles. In that part of its orbit, which is neareſt the ſun, it flies with the amazing velocity of eight hundred and eighty thouſand miles in an hour; and the ſun, as ſeen from it, appears one hundred degrees in breadth, and conſequently forty thouſand times as large as he appears to us.

Our earth was out of the way, when this comet laſt paſſed near her orbit; but it requires a more perfect notion of the motion of the comet, to be able to judge, if it will always paſs by us, with ſo little effect. The comet, in one part of its orbit, approaches very near to the orbit of our earth; ſo that, in ſome revolutions, it may approach near enough to have very conſiderable, if not fatal effects upon it.

One of the comets was expected to return in 1789, but it has not yet appeared.

Comets are always attended with long tranſparent trains or tails, iſſuing from that ſide of them which is turned away from the ſun.

Comets were formerly ſuppoſed to be prodigies or portents, and to foretel ſome great event or revolution, ſuch as the fall of empires, or the death of ſome eminent and diſtinguiſhed perſonage; but they are now known to have no more connection with the civil or political affairs of this world, than any other of the heavenly bodies.

CHAP.

CHAP. X.

OF THE FIXED STARS.

THE *fixed ſtars* comprehend all the other heavenly bodies, except the ſun, planets, and comets. They are diſtinguiſhed by the naked eye from the planets, by being leſs bright and luminous, and by continually exhibiting that appearance, which we call the twinkling of the ſtars. This ariſes from their being ſo extremely ſmall, that the interpoſition of the leaſt body, of which there are many conſtantly floating in the air, deprives us of the ſight of them. When the interpoſed body changes its place, we again ſee the ſtar; and this ſucceſſion being perpetual, occaſions the twinkling.

But a more *remarkable* property of the fixed ſtars, and that from which they have obtained their name, is their never changing their ſituation, with regard to each other, as the planets, from what we have already ſaid, muſt evidently be always changing theirs.

The ſtars which are *neareſt* to us ſeem *largeſt*, and are therefore called of the *firſt magnitude*. Thoſe of the *ſecond magnitude* appear *leſs*; and ſo proceeding on to the *ſixth magnitude*, which includes all the fixed ſtars that are viſible without a teleſcope.

CHAP. XI.

NUMBER OF THE FIXED STARS.

AS to their number, though in a clear winter's night, without moonſhine, they ſeem to be innumerable, which is owing to their ſtrong ſparkling, and our looking at them in a confuſed manner, yet when the whole firmament is divided, as it has been done by the ancients, into ſigns and conſtellations, the number that can be ſeen at a time, by the naked eye, is not above a *thouſand*.

Since the introduction of teleſcopes, indeed, the number of the fixed ſtars has been juſtly conſidered as *immenſe*; becauſe the greater perfection we arrive at in our glaſſes, the more ſtars always appear to us. Mr. Flamſteed, late royal aſtronomer at Greenwich, has given us a catalogue of about three thouſand ſtars, which is the moſt complete that has hitherto appeared. Halley obſerved three hundred and fifty more in the ſouthern hemiſphere.

CHAP. XII.

OF THE DOG-STAR.

THE immenſe diſtance of the fixed ſtars from our earth, and from one another, is of all conſiderations the moſt proper for raiſing our ideas of the works of God. The ſtar neareſt to us, and conſequently

quently the largeſt in appearance, is the *dog-ſtar*, or *Sirius*. Modern diſcoveries make it probable, that each of theſe fixed ſtars is a ſun, having worlds revolving round it, as our ſun has the earth and other planets revolving round him. So that, perhaps, there are as many ſyſtems of worlds, as there are fixed ſtars in the expanſe of heaven. Now the dog-ſtar appears *twenty-ſeven thouſand* times leſs than the ſun; and, as the diſtance of the ſtars muſt be greater as *they* ſeem leſs, mathematicians have computed the diſtance of *Sirius* from us to be *two billions* and *two hundred thouſand millions* of miles.

The motion of light, therefore, which, though ſo *quick* as to be commonly thought *inſtantaneous*, takes up more time in *travelling* from the ſtars to *us*, than *we* do in making a Weſt-India voyage. A *ſound* would not arrive to us from thence in *fifty thouſand* years; which, next to light, is conſidered as the quickeſt body we are acquainted with. And a cannon-ball, flying at the rate of four hundred and eighty miles an hour, would not reach us in *ſeven hundred thouſand* years.

CHAP. XIII.

OF THE CONSTELLATIONS ON EACH SIDE OF THE ZODIAC.

THE firſt people, who paid much attention to the fixed ſtars, were the *ſhepherds* in the beautiful plains of Egypt and Babylon; who, partly from amuſement,

amuſement, and partly with a view to direct them in travelling during the night, obſerved the ſituation of theſe celeſtial bodies. Endowed with a lively fancy, they divided the ſtars into different *companies* or conſtellations, each of which they ſuppoſed to repreſent the image of ſome *animal*, or other *terreſtrial* object.

The peaſants in our own country do the ſame thing; for they diſtinguiſh that great northern conſtellation, which philoſophers call the *Urſa Major*, by the name of the *Plough*, the figure of which it may certainly repreſent with a very little help from the fancy.

But the conſtellations, in general, have preſerved the names, which were given them by the ancients. They are reckoned twenty-one *northern*, and twelve *ſouthern*; but the moderns have increaſed the number of the northern to thirty-ſix, and of the ſouthern to thirty.

NORTHERN CONSTELLATIONS.

The Little Bear, *the Great Bear*, *the Dragon*, *the Greyhounds*, *Bootes**, and *Mons Menelaus*: *Cephæus*†, *Berenice's Hair*, *Charles's Heart*, *the Northern Crown*, *Hercules*‡, and *Cerberus*: *The Harp*, *the Swan*, *the Fox*, *the Gooſe*, *the Lizard*, *Caſſiopeia*, and *Perſeus*: *Andromeda*, *the Great Triangle*, *the Little Triangle*, *Auriga*, *Pegaſus*§, *the Dolphin*, and *the Arrow*: *The Eagle*, *Ser-*

* The keep of the bear.

† A King of Ethiopia.

‡ With his club watching the dragon.

§ Or the flying horſe.

pentarius,

pentarius, *the Serpent*, *Sobieſki's Shield*, *Camelopardus*, and *the Colt*: *Antinous*, *the Lynx*, *the Little Lion*, and *Muſca*.

SOUTHERN CONSTELLATIONS.

The Whale, *the River Eridanus*, *the Hare*, *Orion*, *the Great Dog*, and *the Little Dog*: *The Ship Argo*, *Hydra*, *the Centaur*, *the Cup*, *the Crow*, *the Wolf*, and *the Altar*; *the Southern Crown*, *the Southern Fiſh*, *the Phœnix*, *the Crane*, and *the Peacock*: *Noah's Dove*, *the Indian*, *the Bird of Paradiſe*, *Charles's Oak*, *the Southern Triangle*, and *the Fly* or *Bee*: *the Swallow*, *the Cameleon*, *the Flying Fiſh*, *the American Gooſe*, *the Water Serpent*, and *the Sword Fiſh*.

Some of the principal ſtars have particular names given them, as *Aldebaram*, in the *Bull's Eye*; *Regulus*, or the *Lion's Heart*; *Arcturus*, in *Bootes*; *Syrius*, in the *Great Dog*; *Spica*, or the *Ear of Corn*, in *Virgo*; *Pleiades*, or the *Seven Stars*.

Beſides the ſtars viſible to the naked eye, there is a very remarkable ſpace in the heavens, called the *Galaxy*, or *Milky Way*. This is a broad circle of a whitiſh hue, like milk, going quite round the whole heavens, and conſiſting of an infinite number of ſmall ſtars, viſible through a teleſcope, though not diſcernible by the naked eye.

CHAP.

CHAP. XIV.

OF THE TWELVE SIGNS IN THE ZODIAC.

BESIDES the above-mentioned, there are twelve *ſigns* or conſtellations in the Zodiac, as it is called from a Greek word ſignifying an animal, becauſe each of theſe twelve repreſents ſome animal. The line in the middle of the Zodiac is called the Ecliptic; becauſe *eclipſes* happen in or near that line. It is called *Via Solis*, the * ſun's annual path, or way through the heavens. But in aſtronomy it is that circle, or path, which the earth would deſcribe to an eye, placed in the centre of the ſyſtem, viz. the ſun. It is divided into twelve equal parts, which are called *Signs*, and have different names and characters.

NORTHERN SIGNS.

Aries.	*Taurus.*	*Gemini.*	*Cancer.*	*Leo.*	*Virgo.*
♈	♉	♊	♋	♌	♍

SOUTHERN.

Libra.	*Scorpio.*	*Sagittarius.*	*Capricornus.*	*Aquarius.*	*Piſces.*
♎	♏	♐	♑	♒	♓

The ſignification of theſe names is as follows. Aries ſignifies the *Ram*; Taurus the *Bull*; Gemini the *Twins*; Cancer the *Crab*; Leo the *Lion*; Virgo

* Properly ſpeaking, however, it ought to be called the earth's yearly path through the heavens.

the

the *Virgin*; Libra the *Balance*; Scorpio the *Scorpion*; Sagittarius the *Archer*; Capricornus the *Goat*; Aquarius the *Water-bearer*; and Piſces the *Fiſhes*.

It is not eaſy to ſay, why the ancient aſtronomers affixed ſuch images as the Ram, the Bull, &c. to the twelve Signs of the Zodiac. There is great reaſon, however, to ſuppoſe that they were placed as hieroglyphics of the ſeaſons of the year, alluding to the annual courſe of the ſun.

Thus, Aries, Taurus, and Gemini, repreſent *March*, *April*, and *May*, the ſpring quarter of the year, when *lambs*, *calves*, and *goats* (the latter generally bringing forth *twin kids*) are produced.

Cancer, the *Crab*, which *creeps both ways*, repreſents the increaſe and decreaſe of the ſun's declination, to and from the ſummer ſolſtice, in June.

Leo, the *Lion*, intimates the *raging heat* of the ſun in July, which the ancients compared to the furious nature of that *fierce* animal.

Virgo, the *Virgin*, with a ſpike or ear of corn in her hand, properly repreſents Auguſt, when the *harveſt* of the earth is *ripe*.

Libra, the *Balance*, is diſplayed in September, to intimate that the days, at the autumnal equinox, are equal in all parts of the globe.

Scorpio, the *Scorpion*, a noxious animal, is placed as the hieroglyphic of October; becauſe, at that ſeaſon, diſeaſes of various kinds too often *rage*.

Sagittarius, the *Archer*, marks November as the proper time for *hunting*.

Capricornus,

Capricornus, the *Goat*, by its *climbing* up the rocks, is placed as an *emblem* of December, when the ſun, at the winter ſolſtice, begins to aſcend again towards the equinoctial.

Aquarius, the *Water-bearer*, with his urn, repreſents January, when *rains* are frequent.

Piſces, the *Fiſhes*, are emblems of the fiſhing ſeaſon, which began in the *Nile* during the month of February.

The names of the twelve Signs are contained in the following verſes.

The *ram*, the *bull*, the *heavenly twins*,
And next the *crab*, the *lion* ſhines,
The *virgin* and the *ſcales*:
The *ſcorpion*, *archer*, and *ſea-goat*,
The man that holds the *water-pot*,
And *fiſh* with glittering tails.

CHAP. XV.

OF THE SUN AND MOON, AND ECLIPSES.

SOME imagine the *Sun* to be a common fire, continually ſupplied with globules of combuſtible matter, and therefore have thought it to be the place of hell. Others ſay that it is an elementary fire, which ſubſiſts without any kind of nouriſhment.

Though the ſun be nine hundred thouſand times bigger than the earth, it appears but ſmall on account of its diſtance, which is ſo very great, that a cannon-

ball

ball would be twenty-five years coming from thence to the earth, even if it flew as ſwift as it does, when it is firſt diſcharged from the mouth of the cannon.

It was formerly ſuppoſed that the ſun moved round the earth, becauſe he ſeemed to do ſo. But it is now demonſtrated that he always remains fixed in the ſame place, and that the earth and other planets move round about him.

The *Moon* is a large globe like our earth, both in matter and form. She is not a luminary like the ſun, but a dark opaque body, and receives all the light ſhe ſhines with from the ſun, and by reflection conveys it to *us* in the ſun's abſence.

The different degrees of light with which the moon ſhines, are called her *phaſes*. At *new* moon ſhe is between the ſun and the earth, and her enlightened parts are hid or turned from us; when *full*, we are between her and the ſun, and we ſee all her enlightened ſide. She likewiſe appears a *horned*, *half*, or *gibbous* moon, when a little part of her light turns towards us.

The *bright* parts of the moon's body are the higheſt parts of the land, as hills, mountains, promontories, iſlands, &c. and the darker parts of the moon are caverns, deep pits, and places which reflect not the ſun's light ſo ſtrongly as others.

The earth is at leaſt fifty times bigger than the moon; and the diſtance between them, as was before obſerved, is about two hundred and forty thouſand miles.

The

The moon is the cauſe of the tides. By attracting the waters of the ſea, ſhe raiſes them higher.

An *Eclipſe* is a total or partial privation of the light of the ſun or moon. An eclipſe of the ſun happens, when the moon comes between the *ſun* and the earth. In this poſition ſhe will wholly or partly intercept the rays of the ſun, which is then ſaid to undergo an eclipſe. When this eclipſe is total, the darkneſs is ſo great, that the ſtars will appear at noon-day.

An eclipſe of the moon is occaſioned by the coming of the earth between the moon and the ſun. It is eaſy to be conceived, that the moon, having no light of her own, when the rays of the ſun are intercepted from her, will appear dark or duſky.

An eclipſe of the *ſun* never happens but at a new moon, nor one of the *moon*, but when ſhe is full.

CHAP. XVI.

ON A PLURALITY OF WORLDS.

THE *Sun*, with all its attendant planets, is but a *very little* part of the grand machine of the univerſe. The ſtars which we behold in the firmament, though owing to their immenſe and inconceivable diſtance they appear very ſmall, are no leſs ſpacious and luminous than the radiant ſource of our day. Every *ſtar*, as was before mentioned, is the *centre* of a ſyſtem,—has a *retinue* of worlds *enlightened* by its beams, and revolving round its attractive influence.

Were

Were it poſſible that we could be conveyed to the moſt *diſtant* of thoſe twinkling luminaries, that are within the reach of our ſight, even when aſſiſted by human art, we ſhould there ſee *other ſkies* expanded, *another ſun* diſtributing his inexhauſtible beams by day, *other ſtars* that gild the horrors of the alternate night, and other, perhaps *nobler*, ſyſtems eſtabliſhed, in unknown profuſion, through the *boundleſs* dimenſions of ſpace.

Job, after a moſt beautiful diſſertation on the works of God, as they are diſtributed through univerſal nature, cloſes the account with this acknowledgment, "Lo! theſe are parts of his ways;" or, as the original word more literally ſignifies, and may perhaps be more elegantly rendered, "Theſe are only the outermoſt borders of his works;" no more than a *ſmall province* of God's univerſal empire.

It is obſerved by a very judicious* writer, "That if the ſun himſelf, which enlightens this part of the creation, was extinguiſhed, and all the hoſt of planetary worlds, which move about him, were annihilated, they would not be miſſed, any more than a grain of ſand upon the ſea-ſhore. The bulk of which they conſiſt, and the ſpace which they occupy, is ſo exceedingly little, in compariſon of the whole, that their loſs would ſcarce leave a blank in the immenſity of God's works. The chaſm would be imperceptible to an eye, that could take in the whole

* Mr. Addiſon.

compaſs

compaſs of nature, and paſs from one end of the creation to the other."

A celebrated * philoſopher carries this thought ſo far, that he does not think it impoſſible there may be ſtars, ſo far removed from this earth, that their *light* has not as yet *reached* to us, ſince their *firſt creation*.

There is no queſtion but the univerſe has certain bounds ſet to it; but when we conſider that it is the work of infinite wiſdom, prompted by infinite goodneſs, with an infinite ſpace to exert itſelf in, how can our imagination ſet any bounds to it?

What an auguſt, what an amazing conception, if human imagination can conceive it, does this give of the works of the Creator! Thouſands and thouſands of ſuns, multiplied without end, and ranged all around us, at immenſe diſtances from each other, attended by *ten thouſand times ten thouſand* worlds, all in rapid motion, yet calm, regular, and harmonious, invariably keeping the paths preſcribed them; and theſe worlds, in all probability, peopled with myriads of intelligent beings, formed for endleſs progreſſion in perfection and felicity.

If ſo much power, wiſdom, goodneſs, and magnificence are diſplayed in the material creation, which is the leaſt conſiderable part of the univerſe, how wiſe, how good muſt HE be, who made and governs the whole!

* Huyghens.

CHAP.

CHAP. XVII.

ON THE ATMOSPHERE, OR SURROUNDING AIR.

THE atmoſphere is a thin, inviſible fluid, which ſurrounds the earth to a conſiderable height. It accompanies it in its diurnal motion round its own axis, and in its annual motion round the ſun. The vapours float in it. The clouds are ſuſpended by it. It furniſhes wind and rain. In ſhort, it is that in which we live and breathe.

According to Dr. Keill, and other aſtronomical writers, it is entirely owing to the *atmoſphere* that the heavens appear *bright* in the day-time. For, without the atmoſphere, only that part of the heavens would ſhine in which the ſun was placed; and if we could live without air, and ſhould turn our backs towards the ſun, the whole heavens would appear as dark as in the night, and the ſtars would be ſeen as clear as in the nocturnal ſky.

In this caſe we ſhould have no twilight. There would be a ſudden tranſition from the brighteſt ſunſhine to the blackeſt darkneſs, immediately after ſunſet; and from the blackeſt darkneſs to the brighteſt ſunſhine, at ſun-riſing. This would be extremely inconvenient, if not blinding to all mortals. But, by means of the atmoſphere, we enjoy the ſun's light, reflected from the aërial particles, for ſome time before he riſes, and after he ſets. For when the ſun has deſcended below the horizon, and conſequently is out

of our ſight, the atmoſphere, being higher than we are, has his light ſtill imparted to it, and reflects it to us. This light, or rather twilight, gradually decreaſes, till the ſun has got eighteen degrees below the horizon; and then all that part of the atmoſphere, which is above us, is dark.

From the length of the twilight, the doctor has calculated the height of the atmoſphere (ſo far as it is denſe enough to reflect any light) to be about forty-four miles. But it is ſeldom denſe or heavy enough, at two miles height, to bear up the clouds. The higher it goes, the thinner and lighter it becomes, and a ſmaller quantity of it occupies a larger ſpace. Its real height, however, cannot be aſcertained.

CHAP. XVIII.

CONCERNING THE INHABITANTS OF THE PLANETS.

THE magnificence of Nature ſhines forth in all her works. Could that all-powerful hand which weighed the foundations of the univerſe, which ſuſpended from the lamp of heaven millions of luminous globes, which gave them the firſt impulſe, and which created planets like thoſe which we inhabit, find obſtacles to prevent it from peopling theſe orbs, as it has peopled ours?

All the obſervations of the moderns tend to perſuade us that *our moon* has an atmoſphere; parts more elevated and enlightened than others; parts lower and obſcurer; and others, which reflecting leſs light, and preſenting

preſenting a ſurface always equally ſmooth, are thought to be a large collection of waters. Have we not every reaſon then to infer, according to our notions of the wiſdom of God, that he has placed there beings of ſome kind or other, to inhabit that planet, in order that all theſe phænomena may not be entirely loſt? We can never perſuade ourſelves that Nature, or the Supreme Architect of the world, ſhould have made any thing *in vain*.

Father Kircher tranſported himſelf in idea to all the planets, and has given a deſcription of their inhabitants according to his exalted imagination. Saturn, he ſays, is peopled with *melancholy old men*, who have pale viſages and ſtern looks, and who, clothed in diſmal dreſſes, march along with a ſlow pace, bearing in their hands flaming torches. In Venus he obſerved young people, of the *fineſt* figure and *moſt exquiſite* beauty, ſome of whom danced to the ſound of *harps* and cymbals, whilſt others ſcattered, in great profuſion, odours and perfumes.

The ſuperſtition and enthuſiaſm mixed with theſe ideas, cannot deſtroy thoſe truths which are blended with them.

Whoever imagines that ſo many glorious ſuns were created only to give a faint glimmering light to the inhabitants of this globe, muſt have a very ſuperficial knowledge of aſtronomy, and a mean opinion of the divine Wiſdom. There are many ſtars which are not viſible without the aſſiſtance of a good teleſcope; and, therefore, inſtead of giving light to this world,

they can only be ſeen by a few aſtronomers. By an infinitely leſs exertion of creating power, the Deity could have given our earth much more light by a ſingle additional moon.

Fontenelle has ſecured himſelf from the objections of divines, by not placing *men* in the *other planets*, but inhabitants of a *different* nature. But it was far from being *neceſſary* for him to do ſo. The ſcripture, indeed, informs us, that all mankind are *deſcended* from Adam, but this is only meant of thoſe men who inhabit *our globe*. Other men may inhabit other planets, and may have ſprung from ſome other father than Adam. Dare we, who, in compariſon of the univerſe, are mere inſects, creeping over the ſurface of that little ſpot called the earth, preſcribe bounds to all Nature!

With great reaſon, then, do all philoſophers now admit as many ſolar ſyſtems, more or leſs like ours, as there are fixed ſtars. Even thoſe minds, which are the leaſt tinctured with philoſophy, begin to be familiarized with this idea of millions of worlds; which, in ſome meaſure, may be aſcribed to the elegant work of Fontenelle on this ſubject.

CHAP. XIX.

THE CELESTIAL BODIES PROVE THAT THERE IS A GOD.

WHO that lifts up his eyes to the heavens, and beholds the wonders of the firmament, can entertain the leaſt doubt of the exiſtence of a Supreme Being?

Being? "There is no ſpeech nor language, where their voice is not heard. Their line is gone out through all the earth, and their words to the end of the world." To imagine ſuch effects without a cauſe, or to aſcribe them to a cauſe leſs than divine, is bidding defiance to the faculty of intelligence, and renouncing the character of a rational being. The reaſonings of an ancient philoſopher on this point are excellent. "Let us ſuppoſe," ſays he, "certain perſons to have been born, and to have lived in ſubterraneous habitations, till they came to the years of maturity and diſcretion, and then to be introduced into this *fair world*, which we inhabit. Let them be imagined to behold the face of the earth, diverſified with *hills* and *vales*, with *rivers* and *woods*; the *wide extended* ocean, the *lofty* ſky, and the *clouds* carried along by the *winds*. Let them behold the *ſun*, and obſerve his tranſcendent brightneſs, and wonderful influence, as he pours down the flood of day, over the whole earth, from eaſt to weſt. And when night covered the world with darkneſs, let them behold the hemiſphere, beſpangled and adorned with *innumerable ſtars*. Let them obſerve the various appearances of the *moon*, in her increaſe and decreaſe. Let them have leiſure to mark the riſing and ſetting of the celeſtial luminaries, and to underſtand that their eſtabliſhed courſes have been going on from age to age. When," ſays he, "they had ſurveyed and conſidered all theſe things, they would infallibly conclude, that they were the workmanſhip of a Being,

poſſeſſed of all thoſe perfections, which are generally aſcribed to the great Creator!"

The heavenly bodies ſpeak intelligibly to all mankind. There is no people ſo uncivilized, no nation ſo barbarous, which may not receive both conviction and inſtruction from them. So wonderful and grand a ſcene muſt certainly ſtrike even the rudeſt minds, and produce awful impreſſions, as well as devout acknowledgments.

CHAP. XX.

ON THE DIVINE WISDOM, DISPLAYED IN THE HEAVENLY BODIES.

WHAT ſkill leſs than divine could have poiſed the ſtars with inexpreſſible nicety, and meted out the heavens with a ſpan? where all is grand, and vaſt, and various, but yet moſt exact. All the ſpheres proceed in eternal harmony; keeping ſuch time, and obſerving ſuch laws, as are moſt exquiſitely adapted to the perfection of the whole.

Surely the wiſdom of the Deity manifeſts itſelf in the heavenly bodies, and ſhines on the contemplative mind with a luſtre incomparably brighter than that, which their united ſplendors tranſmit to the eye.

" There dwells a noble pathos in the ſkies,
" Which warms our paſſions, proſelytes our hearts:
" How *eloquently ſhine* the glowing orbs!
" Remonſtrating great truths in ſtyle ſublime*?

* Dr. Young.

CHAP.

CHAP. XXI.

THE HEAVENS DECLARE THE POWER OF THE DEITY.

" We read God's *awful power*, imprinted high,
" With golden letters, on the ſtarry ſky *."

IN what majeſtic lines is it *there* written! In what legible characters is it there recorded! In how ſtriking a manner is it there diſplayed! " By the word of the Lord were the heavens made, and all the hoſt of them by the breath of his mouth." He ſaid, " Let there be light, and there was light. Let there be a firmament, and there was a firmament. Let the ſun rule the day, and the moon the night, and ſo it was!" At his command, order ſprung out of confuſion, and the beautiful fabric of the univerſe emerged from chaos. " He ſtretched out the north over the empty place," ſuſpended the earth upon nothing, and bade the planets go their everlaſting round. With what wonderful rapidity, and yet with what perfect regularity, do they perform their revolutions! How minutely faithful to the viciſſitudes of day and night! How exactly punctual in bringing on the changes of their reſpective ſeaſons! By the great Creator were they firſt ſet in motion. He impreſſed upon them the power of *gravitation*, by which they hang ſelf-balanced

* Mrs. Barbauld.

on their centres, and require nothing but this amazing property for their ſupport. If it were the pleaſure of the Deity, that this principle ſhould ceaſe to exert its energy, the univerſal frame would be diſſolved, and all Nature would return to her original chaotic ſtate: or, as the ingenious and much-admired author of the Seaſons expreſſes it,

——————" Should God hide his face,
" Th' aſtoniſh'd ſun, and all th' extinguiſh'd ſtars,
" Would looſening reel, wide from their ſpheres,
" And chaos come again*!"

CHAP. XXII.

ON THE GOODNESS OF THE DEITY, DISPLAYED IN THE CREATION.

IT was nobly ſaid by a Grecian philoſopher, " That God, when he undertook the work of creation, transformed himſelf into *Love*." He has no occaſion, however, to transform himſelf into this amiable principle, for he is the fountain and the ſource of it. It is much eaſier to believe that there is no God, than that he is not good and beneficent. He created this earth, and all the brighter realms on high, and peopled them with ſo many tribes of inhabitants, for no other purpoſe, but to transfuſe his *exuberant kindneſs*, and to communicate felicity and joy to *innumerable ranks* of ſenſitive and intelligent exiſtence.

* Thomſon.

Large

Large as the compaſs of creation is, every thing contributes to the beauty, the order, and well-being of the whole. The ſun is the inexhauſted ſource of light, and heat, and comfort, ſhedding day through all the ſyſtem, and extending his benign and enlightening influence to ſurrounding worlds. The clouds being raiſed in copious exhalations from the vaſt ocean, are kindly commiſſioned to drop down fatneſs as they fall, to diffuſe fertility over the earth, and to ſcatter flowers over the field.

The goodneſs of the Deity warms in the morning ſun, refreſhes in the evening breeze, ſmiles in the bloſſoms of ſpring, and ſhines in the conſtellations of heaven.

——————" The glitt'ring ſtars
" By the deep ear of meditation heard,
" Still in their midnight watches ſing of Him."

What an amiable idea of the Author of Nature doth this convey to us! Is it poſſible to conceive any excellence ſo attractive, as infinite benevolence, guided by unerring wiſdom, and exerting almighty power, on purpoſe to make a whole univerſe happy?

CHAP. XXIII.

ON THE RISE, PROGRESS, AND REVOLUTIONS OF ASTRONOMY.

MANKIND muſt have made a very conſiderable improvement in obſerving the motions of the

heavenly bodies, before they could ſo far diſengage themſelves from the prejudices of ſenſe and popular opinion, as to believe that the earth, upon which we live, was not fixed and immoveable.

We find, accordingly, that *Thales*, the Mileſian, who, about 580 years before Chriſt, firſt taught aſtronomy in Europe, had gone ſo far in this ſubject, as to calculate eclipſes, or the interpoſitions of the moon between the earth and the ſun, or of the earth between the ſun and the moon.

Pythagoras, a Greek philoſopher, flouriſhed about ten years after Thales, and was, no doubt, equally well acquainted with the motion of the heavenly bodies. This led Pythagoras to conceive an idea, which there is no reaſon to believe had ever been thought of before, namely, that the earth itſelf was in motion, and that the ſun was at reſt. He found that it was impoſſible, in any other way, to give a conſiſtent account of the heavenly motions.

The ſyſtem, however, was ſo extremely oppoſite to all the prejudices of ſenſe and opinion, that it never made great progreſs, nor was ever widely diffuſed in the antient world. The philoſophers of antiquity, deſpairing of being able to overcome ignorance by reaſon, ſet themſelves to adapt the one to the other, and to form a reconciliation between them.

This was the caſe with *Ptolemy*, an Egyptian philoſopher, who flouriſhed 138 years before Chriſt. He ſuppoſed, with the vulgar, who meaſure every thing by themſelves, hat the earth was fixed immoveably

in

in the centre of the univerſe, and that the ſeven planets, conſidering the moon as one of the primaries, were placed near to it; above them was the firmament of fixed ſtars, then the cryſtalline orbs, then the *primum mobile*, and, laſt of all, *cœlum empirium*, or heaven of heavens. All theſe vaſt orbs he ſuppoſed to move round the earth once in twenty-four hours; and beſides that, in certain ſtated and periodical times. This ſyſtem was univerſally maintained by the Peripatetic philoſophers, who were the moſt conſiderable ſect in Europe from the time of Ptolemy to the revival of learning in the ſixteenth century.

At length, Copernicus, a native of Poland, a bold and original genius, adopted the Pythagorean or true ſyſtem of the univerſe; and publiſhed it to the world in the year 1530. This doctrine had been ſo long in obſcurity, that the reſtorer of it was conſidered as the inventor; and the ſyſtem obtained the name of the *Copernican Philoſophy*, though only revived by that great man.

Europe, however, was ſtill immerſed in ignorance; and the general ideas of the world were not able to keep pace with thoſe of a refined philoſophy. This occaſioned Copernicus to have few abettors, but many opponents Tycho Brahe, in particular, a noble Dane, ſenſible of the defects of the Ptolemaic ſyſtem, but unwilling to acknowledge the motion of the earth, endeavoured, about 1586, to eſtabliſh a new ſyſtem of his own, which was ſtill more perplexed and embarraſſed than that of Ptolemy. It allows a

monthly motion to the moon round the earth, as the centre of its orbit; and it makes the ſun to be the centre of the orbits of Mercury, Venus, Mars, Jupiter, and Saturn. The ſun, however, with all the planets, is ſuppoſed to be whirled round the earth in a year, and even once in twenty-four hours. This ſyſtem, notwithſtanding its abſurdity, met with its advocates, who ſo far refined upon it, as to admit the diurnal motion of the earth, though they inſiſted that it had no annual motion.

CHAP. XXIV.

OF GALILEO.

ABOUT the year 1610, after a darkneſs of a great many ages, the firſt dawn of learning and taſte began to revive in Europe. Learned men, in different countries, began to cultivate aſtronomy. Galileo, a Florentine, introduced the uſe of teleſcopes, which diſcovered new arguments in ſupport of the motion of the earth, and confirmed the old ones. The fury and bigotry of the clergy, indeed, had almoſt checked this flouriſhing bud. Galileo was obliged to renounce the Copernican ſyſtem, as a damnable hereſy.

The happy reformation in religion, however, placed the one half of Europe beyond the reach of the papal thunder. It taught mankind, that the ſcriptures were not given for explaining ſyſtems of natural philoſophy, but for a much nobler purpoſe, to make

us juſt, virtuous, and humane: that, inſtead of oppoſing the word of God, which, in ſpeaking of natural things, ſuits itſelf to the prejudices of weak mortals, we employed our faculties in a manner highly agreeable to God himſelf, in tracing the nature of his *works*. The more *they* are conſidered, the more they afford us the greater reaſon to admire his glorious attributes of power, wiſdom, and goodneſs.

From this time, therefore, noble diſcoveries were made in all the branches of aſtronomy. The motions of the heavenly bodies were not only clearly explained, but the *general law of nature*, according to which they moved, was diſcovered and illuſtrated by the immortal Newton. This law is called *Gravity* or *Attraction*, and is the ſame by which any body falls to the ground, when diſengaged from what ſupported it. It has been demonſtrated, that this ſame law, which keeps the *ſea* in its *channel*, and the various bodies which cover the ſurface of this earth from *flying off into the air*, operates throughout the univerſe, keeps the *planets* in their *orbits*, and preſerves the whole fabric of nature from confuſion and diſorder.

Should the young reader be deſirous of a further acquaintance with Aſtronomy, Ferguſon's "Aſtronomy explained on Newton's Principles," or the more elegant work of Mr. John Bonnycaſtle, may be read with advantage.

CHAP.

CHAP. XXV.

GEOGRAPHY.

GEOGRAPHY is a deſcription of the earth, the conſtituent parts of which are *land* and *water*. The parts of the land are continents, iſlands, peninſulas, iſthmuſes, promontories, capes, and coaſts.

A *continent* is a large portion of land, containing ſeveral countries or kingdoms, without any entire ſeparation of its parts by water, as Europe.

An *iſland* is a ſmaller part of land, ſurrounded by water, as Great Britain.

A *peninſula* is a track of land ſurrounded by water, except at one narrow neck, by which it joins the neighbouring continent; as the Morea in Greece; and that neck of land which ſo joins it, is called an iſthmus, as the iſthmus of Suez, which joins Africa to Aſia; and the iſthmus of Darien, which joins North and South America.

A *promontory* is a hill or point of land, ſtretching itſelf into the ſea, the end of which is called a *cape*; as the Cape of Good Hope.

A *coaſt, or ſhore*, is that part of a country which borders on the ſea-ſide.

The parts of the water are oceans, ſeas, lakes, ſtraits, gulphs, or creeks. The waters are divided into three extenſive oceans (beſides leſſer ſeas, which are only branches of theſe) viz. the *Atlantic*, the *Pacific*, and the *Indian* ocean. The Atlantic Ocean di-

vides

vides the eaſtern and weſtern continents, and is 3000 miles wide. The Pacific divides America from Aſia, and is 10,000 miles over. The Indian Ocean lies between the Eaſt Indies and Africa, being 3000 miles wide.

The *ocean* is a great and ſpacious collection of water, without any entire ſeparation of its parts by land; as the Atlantic Ocean.

The *ſea* is a ſmaller collection of water, which communicates with the ocean, confined by the land; as the Mediterranean and the Red Sea.

A *lake* is a large collection of water, entirely ſurrounded by land; as the Lake of Geneva, and the Lakes in Canada.

A *ſtrait* is a narrow part of the ſea, reſtrained or lying between two ſhores, and opening a paſſage out of one ſea into another; as the Straits of Gibraltar, or that of Magellan. This is ſometimes called a Sound, as the Straits into the Baltic.

A *gulf* is a part of the ſea running up into the land, and ſurrounded by it, except at the paſſage whereby it is communicated with the ſea or ocean. If a gulf be very large, it is called an inland ſea; as the Mediterranean: if it do not go far into the land, it is called a bay, as the Bay of Biſcay: if it be very ſmall, a *creek*, *haven*, *ſtation*, or *road* for ſhips; as Milford Haven.

CHAP.

CHAP. XXVI.

EUROPE.

THE Earth is divided into four quarters, viz. Europe, Aſia, Africa, and America.

Europe is ſituated between the tenth degree weſt, and the ſixty-fifth degree eaſt longitude from London; and between the thirty-ſixth and ſeventy-ſecond degree of north latitude. It is bounded on the north by the Frozen Ocean; on the eaſt by Aſia; on the ſouth by the Mediterranean ſea, which divides it from Africa; and on the weſt by the Atlantic Ocean, which ſeparates it from America; being 3000 miles long from Cape St. Vincent in the weſt, to the mouth of the river Oby in the north-eaſt; and 2500 broad from north to ſouth, from the north Cape in Norway to Cape Caya, or Metapar, in the Morea, the moſt ſouthern promontory in Europe.

It contains the following kingdoms and ſtates:

Kingdoms.	*Chief cities.*	*Kingdoms.*	*Chief cities.*
England,	London.	Pruſſia,	Berlin.
Scotland,	Edinburgh.	Germany,	Vienna.
Ireland,	Dublin.	Bohemia,	Prague.
Norway,	Bergen.	Holland,	Amſterdam.
Denmark,	Copenhagen.	Flanders,	Bruſſels.
Sweden,	Stockholm.	France,	Paris.
Ruſſia,	Peterſburgh.	Spain,	Madrid.
Poland,	Warſaw.	Portugal,	Liſbon.

 Switzerland,

Kingdoms.	*Chief cities.*	*Kingdoms.*	*Chief cities.*
Switzerland,	Bern.	Genoa,	Genoa.
Hungary,	Buda.	Parma,	Parma.
Turkey,	Conſtantinople.	Venice,	Venice.
Italy,	Rome.	Modena,	Modena.
Naples,	Naples.	Mantua,	Mantua.
Piedmont,	Turin.	Tuſcany,	Florence.
Milan,	Milan.	Savoy,	Chamberry.

The European iſlands in the Mediterranean ſea, are Ivica, Majorca, and Minorca, whoſe chief town is Port Mahon; Corſica, Sicily, and Sardinia, whoſe chief towns are, Baſtia, Cagliari, and Palermo.

The *Britiſh iſles* are Guernſey, Jerſey, Wight, Angleſea, Man, the Orkneys, the Hebrides, and Shetland.

The *chief mountains* in Europe are, the Alps, between France and Italy; the Appenine hills in Italy; the Pyrenean hills, that divide France from Spain; the Carpathian mountains, in the ſouth of Poland; the Peak in Derbyſhire; the Plinlimmon in Wales; beſides the terrible volcanos, or mountains of Veſuvius and Stromboli, in Naples; Etna in Sicily; and Ecla in the cold iſland of Iceland.

The chief rivers are the Thames and Severn in England; the Forth and Tay in Scotland; the Shannon in Ireland; the Tagus in Portugal; the Po and Tiber in Italy; the Weiſel, or Viſtula, in Poland; the Elbe, the Oder, the Rhine, and the Danube, in Germany; the Seine and the Rhone in France; the Don and the Volga in Muſcovy.

CHAP.

CHAP. XXVII.

ASIA.

ASIA, the ſecond great quarter of the world, is ſuperior to Europe and Africa in the extent of its territories, ſtretching into all climates, from the frozen wilds of Siberia, where the hardy inhabitants, clothed in furs, are drawn in ſledges over the ſnow, to the ſultry regions of India and Siam, where, ſeated upon the lofty elephants, the people ſhelter themſelves from the ſcorching ſun by the ſpreading umbrella. This immenſe tract of land is bounded by the Frozen Ocean on the north; on the weſt by the Red Sea, Mediterranean Sea, Europe, and part of Africa; on the eaſt, it is bounded by the Pacific Ocean; and on the ſouth, by the Indian Sea. The principal regions that divide this country are as follow:

	Nations.	*Chief cities.*
Tartary.	Ruſſian,	Tobolſk.
	Chineſe,	Chynian.
	Mogulean,	Thibet.
	Independant,	Samarcand.
	China,	Pekin.
	Moguls,	Delhi.
	India beyond the Ganges,	Siam, Pegu.
	Perſia,	Iſpahan.
	Part of Arabia,	Mecca.
	Syria,	Aleppo.

Holyland,

Nations.	*Chief cities.*
Holyland	Jeruſalem.
Natolia,	Burſa, or Smyrna.
Diarbec, or Meſopotamia,	Diarbec.
Irac, or Chaldea,	Bagdad.
Turcomania, or Armenia,	Erzerum.
Georgia,	Teflis.
Curdiſtan, or Aſſyria,	Scherazer.

The iſlands of Aſia are, the Mariana, or Ladrone iſlands, Formoſa, and the Philippines, in the eaſtern ocean. The Moluccas, and the Spice Iſlands, Celebes, Borneo, Java, Sumatra, Ceylon, and the Maldives, in the Indian ocean. Cyprus, Rhodes, Leſbos, Samos, and a few others of leſs note on the coaſts of Aſia, and the Mediterranean. Moſt of the iſlands lying near, or under the line, afford great quantities of ſugar and ſpice, which the Dutch trade with to all parts of the world.

The principal *rivers* that water Aſia, are, the Tigris, and Euphrates, between Arabia and Perſia; the Indus, and the Ganges, in India. The latter is the largeſt and the moſt famous river of all Aſia; and its ſource, according to the opinion of the Indians, is celeſtial, ſince they ſay one of their gods pours it from his mouth on mount Ima, from whence, paſſing through many ſtates, and directing its courſe ſouth, it paſſes into the kingdom of Bengal, and throws itſelf into the ſea by ſeveral mouths.

The

The higheſt *mountains* of Aſia, are Ararat, near the the Caſpian ſea, on which it is thought the ark of Noah reſted, when the waters of the deluge ſubſided; Horeb and Sinai, in Arabia; Lebanon, in Judea; Mount Taurus, running from eaſt to weſt of all Aſia; Imaus, in Tartary; the lofty Caucaſus, between Tartary and the Great Mogul empire, famous for the fabulous ſtory of Prometheus, who, according to the fiction of the poets, was chained to this mountain; and the Naugracut, in Thibet.

CHAP. XXVIII.

AFRICA.

AFRICA, the third grand diviſion of the globe, is ſituated to the ſouth of Europe, and ſurrounded on all ſides by the ſea, except a narrow neck of land about ſixty miles over, called the Iſthmus of Suez, which joins it to Aſia, at the top of the Red Sea. Its utmoſt length, from north to ſouth, is 4300 miles, and the broadeſt part is 3500 miles from eaſt to weſt. It is bounded on the north by the Mediterranean ſea, which ſeparates it from Europe; on the eaſt by the Iſthmus of Suez, the Red Sea, and the Indian Ocean, which divide it from Aſia; on the ſouth, by the Southern Ocean; and on the weſt by the great Atlantic Ocean, which ſeparates it from America.

According to the beſt accounts and conjectures, Africa may be divided according to the following table:

Nations.

	Nations.	*Chief cities.*
Barbary.	Morocco, Tafilet,	Fez.
	Algiers,	Algiers.
	Tunis,	Tunis.
	Tripoli,	Tripoli.
	Barca,	Polemeta.
	Egypt,	Grand Cairo.
	Biledulgerid,	Dara.
	Zaara,	Tegeſſa.
	Negroland,	Madinga.
	Guinea,	Benin.
Ethiopia.	Nubia,	Nubia.
	Abyſſinia,	Gondar.
	Abex,	Doncala.
	Loango,	Loango.
Guinea.	Congo,	St. Salvador.
	Angola,	Loando.
	Benguela,	Benguela.
	Mataman,	No towns.
	Ajan,	Brava.
	Languebar,	Melinda.
	Monomotapa,	Monomotapa.
	Monemugi,	Chicova.
	Safola,	Safola.
	Terra de Nat.	No towns.
	Caffraria, or Hottentot,	Cape of Good Hope.

The principal iſlands of Africa, in the Indian Ocean, are, Babel Mandel, at the entrance of the Red

Red Sea, Zocotra, the Comorra iſles, Madagaſcar, Mauritius, and Bourbon. Zocotra is famous for its aloes, which are eſteemed the beſt in the world.

The firſt iſland we touch at in the Atlantic Ocean, is the ſmall but pleaſant St. Helena, at which place all the Engliſh Eaſt India ſhips ſtop to get freſh water and freſh proviſions in their way home. Near which, are the Guinea iſlands, St. Matthew, St. Thomas, and others, not far from the coaſts under the equinoctial line, belonging to the Portugueſe. Thence, northward, oppoſite to Cape Verd, is a large tract of iſlands, ſo called from their verdure. We ſee, higher north, the pleaſant Canaries, from whence firſt came our Canary wine, and the pretty ſinging birds called Canary birds. The ancients called them the Fortunate Iſles, and placed there the Elyſian fields. They are ten or twelve in number; the chief are, Teneriffe, Gomera, Ferro, and Great Canary. The fertile iſlands of Madeira, lie ſtill higher north, and are famous for the beſt ſtomachic wine.

The Azores, or weſtern iſles, lie nearly at an equal diſtance from Europe, Africa, and America.

One of the moſt remarkable mountains in Africa, is Atlas, between Barbary and Biledulgerid, ſuppoſed by the ancients to be the higheſt in the world, whence came the fable of Atlas, a giant, bearing the heavens upon his ſhoulders. The mountain of the moon, in Ethiopia, is always covered with ſnow and ice; and the exceeding high hill, or peak of Teneriffe, one of

the

the Canary iſles, in form of a ſugar-loaf, may be ſeen one hundred and twenty miles diſtant.

The moſt famous rivers in Africa, are, the Nile, and the Niger. The Nile runs through all the eaſtern part of the country, and empties itſelf into the Mediterranean ſea, by many mouths, in the country of Egypt. The river Senegal, anciently called Niger, runs through Negroland, into the Atlantic ocean.

CHAP. XXIX.

AMERICA.

THIS great weſtern continent, frequently denominated the New World, extends from the eightieth degree north, to the fifty-ſixth degree ſouth latitude; ſtretching between 8 and 9000 miles in length, and in its greateſt breadth 3690. It ſees both hemiſpheres, has two ſummers, and a double winter, and enjoys all the variety of climates which the earth affords. It is waſhed by the two great oceans. To the eaſtward it has the Atlantic, which divides it from Europe and Africa; to the weſt it has the Pacific, or great South Sea, by which it is ſeparated from Aſia. By theſe ſeas it may, and does carry on a direct commerce with the other three parts of the world. It is compoſed of two great continents, one on the north, the other on the ſouth, which are joined by the kingdom of Mexico, which forms a ſort of iſthmus 1500 miles long, and in one part, at Darien, ſo extremely narrow, as to make the communication between the two oceans by

by no means difficult, being only ſixty miles over. In the great gulf, which is formed between the iſthmus and the northern and ſouthern continents, lie a multitude of iſlands, many of them large, moſt of them fertile, and denominated the Weſt-Indies, in contradiſtinction to the countries and iſlands of Aſia, beyond the Cape of Good Hope, which are called the Eaſt-Indies.

The grand diviſions of North America:

Colonies.	*Chief towns.*
New Britain, province of Quebec,	Quebec.
New Scotland,	Halifax.
New Brunſwick,	Shelburne.
New England,	Boſton.
New York,	New York.
New Jerſey,	Perth Amboy.
Penſylvania,	Philadelphia.
Maryland,	Annapolis.
Virginia,	Williamſburgh.
North Carolina,	Edenton.
South Carolina,	Charles Town.
Georgia,	Savannah.
Eaſt Florida,	St. Auguſtine.
Weſt Florida,	Penſacola.
Louiſiana,	New Orleans.
New Mexico,	St. Fee.
California,	St. Juan.
Mexico, or New Spain,	Mexico.

The

The Britiſh poſſeſſions in North America, are, the province of Quebec, Nova Scotia, and New Brunſwick.

The principal iſlands of North America, are,

Iſlands.	*Chief towns.*
Newfoundland,	Placentia.
Cape Breton,	Louiſburgh.
St. John,	Charlotte Town.
The Bermuda Iſles,	St. George.
The Bahama Iſles,	Naſſau.
West India Iſlands. Jamaica,	Kingſton.
Barbadoes,	Bridgetown.
St. Chriſtopher's,	Baſſe-terre.
Antigua,	St. John's.
Nevis,	Charles Town.
Monſerrat,	Plymouth.
Barbuda.	
Anguilla.	
Dominica.	
St. Vincent,	Kingſton.
Granada,	St. George's.
Cuba,	Havannah.
Hiſpaniola,	St. Domingo.
Porto Rico,	Porto Rico.
Trinidad,	St. Joſeph.
Margarita.	
Martinico,	St. Peter.
Guadaloupe,	Baſſe-terre.
St. Lucia.	
Tobago.	

	Islands.	*Chief towns.*
West India Islands.	St. Bartholomew.	
	Defeada.	
	Marigalanta.	
	St. Eustatia,	The Bay.
	Curassou.	
	St. Thomas.	
	St. Croix,	Basse End.

The chief *mountains* are the Apalachian, which divide Florida from the more northern countries.

The principal *rivers* of North America, are, the Mississippi, which discharges itself into the gulf of Florida; the Ohio, and the river St. Lawrence.

Things most *curious* in this part, are the prodigious falls of water near Niagara; also the cabbage-tree, one hundred feet high, with no branches but at the top; the calabash, which grows high, like a gourd, of which, cut into different sizes, they make their dishes, pails, &c. and the cassavi roots, of which the Indians usually make their bread.

Grand divisions of South America:

Nations.	*Chief cities.*
Terra Firma,	Panama.
Peru,	Lima.
Guiana,	Surinam.
	Cayenne.
Brasil,	St. Sebastian.

Amazonia, a large country, little known to the Europeans.

Paraguay,

Nations.	*Chief cities.*
Paraguay,	Aſſumption.
La Plata,	Buenos Ayres.
Chili,	St. Jago.
Terra Magellanica, or Patagonia,	Cape Virgin Mary.

The Leeward Iſlands are ſituated on the eaſt of Terra Firma, and belong moſtly to the Spaniards. Quite at the foot of South America, you may ſee the inhoſpitable rocks of Terra del Fuego, or Land of Fire, whoſe aſpect affords a proſpect the moſt dreary and uncomfortable that can be imagined. It appears without the leaſt mixture of earth or mould, like one continued chain of inacceſſible rocks, terminating at a prodigious height, in innumerable ragged points, clothed with eternal ſnow, and the hills whereon they riſe, ſeem to be cleft aſunder, as if by earthquakes; the chaſms, horrible to behold, extending through the main ſubſtance of the rock, almoſt to the bottom.

The chief *mountains* are the Andes, a long ridge of mountains from the ſouth of America towards the north. Travellers ſuppoſe them to be the higheſt in the world.

The chief *rivers* are the Amazon, with all its branches; Rio de la Plata, or the River of Plate.

The late *diſcoveries* are the iſlands Otaheite, the Society and Friendly Iſlands, the New Hebrides, New Caledonia, New Zealand, New Guinea, New Britain, and New Ireland, the Sandwich Iſlands, and

New Holland. This vaſt iſland conſiderably exceeds all Europe in extent, but is neither fertile nor populous. The inhabitants are without either arts or induſtry, living in tents, and having no towns. It was viſited by Captain Cook, who ſailed along the coaſts, and gave the eaſtern part the name of New South Wales. Botany Bay, on the eaſt ſide of this iſland, is the place to which the Britiſh government tranſport their men and women convicts.

After reading this ſummary, the pupil may be further inſtructed with "A ſhort Introduction to Geography for Children," by Thomas Keith; and "Geography and Hiſtory, ſelected by a Lady for the Uſe of her own Children."

BOOK II.——CHAP. I.

ON MYTHOLOGY, OR THE HISTORY OF THE HEATHEN DEITIES.

MYTHOLOGY is the religion of the Pagans, which conſiſted in the worſhip of falſe gods, whom their poets, painters, and ſtatuaries imagined, and to whom they gave different attributes. It is the *baſis* of hiſtory, the *ſtandard* of criticiſm, and the *guide* to the ſtudies of youth.

A know-

A knowledge of *feigned Hiſtory*, or Mythology, is abſolutely neceſſary to the reader of the *Claſſics*, to the *Painter*, and to the *Statuary**. We muſt not, therefore, overlook even the fictions of the more illuſtrious poets †.

CHAP. II.

OF COELUS AND TERRA, SATURN AND CYBELE.

CŒLUS is ſaid to be the ſon of the *Air*, great father of the gods, and huſband of *Terra*, the daughter of the Earth, by whom he had the Cyclops, Oceanus, Titan, the Hundred Giants, and many other children, the moſt eminent of which was *Saturn*, or *Time*.

This fable plainly ſignifies, that the Air and Earth were the common parent of all created beings. Cœlus was dethroned by his youngeſt ſon Saturn.

SATURN was the moſt ancient of all the gods. Titan, his elder brother, reſigned his birth-right to him, on condition that he ſhould deſtroy all his male iſſue, that the empire of the world might in time fall to his poſterity. Saturn accepted of this condition; but Titan afterwards ſuſpecting that his brother had broke the contract between them, made war againſt him, and kept him in priſon, from whence he was releaſed

* Knox. † Quintilian.

by his ſon Jupiter, and re-inſtated in his government. He was afterwards dethroned by Jupiter himſelf.

Saturn is repreſented as the emblem of *Time*, with a ſcythe in his hand; and during his reign, it is ſaid, was the golden age of the earth, when the ground yielded all ſorts of fruits without culture, and *Aſtræa*, or *Juſtice*, dwelt among men, who lived together in perfect love and amity. He is ſaid to have deſtroyed all his children, becauſe *Time* devours all things.

CYBELE was the wife of Saturn, and accounted *mother* of the gods. She hath her head crowned with towers, and is the goddeſs of cities, garriſons, and all things that the earth ſuſtains.

In her hand ſhe carries a key, becauſe in winter the earth *locks* up her treaſures, which in the ſpring ſhe *unlooſes*, brings forth, and diſpenſes with a plentiful hand.

She is ſeated in a chariot, becauſe the earth hangs in the air, being poiſed by its own weight. Her garments were painted with flowers of various colours, and figured with images of ſeveral creatures; which needs no explanation, ſince every one knows, that ſuch a dreſs is ſuitable to the earth.

CHAP. III.

OF JUPITER AND JUNO.

JUPITER, the ſon of *Saturn* and *Cylele*, or *Ops*, is the father and king of gods and men. He is repreſented ſitting on a throne of ivory and gold, holding

holding thunder in his right hand, and in the left a ſceptre made of cypreſs; which wood, being free from corruption, is a ſymbol of eternal empire.

He was born, and educated, upon *Ida*, a mountain in Crete. Some ſay, he was nurſed by the *Nymphs*, and others, that he was fed by the *bees*, with honey.

Jupiter, after he had depoſed his father *Saturn* from the throne, and expelled him the kingdom, divided the paternal inheritance with his two brothers, *Neptune* and *Pluto*. He ſo obliged and aſſiſted mankind by great favours, that he not only got the title of Jupiter, but alſo obtained divine honours, and was eſteemed the common father of gods and men.

Jupiter is ſtiled *Optimus Maximus*, from his power and willingneſs to do good to all men. He is alſo named *Olympius* from *Olympus*, or the heaven, wherein he reſides.

JUNO, the queen of heaven, both the ſiſter and wife of Jupiter, was born in the iſland of *Samos*, where ſhe lived while ſhe continued a virgin.

She is repreſented in a chariot drawn by peacocks, with a ſceptre in her right hand, and a crown on her head. She was mother of Vulcan, Mars, and Hebe.

Iris was her ſervant and peculiar meſſenger. Becauſe of her ſwiftneſs ſhe is painted with wings, ſitting on a rainbow. It was her office to unlooſe the ſouls of dying women from the chains of the body.

CHAP. IV.

OF APOLLO AND SOL.

APOLLO is deſcribed as a beardleſs youth, with long hair, crowned with laurel, and ſhining in an embroidered veſtment; holding a bow and arrows in his right hand, and a harp in the left. Sometimes he is ſeen with a ſhield on the one hand, and the Graces in the other.

He was the ſon of Jupiter and Latona. By the invention of phyſic, muſic, poetry, and rhetoric, he deſervedly preſided over the *Muſes*.

He deſtroyed all the *Cyclops*, the forgers of Jupiter's thunder-bolts, with his arrows, to revenge the death of his ſon Æſculapius, whom Jupiter had killed with his thunder, becauſe, by the power of phyſic, he reſtored the dead to life again.

Daphne, ſo famous for her modeſty, was changed into a laurel, whilſt Apollo, who paſſionately admired her, was uſing his utmoſt efforts to obtain her. The laurel is the moſt chaſte of trees, which is never corrupted with the violence of heat or cold, but remains always flouriſhing, always pure.

Apollo raiſed the walls of the city of *Troy*, by the muſic of his *harp* alone.

He is called *Cynthius* from the mountain *Cynthus*, in the iſland of Delos; from whence Diana is alſo called Cynthia. He is alſo called *Delius*, from the ſame iſland, becauſe he was born there.

He

He is called Delphicus from the city Delphi in Bœotia, where he had the moſt famous temple in the world. They ſay that this famous Oracle became dumb, at the birth of our *Saviour*; and when Auguſtus deſired to know the reaſon of its ſilence, the Oracle anſwered him, that in Judæa, a child was born, who was the *Son of God*, and had commanded him to depart, and return no more anſwers.

From his exact ſkill in hunting he is called *Pæan*, and armed with arrows. From the ſwiftneſs of his motion, he is called Phœbus.

Sol, who enlightened the world, is eſteemed the ſame as *Apollo*. He was the father of *Phaeton* by *Clymene*; and, as a proof of his paternal affection, promiſed to grant his ſon whatever he ſhould requeſt. The raſh youth aſked the guidance of his chariot for one day. *Sol*, in vain, uſed every argument to diſſuade him from the enterprize; but, having ſworn by the river *Styx*, an oath which it was unlawful for the gods to violate, he unwillingly granted his requeſt, and gave him the neceſſary inſtructions for his behaviour.

Phaeton, tranſported with joy, mounted the chariot, and began to laſh the flaming ſteeds; but they, finding the ignorance of their new driver, ran through the air, and ſet heaven and earth on fire. Jupiter, to prevent a total conflagration, ſtruck Phaeton with thunder from his chariot, and plunged him into the river *Po*. His ſiſters, Phæthuſa, Lampetia, and Phœbe, and alſo Cycnus his friend, immoderately

bewailed his death on the banks of the river; and by the pity of the gods, his ſiſters were changed into poplar-trees, and his friend Cycnus into a ſwan.

CHAP. V.

OF MERCURY.

MERCURY, ſon of *Jupiter* and *Maia*, daughter of *Atlas*, was the god of eloquence and merchandize, and meſſenger of the gods.

He is repreſented as a young man, with chearful countenance, an honeſt look and lively eyes; fair, without paint, with winged ſhoes and hat, and holding in his hand a winged rod, bound about with two ſerpents.

He had many remarkable qualities, on account of which they worſhipped him as a god. He is ſaid to have invented letters and the uſe of them. He excelled in eloquence and the faculty of ſpeaking; and therefore was accounted the god of rhetoric and oratory.

In the art of thieving he far exceeded all the ſharpers that ever have been, and is, therefore, named the *Prince* of tricking. The very day on which he was born, he ſtole away the cows of King Admetus, though attended by Apollo himſelf; who, while he complained of the theft, and bent his bow with an intent of revenge, found himſelf robbed of his quiver and arrows alſo.

He

He was a wonderful maſter at making peace, and pacified not only mortals, but alſo the gods themſelves, when they quarrelled. This faculty is ſignified by the rod which he holds in his hand.

His chief offices were, to carry the commands of Jupiter, to attend perſons when dying, to unlooſe their ſouls from the chains of the body, and uſher them into the world of ſpirits; likewiſe to revive, and replace into new bodies, thoſe that had already completed their time in the *Elyſian* fields.

CHAP. VI.

OF MARS AND BACCHUS.

MARS was the ſon of Jupiter and Juno. He is the god of armies and war, fierce in aſpect, ſtern in countenance, and terrible in dreſs. He ſits in a chariot drawn by two horſes, which are driven by a diſtracted woman. He is covered with armour, and brandiſhes a ſpear in his right hand. Sometimes he is repreſented ſitting on horſeback, formidable with his whip and ſpear, with a cock at his feet, the emblem of watchfulneſs.

His ſervants are *Fear* and *Terror*. *Diſcord* alſo goes before in a tattered garment, and *Clamour* and *Anger* follow him.

Bellona, goddeſs of war, is the companion and wife of Mars. She prepares for him his chariot and horſes when he goes to battle.

BACCHUS, the ſon of *Jupiter* and *Semele*, as ſoon as he was born, was committed to the care of *Silenus* and the *Nymphs* to be brought up; and, in reward for their ſervice, the Nymphs were received into heaven, and there changed into ſtars, called the *Hyades*.

Bacchus has a red face, ſwoln cheeks, and prominent belly. He appears diſpirited with luxury, and intoxicated with wine. He is crowned with ivy and vine-leaves, and in his hand holds a *thyrſus* for a ſceptre. His chariot is drawn ſometimes by tigers and lions, ſometimes by lynxes and panthers. A drunken band of *Satyrs*, *Demons*, and *Nymphs* preſiding over the wine-preſſes, fairies of the fountains, and prieſteſſes attend him as his guard, and old *Silenus*, riding on an aſs, brings up the rear.

Bacchus firſt planted the vine and drank the juice of the grape. The tillage of the ground, and making of honey are alſo attributed to him.

He is called *Liber*, and *Lyæus*; becauſe wine frees the mind from cares, and thoſe who have drank plentifully ſpeak too often what comes into their minds.

CHAP. VII.

OF MINERVA AND VENUS.

MINERVA, or *Pallas*, the goddeſs of wiſdom, war, arts, and ſciences, was the daughter of Jupiter. *Vulcan* ſtruck his forehead with a hammer, and after three months, he brought forth Minerva.

She

She was called *Minerva*, as ſome ſay, from the threats of her ſtern and fierce look. Inſtead of a woman's dreſs, ſhe is arrayed in armour; wears a golden head-piece, and on it glittering creſts; a brazen coat of mail covers her breaſt; ſhe brandiſhes a lance in her right hand, and in her left holds a ſhield, whereon is painted the griſly head of Meduſa, one of the Gorgons, rough and formidable with ſnakes.

Upon the head of this goddeſs there was an olive crown, which is the ſymbol of peace; either becauſe war is only made that peace may follow; or becauſe ſhe taught men the uſe of that tree.

The cock and the owl are ſacred to Minerva; the firſt being *expreſſive* of courage and watchfulneſs, and the latter the *emblem* of caution and foreſight.

Her birth from *Jupiter*'s head, is moſt certainly an emblem that all human arts and ſciences are the production of the mind of man, directed by ſuperior wiſdom.

VENUS, the daughter of *Jupiter* and *Dione*, is the goddeſs of beauty, neatneſs, and chearfulneſs.

She is clothed with a purple mantle, glittering with diamonds. Refulgent with a roſy crown, ſhe is attended by two *Cupids*. The *Graces* ſtand round her, and the lovely Adonis follows after, gently holding up her train. Her chariot is of ivory, finely carved, beautifully painted and gilt, faſhioned in the form of a ſhell, and drawn by ſwans, doves, and ſwallows, or ſometimes by ſparrows, as ſhe directs, when ſhe pleaſes to mount it.

She

She is ſaid to have ſprung from the froth of the ſea; and being laid in a ſhell, as it were in a cradle, to have been drawn by *Zephyrus* upon the iſland of Cyprus, where ſhe was educated. When ſhe grew up, ſhe was carried into heaven, and preſented to the gods, who, being taken with her beauty, all ſtrove to marry her; but at laſt ſhe was betrothed to Vulcan, to whom afterwards ſhe was given in wedlock.

The companions of Venus, were *Hymæneus*, the god of marriage, and *Cupid*, the god of love. She is called the *Leſbian Queen*, from *Leſbos*, in the iſland of Cyprus.

On a diſpute, at a feaſt of the gods, between *Juno*, *Pallas*, and *Venus*, for the pre-eminence of beauty, Jupiter, not being able to bring them to an agreement, referred the deciſion to *Paris*, a ſhepherd on Mount Ida, with directions that a golden apple ſhould be given to the faireſt. Paris determined the prize in favour of *Venus*, and aſſigned to her the golden reward. *Venus*, in return for this ſingular regard to her, promiſed Paris Helena, the faireſt beauty in the world. Paris ſailed into Greece with a great fleet, and brought away *Helen*, who had been betrothed to *Menelaus*, King of Sparta; but he being then abſent, Paris carried her away with him to Troy, which brought on the famous ſiege of that city.

CHAP.

CHAP. VIII.

OF THE TERRESTRIAL DEITIES, TITAN, VULCAN, AND JANUS.

TITAN, the elder brother of *Saturn*, though not a god, claims the firſt place, being the elder ſon of *Cœlus* and *Terra*; and on agreement with *Jupiter*, his younger brother, he yielded to him his birth-right, as is before mentioned. His ſons were the *Giants*, called from him *Titans*.

VULCAN, the huſband of *Venus*, was ſon of Jupiter and Juno; but being born deformed, he was caſt down from heaven by Jupiter, as ſoon as he was born, and in the fall broke his leg. He was the god of ſubterraneous fires, and preſided over metals.

He firſt made his addreſſes to Minerva, and was refuſed by her. He afterwards married *Venus*, but that goddeſs diſregarded him for his deformity.

Vulcan made the chariot of the Sun, and ſupplied *Jupiter* with thunder. He fixed his forges on mount Ætna, but chiefly in the iſland *Lemnos*, where he worked for the gods, and taught the natives the art of working iron by fire. His forge-men were the *Cyclops*, who are repreſented as having one eye only, in the middle of their forehead. Apollo, it is ſaid, ſlew them all, for having forged the thunder, with which Jupiter ſtruck Æſculapius, the god of phyſic.

The principal temple of *Vulcan* was on mount *Ætna*, and he is painted with a hat of blue colour, the ſymbol

ſymbol of fire. He was called *Mulciber*, or *Multifer*, from his ſoftening and poliſhing iron.

JANUS, the ſon of *Cælus* and *Hecate*, had a double face and forehead in one and the ſame head. Hence he got the name of the two-faced god, and was ſaid to ſee things placed behind his back, as well as before his face. In his right hand he holds a key, and in his left a rod; and beneath his feet are twelve altars.

The temple of Janus, at Rome, was held in great veneration, and was kept open in the time of war, and ſhut in the time of peace. It is remarkable, that, within the ſpace of ſeven hundred years, this temple was ſhut only thrice: once by Numa; afterwards by the conſuls *Marcus Attilius* and *Titus Manlius*, after a league ſtruck up with the Carthaginians; and, laſtly, by *Auguſtus*, after the victory of *Actium*.

CHAP. IX.

OF THE TERRESTRIAL GODDESSES, LATONA, DIANA, AND CERES.

LATONA was the daughter Phœbe, and *Cæus* the Titan. On account of her great beauty, ſhe was beloved of Jupiter, by whom ſhe had *Diana* and *Apollo*.

DIANA, goddeſs of hunting, was the daughter of *Ceres* and *Jupiter*, and ſiſter of *Apollo*. She is uſually painted in a hunting habit, with a bow in her hand, a quiver full of arrows, hanging down from her

her ſhoulders, and her breaſt covered with the ſkin of a deer. She was the goddeſs of hunting and chaſtity.

She has three different names, and as many offices. In the heavens ſhe is called *Luna* and Phœbe, on the earth *Diana*, and in hell *Hecate*. In the heavens ſhe enlightens all things by her rays. On the earth ſhe ſubdues all the wild beaſts, by her bow and darts; and in hell keeps in ſubjection the ghoſts and ſpirits, by her power and authority.

Many temples were erected to this goddeſs, of which, that of Epheſus was the chief. The woods, groves, and foreſts, were alſo conſecrated to her.

Acteon, grandſon of *Cadmus*, a famous hunter, intruding himſelf, whilſt Diana was bathing in a fountain, the goddeſs changed him into a ſtag, and he was devoured by his dogs*.

CERES, the daughter of *Saturn* and *Ops*, is repreſented as a lady, tall in ſtature, venerable with majeſty, beautified with yellow hair, and crowned with a turban, compoſed of the ears of corn. She holds in her right hand a burning torch, and in her left, a handful of poppies and ears of corn.

She firſt invented and taught the art of tilling the earth, of ſowing pulſe and corn, and of making bread; whereas before, men only ate acorns. As ſoon as agriculture was introduced, and men began to contend about the limits of thoſe fields, which be-

* Ovid.

fore

fore were common and uncultivated, ſhe enacted laws, and determined the rights and properties of each perſon, when diſputes aroſe.

Ceres is beautiful, becauſe the earth which ſhe reſembles, gives a very delightful and beautiful ſpectacle to beholders; eſpecially when it is arrayed with plants, diverſified with trees, adorned with flowers, enriched with fruits, and covered with green herbs, when it diſplays the honours of the Spring, and pours forth the gifts of Autumn with a bountiful hand.

She holds a lighted torch, becauſe when Proſerpine was ſtolen away by Pluto, ſhe lighted torches with the flames of mount Ætna, and with them ſought her daughter through the whole world.

Among various nations, the firſt fruits of the earth were offered to *Ceres*, as goddeſs of corn and agriculture.

CHAP. X.

OF NEPTUNE, AND OTHER MARINE DEITIES.

NEPTUNE was the ſon of Saturn and Ops, and brother of Jupiter and Pluto. In the diviſion of his father's kingdom by Jupiter, the empire of the ſea was allotted to Neptune.

Having joined with Apollo in a conſpiracy againſt Jupiter, they were both driven from heaven; and, by Jupiter's command, forced to ſerve Laomedon in building the walls of Troy. Neptune, not receiving

the

the reward of his ſervices, ſent a ſea-monſter on the coaſts, which ravaged the country.

Neptune afterwards became charmed with the beauty of *Amphitrite*, but could not for a long time obtain her. At laſt, however, by the aſſiſtance of a dolphin, and the power of flattery, he drew her into marriage. Neptune, as an acknowledgment of this kindneſs, placed the dolphin among the ſtars, and he became a conſtellation.

In a diſpute with Minerva, who ſhould give a name to Athens, the capital city of Greece, he ſtruck the ground with his trident, and produced a horſe; for which reaſon, the Athenians ſacrificed to him that animal.

Neptune is eſteemed governor of the ſea, and father of the rivers and fountains. He is repreſented riding on the ſea in a car, in the form of a ſhell, drawn by ſea-horſes, preceded by Tritons. He holds a trident in his right hand, as an emblem of his ſovereignty, and is attended by the young Tritons and Sea Nymphs.

OCEANUS, a marine deity, deſcended from Cœlus and Veſta, was called, by the ancients, not only the father of rivers, but alſo of animals, and of the gods themſelves.

THETIS, goddeſs of the ſea, and wife of *Oceanus*, is ſaid to have had many ſons; the chief of whom was Nereus, who dwelt in the *Ægean* Sea, and by his wife *Doris* had fifty daughters, called from him Nereides.

reides. Thetis is repreſented ſitting in a chariot, in the form of a ſhell, drawn by dolphins.

AMPHITRITE was daughter of Oceanus and Doris, goddeſs of the ſea, and wife of Neptune. She is by the poets frequently taken for the ſea itſelf.

TRITON, the ſon of *Neptune* and *Amphitrite*, was alſo his companion and trumpeter. In the upper part of his body he bears the reſemblance of a man, and of a fiſh in the lower part. Moſt of the ſea-gods, from him, are called Tritons.

The SYRENS were inhabitants of the ſea. They had faces of women, but the bodies of flying-fiſh. Their names were, *Parthenope*, *Ligæa*, and *Leucoſia*. Theſe dwelt near the coaſt of *Sicily*, and drew to them all paſſengers by the ſweetneſs of their ſinging, and then devoured them.

CHAP. XI.

OF THE INFERNAL DEITIES, PLUTO AND PROSERPINE.

PLUTO was the ſon of *Saturn* and *Rhea*, and brother of *Jupiter* and *Neptune*. In the diviſion of his father's kingdom, when he was dethroned by Jupiter, Pluto had the weſtern parts aſſigned to him, which gave riſe to the poetical fable, that he was the god of hell.

He is called *Dis* by the Latins, and *Hades* by the Greeks, which laſt ſignifies *dark* and *gloomy*.

He

He ſits on a dark throne, holding a key inſtead of a ſceptre, and wearing a crown of ebony. Sometimes he is crowned with a diadem, ſometimes with cypreſs, and ſometimes with the daffodil, which flower Proſerpine was gathering, when he ſtole her away.

His horſes and chariot are of a black colour; and himſelf is often painted with a rod in his hand for a ſceptre, and covered with a head-piece.

PROSERPINE is queen of hell, the infernal *Juno*, and wife of Pluto. She was daughter of *Jupiter* and *Ceres*.

When none of the goddeſſes would marry Pluto, becauſe of his deformity, the god being vexed that he was deſpiſed, and forced to live a ſingle life, in a rage mounted his chariot, and ſuddenly ſprung up from a den in Sicily, amongſt a company of very beautiful virgins, who were gathering flowers in the fields. Pluto, inflamed with the love of Proſerpine, carried her off with him, and ſunk into the earth, not far from Syracuſe, where ſuddenly a lake aroſe.

The Nymphs, her companions, being ſtruck with terror, acquainted her mother with the loſs of her daughter. Ceres, with lighted torches from mount Ætna, long ſought her in vain; but at laſt, being informed by the Nymph Arethuſa, that ſhe was ſtolen by Pluto, ſhe went down into hell, where ſhe found Proſerpine, queen of thoſe dark dominions. The enraged mother complained to Jupiter of the violence offered to her daughter by his brother Pluto. Jupiter promiſed that ſhe ſhould return to the earth, provided

ſhe

ſhe had eaten nothing in hell. Upon which, Ceres went down rejoicing; and Proſerpine was returning with tranſport, when Aſcalaphus declared, that he ſaw Proſerpine eat ſome grains of a pomegranate, which ſhe gathered in Pluto's orchard. By this diſcovery, her return was ſtopped. The mother, incenſed at this intelligence, changed Aſcalaphus into an owl; and, by her importunate intreaty, extorted from Jupiter, that Proſerpine ſhould live one half of the year with her, and the reſt of the time with her huſband Pluto. Proſerpine afterwards ſo loved this *diſagreeable huſband*, that ſhe became jealous of him, and changed his miſtreſs *Mentha* into the herb named *mint*.

CHAP. XII.

OF PLUTUS, NOX, CHARON, AND THE TITANS.

PLUTUS, god of riches, is ſaid to be blind, void of judgment, and of a nature quite timorous. All theſe qualities denote ſome peculiar property of this god. He is blind, and void of judgment, in the unequal diſtribution of riches, as he frequently paſſes by good men, whilſt the wicked are loaded with wealth; and timorous, becauſe the rich are conſtantly in fear, and watch over their treaſures with great care and anxiety.

NOX, goddeſs of darkneſs, is the moſt ancient of all the goddeſſes. She married the river *Erebus* in hell,

hell, by whom ſhe had many daughters. *Nox* is painted in black robes beſet with ſtars.

CHARON, the ſon of *Erebus* and *Nox*, is the *ferryman* of hell. He is repreſented by the poets as a terrible, grim, dirty, old fellow. According to the fable, he attended with his boat, and, for a ſmall piece of money, carried over the river *Styx* the ſouls of the dead; yet not all promiſcuouſly, but only thoſe whoſe bodies were committed to the grave. The unburied ſhades wandered about the ſhores an hundred years, and then were admitted into the boat, and ferried over the lake.

The TITANS or GIANTS, were at firſt inhabitants of the earth, who, truſting to their great ſtature and ſtrength, waged war againſt Jupiter, and attempted to dethrone him from the poſſeſſion of heaven. In this battle they heaped up mountains upon mountains, and from thence darted trees of fire into heaven. They hurled alſo prodigious ſtones and ſolid rocks, which falling again upon the earth, or in the ſea, became mountains or iſlands. But being unſucceſsful in the atempt, and deſtroyed by the thunder of Jupiter, with the aſſiſtance of the other gods, they were driven from the earth, and caſt into hell.

CHAP. XIII.

OF THE FATES, FURIES, AND HARPIES.

THE FATES were three in number, daughters of *Erebus* and *Nox*. Theſe were ſaid to preſide

ſide over time paſt, preſent, and to come. Their names are, *Clotho*, *Lacheſis*, and *Atropos*. Their office is to ſuperintend the thread of life. *Clotho* holds the diſtaff, and draws the thread, *Lacheſis* turns the ſpindle, and *Atropos* cuts the thread with her ſciſſars; that is, the firſt calls us into life, the ſecond determines our lot and condition, and the third finiſhes our life.

The FURIES, or *Eumenides*, were daughters of *Nox* and *Acheron*. They were three, namely, Alecto, Megæra, and Tiſyphone. Their abode was in hell to torment the wicked. They were armed with blazing torches, and ſurrounded with ſnakes and other inſtruments of horror.

The HARPIES, or birds of prey, were alſo inhabitants of hell. Theſe were indifferently called *Furiæ*, *Ocypete*, and *Lamiæ*. They were inſtruments in the hands of the gods to raiſe wars in the world, and diſturb the peace of mankind.

CHAP. XIV.

OF TARTARUS AND ELYSIUM.

THE infernal regions, the reſidence of *Pluto*, are ſaid to be a ſubterraneous cavern, whither the ſhades or ſouls of mortals deſcended, and were judged by *Minos*, *Æacus*, and *Rhadamanthus*, appointed by Pluto judges of hell. This place contained *Tartarus*, the abode of the unhappy; alſo *Elyſium*, the abode of thoſe that had lived well.

Cerberus,

Cerberus, a dog with three heads, was door-keeper, and covered with *ſerpents*, always waited at the infernal gate, to prevent mortals from entering, and the *Manes* or Shades from going out.

Charon, as before mentioned, was ferryman of hell, and conducted the departed ſouls to the tribunal of *Minos*.

CHAP. XV.

OF THE INFERNAL RIVERS.

THE rivers of Hell were, ACHERON, STYX, COCYTUS, PHLEGETHON, and LETHE.

The waters of *Acheron* are extremely muddy and bitter.

Styx is the principal river of hell. It was held in ſo great veneration by the gods, that whoever broke the oath he had once made by this river, was deprived of his divinity for one hundred years.

Cocytus is increaſed by the tears of the wicked; and flows with a lamentable noiſe, imitating the miſerable.

Phlegethon ſwells with fiery waves, and rolls ſtreams of fire. The ſouls of the dead, having paſſed over theſe rivers, are carried into *Pluto*'s palace.

Lethe is the river of forgetfulneſs. If the ghoſts of the dead drank the waters of this river, they were ſaid to loſe the remembrance of all that had paſſed in this world.

CHAP. XVI.

SINGULAR PUNISHMENTS.

FABLE relates four remarkable puniſhments in Tartarus. 1. *Ixion*, for attempting to ſeduce Juno, was by Jupiter caſt into hell, and condemned to be chained to a wheel, which continually whirled round. 2. The *rebel Giants*, after their defeat by Jupiter, were puniſhed in the ſevereſt manner, for their enormous crimes. The poets in ſpeaking of theſe monſters, ſay, they had *ſnakes* inſtead of *legs*. 3. Tantalus is repreſented as hanging over the waters, which are always flowing from him; and, at the ſame time, the fineſt fruit almoſt touches his lips, which he is not permitted to taſte. To this eternal torment of hunger and thirſt he was condemned, for having invited the gods to a feaſt, when, to prove their *divinity*, he killed, boiled, and ſerved up the joints of his ſon Pelops, as a repaſt for them. 4. Syſiphus, the ſon of Æolus, is doomed to roll a huge round ſtone to the top of a mountain, whence it immediately deſcends, and makes his labour perpetual. This puniſhment was allotted him, becauſe he revealed the ſecrets of the gods. He was alſo a notorious robber.

CHAP. XVII.

OF THE INFERIOR DEITIES.

THE poets mention ſeveral deities of inferior note, ſtiled *Dii Minores:*

ÆOLUS, god of the winds, tempeſts, and hurricanes, was the ſon of *Jupiter* and *Alceſta.*—*Aquilo* and *Boreas* are cold winds of the north.—*Eurus*, or the genius of the eaſt winds, preſided over all the eaſtern quarter of the heavens.—*Zephyrus*, or the weſt wind, preſided over the weſt, and is the mildeſt of all the wind deities.—*Auſter*, or *Notus*, the genius of the ſouth wind, was the chief director of the ſouth.—Theſe deities were all *brothers*, ſons of *Aſtræus*, the eldeſt brother of *Saturn*, by *Aurora.*

MOMUS, ſon of *Nox* and *Somnus*, was the god of jeſting, banter, and folly. He is repreſented with a maſk and groteſque face. He was rather a jeſter, mocker, or mimic of the gods, than a god himſelf.

MORPHEUS was the god of ſleep.

PAN, ſon of *Mercury* and *Penelope*, was the god of the woods and ſhepherds. He is repreſented half man, and half goat, with a large pair of horns on his head, a crook in one hand, and a pipe, compoſed of reeds, in the other. The *Arcadians* much admired his muſic, and paid him divine honours.—SYLVANUS and FAUNUS were alſo gods of the foreſts, from whom were deſcended the other rural deities, as

Satyrs, *Sylvans*, *Fauns*, *Nymphs*, or *Dryades*, who were all inhabitants of the woods.

FLORA was the goddeſs of the ſpring and flowers, and wife of *Zephyrus*. She is repreſented adorned with garlands, and near her is a baſket of flowers.

POMONA preſided over gardens, orchards, and fruit trees. She was beloved of *Vertumnus*, as *Ovid* relates.

TERMINUS was a deity, who preſided over the boundaries of lands, which were held ſo ſacred, that whoever removed a land-mark, or ploughed it up, was ſubject to death.

PRIAPUS was the ſon of *Venus* and *Bacchus*. It was his buſineſs to drive away birds, and guard the fruit and trees.

CHAP. XVIII.

OF CUPID, AND OTHER INFERIOR DEITIES.

CUPID, god of love, ſon of *Mars* and *Venus*, is repreſented blind, with a bow in his hand, and a quiver of arrows on his ſhoulders, with which he wounds the hearts of lovers.

HYMENÆUS, or *Hymen*, is the god of marriage; and is repreſented under the figure of a young man, holding a torch in his hand, with a crown of roſes, and ſweet marjoram on his head.

The PENATES and LARES were alſo deemed gods. The firſt preſided over provinces and kingdoms, and the latter over houſes and particular families. The

Lares

Lares alſo preſided over the highways; and they were wont to ſacrifice to theſe houſhold gods, frankincenſe, wine, bread, corn, and a cock; and, according to ſome writers, a lamb and a hog.

The GENII alſo were ſpirits, or deities, that preſided over all perſons and places. And, indeed, ſo great was the number of theſe inferior gods, that the ancient mythology furniſhed almoſt as many deities as there are things in nature.

ÆSCULAPIUS, ſon of Apollo, was the god of phyſic. He was ſlain by *Jupiter* with a thunderbolt forged by the *Cyclops*, on the complaint of *Pluto*, for raiſing the dead, or rather recovering men by his ſkill in medicine from their ſickneſs. He was worſhipped under the figure of a ſerpent; and ſometimes he is repreſented ſeated on a throne of gold and ivory, holding a rod environed with a ſerpent, and a dog at his feet.

The CYCLOPS, four in number, were ſons of *Neptune* and *Amphitrite*. They were ſervants of *Vulcan*, and had only one eye placed in the middle of their foreheads.

SILENUS was the foſter father of *Bacchus*. He is accounted the god of *abſtruſe myſteries* and knowledge. He is repreſented as a fat, old, drunken fellow, riding on an aſs.

CHAP. XIX.

OF THE MUSES, GRACES, AND OTHER INFERIOR GODDESSES.

THE MUSES, daughters of Jupiter and Mnemoſyne, goddeſs of memory, were the reputed goddeſſes of the ſeveral arts and ſciences, and preſided over the feaſts and ſolemnities of the gods.

They were the companions of Apollo, and lived with him chiefly on the hills of *Parnaſſus*, *Helicon*, and *Pindus*. The *Hippocrene*, and other fountains at the foot of *Parnaſſus*, were ſacred to them, as were alſo the palm-tree and the laurel. They are repreſented young and very handſome, and are nine in number. Their names are, CLIO, CALLIOPE, ERATO, THALIA, MELPOMENE, TERPSICHORE, EUTERPE, POLYHYMNIA, and URANIA.

Clio preſides over hiſtory, and is ſaid to be the inventreſs of the lute. *Calliope*, ſo called from the ſweetneſs of her voice, preſides over eloquence and heroic poetry. *Erato*, or the *Lovely*, preſides over lyric poetry. *Thalia* is the goddeſs of comedy; *Melpomene* of tragedy; and *Terpſichore*, or the *Jovial*, of dancing. *Euterpe* is ſo called, becauſe ſhe imparts joy. She invented the flute, and preſided over muſic. She is alſo ſaid to be the patroneſs of logic. *Polyhymnia* is ſo called from her multiplicity of ſongs. She is ſaid to excel in memory, and is the goddeſs of the ode. *Urania*, or the *celeſtial muſe*, preſided over

divine

divine poeſy; and is ſaid to be the inventreſs of aſtronomy.

The *Muſes* are diſtinguiſhed by maſks, lyres, garlands, globes, and other emblems expreſſive of their different offices or accompliſhments.

Pegaſus, the famous horſe of ancient fable, was an attendant on *Apollo* and the *Muſes*. He inhabited the mountains of *Parnaſſus* and *Helicon*. It is ſaid that he ſprung from the blood of *Meduſa*, killed by Perſeus; and he is repreſented by the poets with wings to his ſides, expreſſive of the flights and elevation of the mind in poetry. When *Perſeus* ſtruck off the head of *Meduſa*, the horſe *Pegaſus* ſtruck the ground with his foot; upon which, at the bottom of the hill, a fountain aroſe named *Hippocrene*. This fountain was ſacred to Apollo and the Muſes.

The GRACES, called alſo *Charites*, were three ſiſters, daughters of *Jupiter* and *Eurynome*, or *Venus*. The firſt was named *Aglaia* from her chearfulneſs; the ſecond *Thalia*, from her perpetual verdure; and the third *Euphroſyne*, from delight. They were companions of the Muſes and Mercury, and attendants on Venus. They are repreſented with pleaſing countenances, and without garments, to denote that our actions ſhould be free and candid, not covered over with diſſimulation or deceit. A chain binds their arms together, to expreſs that the link of love and harmony ſhould be united and unbroken.

THEMIS, ASTREA, and NEMESIS, were three goddeſſes: the firſt of law and peace; the ſecond of

ſtice; and the third, a rewarder of virtue, and puniſher of vice.

CHAP. XX.

OF THE ÆGYPTIAN DEITIES.

OSIRIS, *Apis*, and *Serapis*, are different names of one and the ſame deity, ſon of Jupiter by Niobe, and huſband to Iſis.

Their ſon ORUS was deemed, by the *Ægyptians*, the *Protector of the River Nile*, the *Averter of Evils*, *Governor of the World*, and the *Author* of *Plenty*.

Theſe deities of the Ægyptians were held in the greateſt veneration. Temples were erected, and divine honours paid to Oſiris under the figure of an ox; and the prieſteſſes of Iſis ſacrificed to that goddeſs under different ſhapes, according to the purpoſes for which they were intended.

As fable is ſaid to take its origin from the *Ægyptians*, it will appear, from their intercourſe with the Jews, long reſident in *Ægypt*, that a mixture of true religion and error increaſed that falſe worſhip, which firſt prevailed in that country, and afterwards ſpread into Rome, and the more diſtant parts of the world.

Theſe gods of the Ægyptians were worſhipped under various names and characters, according to the prevailing opinion of different countries, or ſome other incident. Thus, according to *Herodotus*, *Oſiris* and *Bacchus* are the ſame; and *Iſis* is ſaid to be the ſame with the Roman *Cybele*, *Ceres*, *Minerva*, and *Luna*.

Luna. Orus alſo was the ſymbol of light, and was figured as a winged boy. He was named the *Hermes* of the Greeks, and the *Apollo* and *Cupid* of the Romans.

CHAP. XXI.

OF THE PANTHEON.

BOTH in Ægypt and Rome, each deity had a temple, where the moſt ſolemn ſacrifices were made to them, according to the prevailing notion of their power and influence.

The worſhip of theſe gods ſo far prevailed among the Romans, that they erected to their honour a public edifice, named the PANTHEON, in which, as a general repoſitory, were placed the ſtatues of their ſeveral deities, with their reſpective ſymbols. *Jupiter* was diſtinguiſhed by a thunder-bolt; *Juno* by a crown; *Mars* by a helmet; *Apollo*, or the *Sun*, by his beams; *Diana*, or the *Moon*, by a creſcent; *Ceres* by a *cornucopia*, or horn of plenty, or an ear of corn; *Cupid* by a bundle of arrows; *Mercury* by the wings on his feet, and a *caduceus*, or wand in his hand; *Bacchus* by the ivy; *Venus* by the beauty of her perſon; and the reſt had the like diſtinguiſhing characters placed above their ſtatues, or in their hands, according to the received opinion of the people, or the ingenuity of the artiſt.

CHAP. XXII.

OF ORACLES.

THE ORACLES of the ancients were deemed predictions, and myſterious declarations of the will of the gods. It may, with a kind of certainty be admitted, that the natural bent of the mind of man to ſearch into futurity, gave riſe to this inſtitution.

To whatever cauſe, however, the origin may be aſcribed, the inſtitution of Oracles became general, among the idolatrous nations, and increaſed over the face of the whole earth.

Not to mention other nations, the *Oracles* of the *Ægyptians* and *Greeks* were numerous, eſpecially of the latter people; at leaſt we have a more full account of them.

The *Oracle* of *Dodona*, a city of Epirus in Greece, was ſacred to *Jupiter*. The *Oracle* of *Jupiter Hammon* was alſo of ancient date, and famous in *Lybia*. The *Oracle* of *Apollo*, at Heliopolis, was of great note. The *Oracle* alſo of *Apollo* at *Delphi*, if not the moſt ancient, was the moſt celebrated of all *Greece*, inſomuch that it was called *the Oracle of the whole earth*.

And, indeed, ſo eſtabliſhed was the character of theſe oracular declarations, that the enacting laws, the reformation of government, alſo peace or war, were not undertaken by ſtates or princes; but even in the more common concerns of life, no material buſineſs was entered upon, without the ſanction of the *Oracle*.

Each

Each Oracle had its prieſt or prieſteſs, who delivered out the anſwers of the gods. Theſe anſwers for the moſt part, were in verſe, and couched under ſuch myſterious terms, that they admitted of a double interpretation; inſomuch, that whether the prediction was completed, or the expectation of the ſupplicant diſappointed, the *Oracle* was clear from blame.

The *Oracle* of *Apollo* at Delphi, being in the greateſt reputation, was reſorted to from all parts. The prieſteſs of Apollo was named Pythia, from the ſerpent Python, killed by that god, as is before mentioned.

The offerings to the gods, on theſe applications, were liberal, according to the ability of the ſupplicant, or the importance of the anſwer required; and, it is ſaid, the temple and city of Delphi eſpecially, were, by theſe means, filled with immenſe treaſure.

The principal *Oracle* of the *Ægyptians* was at Memphis, a royal city of Ægypt, where they erected an altar, and worſhipped their god *Apis*, under the figure of an *ox*. His wife *Iſis* had alſo worſhip, and her prieſts were called *Iſiaci*.

CHAP. XXIII.

OF THE SYBILLINE ORACLES.

THE Sybilline Oracles were certain women, whom the ancients believed to be endued with the gift of prophecy. They are ſaid to be ten in number, and were famous in all lands. They had

no fixed reſidence, but travelled into different countries, and delivered their predictions in verſe, in the Greek tongue. One of theſe *Sybils*, named *Erythræa*, or Cumæa, from *Cuma*, a city in the *Ionian* ſea, according to *Virgil*, came into *Italy*, and was held in the higheſt eſteem by the *Romans*, who conſulted the Oracle of the *Sybil* on all occaſions that related to the welfare of the republic.

CHAP. XXIV.

OF AUGURY.

AUGURY, or the art of divination by birds, the meteors of the heavens, or the entrails of beaſts, was held in the higheſt veneration by the idolatrous nations. The Jews were not free from idolatry in the time of Moſes; and we read alſo in the ſacred writings, that Saul, being vexed in ſpirit, applied to the *Seers*, or perſons ſkilled in the knowledge of futurity.

But not to go ſo far back, Romulus and Remus conſulted the Auguries, before they built Rome; and the foundation of that city was determined by the flight of birds. Numa eſtabliſhed a college of Augurs, and confirmed his regulation of the Roman ſtate by their ſanction.

It appears alſo in the hiſtory of that people, that no national concern was entered upon, without firſt conſulting the Auguries; and, according to the propitious or bad omen, they made peace or war, and appointed

appointed magiſtrates. Indeed, the Augurs, and their declarations, were held in ſo high regard by the Romans, that whoever contemned them, was accounted impious and profane. To conclude, *divination*, or the ſpirit of prediction, made a conſiderable part of the pagan theology, eſpecially among the Romans, thoſe lords of the world, who fell into the general deluſion, and adopted almoſt all the gods of every people they ſubdued.

CHAP. XXV.

OF DEMI-GODS OR HEROES.

THE title of *hero* was given by the Greeks to thoſe who had made themſelves famous. A demi-god was a man deſcended of a god, or goddeſs, by a mortal; of which there were great numbers. Æneas, Ulyſſes, Hercules, Theſeus, Achilles, and Jaſon, were the moſt celebrated.

Æneas was a Trojan prince, ſon of Anchiſes and the goddeſs Venus. He is memorable for his grateful care of his aged father, whom he bore through the flames of Troy upon his ſhoulders, at the hazard of his life, and that of his ſon Aſcanius, a child, who was obliged to cling to his garments to eſcape them. Arriving in Italy, he married Lavinia, the daughter of Latinus, king of the Latins, and built Lavinium, ſo named after his wife. He died in the year before Chriſt 1197.

Ulyſſes,

Ulyſſes, on his return by ſea from the Trojan war to the iſland of Ithaca, of which he was king, was met by the *Syrens*, who uſed every effort to ſtop him; but, that he might not be ſurpriſed by their melodious voices, he ſtopped his ears, and cauſed himſelf to be tied to the maſt of the ſhip.

His wife *Penelope*, who was beſieged by a numerous train of lovers in the abſence of her huſband, delivered herſelf by artifice. She promiſed to make choice of one of them as ſoon as a piece of tapeſtry, on which ſhe was at work, ſhould be finiſhed; but every night, ſhe unwove all ſhe had done the preceding day.

Hercules was the ſon of Jupiter and *Alcmene*, wife of Amphytrion. He was expoſed, through the whole courſe of his life, to perform the moſt dangerous adventures, by the malignity of Juno and the fatality of his birth. His principal exploits are termed, by way of eminence, the *twelve labours of Hercules*.

Euryſtheus, who ſucceeded Perſeus, in the kingdom of Argos, had conceived a jealouſy of Hercules, and impoſed upon him, as fabulous hiſtory relates, the following hazardous enterpriſes. 1. He overcame the lion of Nemæa, whoſe ſkin he afterwards wore. 2. He deſtroyed the hydra with ſeven heads. 3. He took, on the mountain Erimanthus, in Arcadia, a wild boar, that had made dreadful havock round the country, and dragged it alive to Euryſtheus. 4. He catched an hind with golden horns and brazen hoofs, after hunting her a year on foot. 5. He cleanſed the ſtable

of

of Augeas, king of Elis, in which 3000 oxen had ſtood for many years. 6. He deſtroyed the harpies, or birds of prey. 7. He delivered Prometheus from mount Caucaſus, and killed the eagle which fed upon his liver. 8. He killed Diomedes, and the horſes which he fed on human fleſh. 9. He ſubdued the giant Geryon, and carried away his flock of cattle. 10. He conquered the army of the Amazons, and took from Hippolite their queen, her girdle, and married her to Theſeus. 11. He went down to hell, and deſtroyed the three-headed dog Cerberus. 12. He killed the dragon, which defended the garden of the Heſperides, and brought from thence the *golden apples*.

Beſides theſe, and many other notable atchievements, Hercules is ſaid to have taken the *heavens upon his ſhoulders*, in order to eaſe *Atlas*, the ſon of Uranus, a great obſerver of the ſtars, and *the firſt who repreſented the world by a ſphere*.

This famous hero ended his life in the following manner. Having ſlain the centaur Neſſus, the dying monſter gave Dejanira, Hercules's wife, a garment dipt in his own blood, as a preſervative for love. This Dejanira ſoon after ſent him to regain his affections. The hero had no ſooner put on the poiſoned ſhirt, than he was ſeized with violent and incurable pains; therefore, making a funeral pile on mount Oëta, he ſet fire to it, and cloſed, with the moſt dreadful agonies, a life of hardſhips for the good of his fellow-creatures.

Theſeus

Theſeus was the ſon of Ægeus, king of Athens, and Æthra, daughter of the wiſe Pitheus, at whoſe court he was brought up by Træzenus. He killed the *Minotaur*, a monſter which had a bull's head, and all its lower parts human. It was incloſed in the labyrinth at Crete, made by Dædalus, by the order of Minos, king of that iſland, the inhabitants of which ſacrificed men to Jupiter and Saturn; and where many of the gods and goddeſſes were born.

Perſeus was the ſon of Jupiter and Danae, daughter of Acriſius, king of Argos. He was king of the Mycenians. He had the wings of Mercury, the ſhield of Minerva, the helmet of Pluto, and a ſword forged by Vulcan. Thus armed, he overcame and cut off the head of Meduſa, which, according to the poets, was ſurrounded by ſerpents inſtead of hair, and turned to ſtones thoſe who had the raſhneſs to look upon it. He alſo delivered Andromeda, daughter of Cepheus, king of Ethiopia, from a monſter, and afterwards married her. He lived about 1348 years before Chriſt.

Achilles was the ſon of the goddeſs Thetis, daughter of Nereus and Doris, the moſt beautiful of the Nereides; and Peleus, ſon of the famous Æacus, king of Egina, and the nymph Endeis, daughter of Chyron. He was educated by the centaur * Chiron. His mother dipped him in the Styx, all but the heel, by which ſhe held him, to make him invulnerable. He was

* A centaur is a monſter, half man and half horſe.

ſlain

ſlain at the ſiege of Troy by Paris, whoſe arrows ſhot him in the heel, in the year before Chriſt 1180.

Jaſon was the ſon of Eſon and Alcimede. Upon the death of his father, he was placed under the tuition of Pelias, at whoſe perſuaſion he undertook the Argonautic expedition to Colchis for the golden fleece, which he carried away about 937 years before Chriſt.

The *golden fleece* was the ſkin and fleece of a ram, called golden, becauſe it was of a golden colour. It was guarded by bulls that breathed fire from their noſtrils; and by a large and watchful dragon, in the grove of Mars.

Pelias, the ſon of Neptune and Tyro, was brought up by a mare, and became the moſt cruel of all men. He not only uſurped the eſtates of Jaſon, but cauſed him to be impriſoned. He ſacrificed his mother-in-law to Juno, and put to death the wife and children of Eſon; but Jaſon was ſaved from his fury, and educated in private.

CHAP. XXVI.

ON THE BEAUTY AND UTILITY OF FABULOUS HISTORY.

SOME weak, though perhaps well-meaning men, condemn the delightful fictions, with which Homer and Heſiod, and their poetical imitators, have enriched and embelliſhed their works. But although theſe fictions did not contain many uſeful inſtructions, and many important truths, would there be any reaſon

to

to attack and deſtroy a ſyſtem, which peoples and animates nature, and makes a *ſolemn temple* of the vaſt univerſe?

Theſe flowers, whoſe varied and ſhining beauty we ſo much admire, are the *tears* of Aurora. It is the *breath* of Zephyrus which gently agitates the *leaves*. The *ſoft* murmurs of the waters are the *ſighs* of the Naïades.

A god impels the *wind*; a god pours out the *rivers*; *grapes* are the gift of Bacchus; Ceres preſides over the *harveſt*; *orchards* are the care of Pomona. Does a ſhepherd ſound his reed on the ſummit of a mountain? It is Pan who, with his paſtoral pipe, returns the *pleaſing lay*. When the ſportſman's horn rouſes the attentive ear, it is Diana, armed with her bow and quiver, and more *nimble* than the *ſtag* that ſhe purſues, who takes the diverſion of the chace. The ſun is a god, who, riding on a car of fire, diffuſes his light through the world. The ſtars are ſo many divinities, who meaſure with their *golden beams* the regular progreſs of fire. The moon preſides over the *ſilence* of the night, and conſoles the world for the abſence of her brother. Neptune reigns in the *ſea*, ſurrounded by the Nereides, who dance to the joyous ſhells of the Tritons.

In the higheſt heaven is ſeated Jupiter, the maſter and *father* of men and gods. Under his feet roll the *thunders*, forged by the Cyclops in the *caverns* of Ætna. His *ſmile* rejoices nature, and his *nod* ſhakes the foundation of Olympus. Surrounding the throne

of

of their ſovereign, the other deities *quaff nectar* from a cup preſented to them by the young and beautiful Hebe. In the middle of the great circle ſhines, with diſtinguiſhed luſtre, the goddeſs of beauty, adorned with a ſplendid girdle, in which the graces appear elegant and chearful; and in her hand is a ſmiling boy, the picture of health and contentment.

Sweet illuſions of the fancy! Pleaſing errors of the mind! What objects of pity are thoſe cold and inſenſible hearts, who have never felt your charms! And how deſtitute of taſte muſt thoſe perſons be, who would deſtroy a world that has ſo long been the treaſury of the arts; a world imaginary, indeed, but delightful, and whoſe ideal pleaſures are ſo well fitted to compenſate for the real troubles and miſeries of the world in which we live.

On this ſubject farther information may be obtained from "Spence's Polymetis," as abridged by Mr. Tindal; and "A Key to Polite Literature."

BOOK III.

CHRONOLOGY.

CHAP. I.

DEFINITION.

CHRONOLOGY is a ſcience which treats of time, and ſhews the different meaſures or computations of it, that have obtained in different nations. It enables us truly to date the beginning and end of the reigns of princes, the births and deaths of eminent perſons, the revolutions of empires and kingdoms, battles, ſieges, or any other remarkable events. Without chronology, that is, without diſtinguiſhing the times of events as clearly as the nature of the caſe will well admit, all hiſtory would be little better than a *heap* of confuſion, deſtitute of light, order, or beauty.

In the ſtudy of hiſtory, an *exact chronology* is like Ariadne's *clue*, which guides us through the different windings of the *labyrinth*; and the mind being thus conducted, the ideas we obtain from reading are more diſtinct, and more eaſily fixed in the memory.

In the chronology of ancient kingdoms, it muſt be confeſſed there is the utmoſt uncertainty, ariſing chiefly from the vanity of each in claiming the greateſt antiquity. Thus the prieſts of Egypt, as Herodotus informs us, reckon from the reign of Menes to that of Sethon 341 generations, three of which they ſuppoſed equal to a hundred years; ſo that, according to this computation,

computation, the whole time, from one reign to the other, was 11,340 years. The Chaldeans piqued themſelves on their antiquity, pretending to have obſerved the ſtars 473 thouſand years. Other eaſtern nations made the like extravagant pretenſions; all which were favoured by their having no exact accounts of time.

The chronology of the ancient Greeks is equally uncertain. Their writings are full of fables, being all in verſe, from which fiction is inſeparable, till the conqueſt of Aſia by Cyrus the Perſian. They did not begin to ſet down the generations, reigns and ſucceſſions, in numbers of years, till ſome time after the death of Alexander the Great. This makes their chronology very uncertain; and indeed ſuch it was reputed by the Greeks themſelves, as appears from ſeveral paſſages in Plutarch.

In the chronology of the Latins we find ſtill greater uncertainty. In a word, not one of the European nations had any chronology at all, till the time of the Perſian empire, which began 536 years before the birth of Chriſt; and whatever chronology they now have of more ancient times, has been framed ſince by reaſoning and conjecture. Therefore, on a ſtrict and impartial examination, the Jewiſh records, excluſive of their divine authority, will appear to be the moſt certain and authentic, and conſequently the ſureſt foundation of chronology.

CHAP.

CHAP. II.

OF TIME AND ITS PARTS.

TIME is diſtinguiſhed into *abſolute* and *relative*. Abſolute time is conſidered as in itſelf, and without any relation to bodies or their motions. This flows equally, never proceeding either faſter or ſlower. Relative time is that which is meaſured or eſtimated by certain motions, as thoſe of the ſun, moon, clocks and watches. This is otherwiſe called *apparent* or *vulgar* time.

The uſual diviſions of time are years, months, weeks, days, hours, minutes, and ſeconds; beſides periods, centuries, and cycles.

CHAP. III.

OF YEARS.

THE completeſt period of time is a year, in which all the ſeaſons return in ſucceſſion, and begin anew. It is that ſpace of time wherein the ſun finiſhes his courſe through the ecliptic, returning to the ſame point of it, from which he had departed. This is called the *ſolar year*; and conſiſts, according to our account, of 365 days, five hours, and forty-nine minutes. This is properly the *tropical* or *natural* year. But that ſpace of time in which the ſun having departed from any fixed ſtar, returns to the ſame again,

is called the *ſidereal* year, and contains 365 days, ſix hours, and ten minutes.

A *lunar* year is that ſpace of time, in which the moon performs twelve complete revolutions round the earth, called *Lunations*. This year contains 354 days, eight hours, forty-eight minutes, and thirty-eight ſeconds.

Both the *ſolar* and *lunar* years above deſcribed, are termed aſtronomical, as depending on the principles and obſervations of aſtronomy.

A *civil* year is the legal year, or that which each nation or government has appointed for common uſe. This is made to conſiſt of a certain number of whole days, without any odd hours or minutes, to render the computation of time more eaſy. It is diſtinguiſhed into *common* and *biſſextile*. The *common* year conſiſts of 365 days; and the *biſſextile*, or leap-year, which is every fourth, of 366.

The addition of a day to every fourth year is to make the *civil* year keep pace with the *natural* one: for the ſix hours, or thereabouts, by which the latter exceeds the former, in four years make a whole day; and therefore every leap-year the month of February has 29 days, which in the common year has but 28.

The intercalary, or additional day to every fourth year, was firſt appointed by Julius Cæſar, who ordered it to be inſerted after the 24th of February, which was the ſixth of the calends of March, according to the Roman way of reckoning. This year, therefore, they reckoned the 24th of February twice over,

over, having, as they expreſſed it, *bis ſexto calendas Martias*; and hence the year had the name of biſſextile. But amongſt us, this intercalation is not made by telling the 24th of February twice, but by adding a day to the end of that month.

It is called *leap-year*, becauſe in the common years any fixed day of the month changes ſucceſſively the day of the week; but in the *biſſextile* it ſkips or *leaps* over one day. For inſtance, ſuppoſe the 1ſt of May in a common year falls on Tueſday, if the next be a common year it will be on a Wedneſday; but if it be a leap-year, the adding of a day will cauſe it to ſkip over Wedneſday, and fall on Thurſday.

In order to know whether any particular year be leap-year or not, divide it by four, and the remainder, if there be any, ſhews how many years have elapſed ſince leap year; and, if there be none, then it is leap-year. Or you may omit the hundreds and thouſands, and divide only the units and tens by four, and the reſult will be the ſame. For example; divide 1792 by 4, the remainder is 0; or divide only 92 by 4, the remainder is likewiſe 0; conſequently 1792 is leap-year. Divide 1793 by 4, the remainder is 1; or divide only 93 by 4, the remainder is likewiſe 1; conſequently 1793 is the firſt year after leap-year.

The *lunar* year, as inſtituted by Romulus, the founder of Rome, conſiſted but of ten months; but as this was ſhort of the ſun's period by two months, theſe were afterwards added by his ſucceſſor, Numa Pompilius, and were called January and February. By theſe means the Roman year conſiſted of twelve months.

months. But the months of this year being only lunar months, of 29½ days each, this *civil lunar* year conſiſted but of 354 days. The ſun, however, in revolving once through the ecliptic, was found in proceſs of time to take up 365 days, or eleven days more than the lunar year. Theſe were added to it by Julius Cæſar, and on that account it was called the *Julian year*.

The *Gregorian year* is a correction of the Julian made by Pope Gregory XIII. and that with very good reaſon; for the Julian year of 365 days and ſix hours exceeding the true *ſolar year* by eleven minutes, this exceſs in 131 years amounts to a whole day. The council of Nice, in the year of Chriſt 325, appointed the celebration of Eaſter to be always on the firſt Sunday after the full moon that came next after the vernal equinox, which was then on the 21ſt of March. Pope Gregory, however, in the year of our Lord 1582, obſerved that the above-mentioned fault of the Julian year had thrown the equinoxes ten days more backward, than they were at the time of the ſaid council, ſo that the vernal equinox was then on the 11th of March. This occaſioned great irregularity with reſpect to the time of celebrating *Eaſter*, and conſequently all other *Moveable Feaſts*. The Pope, therefore, to correct this error, ordered ten days to be ſuppreſſed in the month of October 1582, that ſo the equinox might be reduced to the 21ſt of March, on which day it fell at the time of the Nicene council. And that this variation might not

happen again, it was further ordained, that every hundredth year, which in the Julian account was a leap-year, ſhould in this be only a common year, and conſiſt but of 365 days; but as that was too much, every four hundredth year was to remain a leap-year or biſſextile.

This reformation of the calendar is called the Gregorian account, or New Stile; and according to this ſtile was the calendar rectified in England in 1752, by throwing out eleven days in the month of September, as from the council of Nice to that year, 1427 years had elapſed; and, beſides, the beginning of the civil year was fixed to the firſt day of January.

This emendation adjuſts the year and ſeaſons pretty near the truth, and has been received not only in all popiſh countries, but in Holland, Denmark, Sweden, England, and the Proteſtant ſtates of Germany.

CHAP. IV.

FORMS OF CIVIL YEARS.

THERE have been, and ſtill are, various forms of *civil* years, in different nations, four of which I ſhall take ſome notice of.

1. The *ancient Roman year* of Romulus conſiſted of ten months, namely, *Martius* of 31 days, *Aprilis* of 30, *Maius* of 31, *Junius* of 30, *Quintilis* of 31, *Sextilis* of 30, *September* of 30, *October* of 31, *November* of 30, *December* of 30; in all 304 days.

2. The

2. The Roman year of *Numa*, conſiſted of twelve months. *Januarius* had 29 days, *Februarius* 28, *Martius* 31, *Aprilis* 29, *Maius* 31, *Junius* 29, *Quintilis* 31, *Sextilis* 29, *September* 31, *October* 29, *November* 29, *December* 29; in all 355.

The months called Quintilis and Sextilis, from their order in Romulus's year, were changed into Julius and Auguſtus*, in honour of Julius Cæſar and his ſucceſſor Auguſtus.

3. The *Julian* year conſiſts of twelve months, viz. *January* of 31 days, *February* of 28, *March* of 31, *April* of 30, *May* of 31, *June* of 30, *July* of 31, *Auguſt* of 31, *September* of 30, *October* of 31, *November* of 30, *December* of 31; in all 365.

Every fourth year, in the Julian account, has 366 days, February then having 29, as we have before obſerved.

The *Gregorian* year has the ſame number of months and days as the Julian, the only difference being that each month in the former begins *eleven* days ſooner than in the latter.

4. The *Jewiſh* year conſiſts of twelve months. *Niſan* or *Abib* has 30 days, *Jiar* or *Zius*, 29, *Siban* or *Sivan*, 30, *Thamus* or *Tamus*, 29, *Ab* 30, *Elul* 29, *Tiſri* or *Ethanim*, 30, *Marcheſvan* or *Bul*, 29, *Ciſleu* 30, *Tebeth* 29, *Shebat* or *Schebeth*, 30, *Adar* 29; in all 354.

* Our July and Auguſt.

This is made to agree with the *ſolar year*, by adding eleven, and ſometimes 12 days.

It may not be amiſs to obſerve, that as the form of the year is various among different nations, ſo likewiſe is its beginning. The Jews, as moſt other nations of the Eaſt, had a civil year, which commenced with the new moon in September; and an eccleſiaſtical year, which commenced from the new moon in March. The Perſians begin their year in the month anſwering to our June. The Chineſe, and moſt of the Indians, begin it with the firſt moon in March; and the Greeks with the new moon that happens next after the ſummer ſolſtice.

In England, the civil or legal year formerly commenced on the 25th day of March, and the hiſtorical year on the firſt day of January. But ſince the alteration of the ſtile, in 1752, the civil year, in this country, as I obſerved before, has likewiſe begun on the firſt of January.

From what is ſaid of the patriarchs having lived ſo many centuries, and ſome even to the age of nine hundred years, may we not believe that the *years* were then *ſhorter* than at preſent? By no means. For we learn from Moſes, that the year conſiſted then, as now, of twelve months. In his hiſtory of the deluge, he tells us, that after the rains, which began on the 17th day of the *ſecond* month, had fallen upon the earth for the ſpace of forty days and forty nights, it was only in the *ſeventh* month that the ark, which floated

upon

upon the waters, reſted upon Ararat, a mountain in Armenia; and, in the *tenth*, that land began to appear.

The changes and varieties that happen in nature, by the annual revolution of the earth round the ſun, are called the ſeaſons. Spring, Summer, Autumn, and Winter, are the names of the ſeaſons, and each ſeaſon continues three months. Spring begins on the 21ſt of March, Summer on the 21ſt of June, Autumn on the 23d of September, and Winter on the 21ſt of December.

CHAP. V.

OF MONTHS.

THE firſt and principal diviſion of the year is into parts called months, which are uſually twelve; and theſe are either *aſtronomical* or *civil*.

An *aſtronomical* or *natural* month is that which is meaſured exactly by the motion of the ſun or moon, and is accordingly either *lunar* or *ſolar*.

A *lunar* month is the time the moon takes to revolve round the earth, which ſhe performs in twenty-ſeven days, ſeven hours, forty-three minutes, and eight ſeconds.

A *ſolar* month is that ſpace of time in which the ſun runs through one of the ſigns of the *Zodiac*. Now as the apparent motion of the ſun is ſometimes ſlower and ſometimes faſter, theſe months muſt conſequently be unequal. But, as he conſtantly travels through

all the twelve ſigns in 365 days, five hours, and forty-nine minutes, the quantity of a mean ſolar month is found by dividing that number by twelve. And hence it appears that each of theſe months, one with another, contains thirty days, ten hours, twenty-nine minutes, and five ſeconds.

Civil months are thoſe which are framed to ſerve the uſes of life, being made to conſiſt of a certain number of whole days, approaching nearly to the quantity of aſtronomical months, either lunar or ſolar.

Civil lunar months conſiſt alternately of twenty-nine and thirty days; ſo that two of them are equal to two aſtronomical ones, excepting the odd minutes.

Civil ſolar months uſually conſiſt of thirty and thirty-one days alternately, except one of the twelve, which every fourth year has twenty-nine days, in others but twenty-eight.

CHAP. VI.

OF WEEKS AND DAYS.

A Month is divided into four parts called weeks, each conſiſting of ſeven parts called days. Of theſe months there are thirteen in a Julian year, and one day over; of weeks there are fifty-two, and of days 365, as before obſerved.

The days of the week are called Sunday, Monday, Tueſday, Wedneſday, Thurſday, Friday, and Saturday. To theſe days the Pagans gave the names of the

the ſun, moon, and planets; to the firſt the name of the *Sun*, to the ſecond of the *Moon*, to the third of *Mars*, to the fourth of *Mercury*, to the fifth of *Jupiter*, to the ſixth of *Venus*, and to the ſeventh of *Saturn*.

All nations do not reckon the days in the ſame order. The Chriſtians count from Sunday, in memory of the reſurrection of our Saviour, the Jews from Saturday, and the Mahometans from Friday.

A day is either *artificial* or *natural*. An *artificial* day is the ſpace of time, which paſſes between the ſun's riſing and ſetting, or the time of his ſtay above the horizon. In oppoſition to which, the time between his ſetting and riſing, or his duration under the horizon, is called *night*.—A *natural* day comprehends both, being the time in which the ſun makes one entire revolution; or, to ſpeak more properly, the time in which the earth revolves once about its axis.

The *natural* day is divided into morning, noon, evening, and midnight; and conſiſts of twenty-four hours.

The preſent Greeks begin their day at ſun-riſing, as did the ancient Babylonians, Perſians, Syrians, and moſt other eaſtern nations. The modern Italians and Chineſe reckon it from ſun-ſetting; as did the ancient Jews, Athenians, Bohemians, and Sileſians. The Arabians, and modern aſtronomers begin the day at noon. The Engliſh, French, Dutch, Germans, Spaniards, Portugueſe, and Egyptians, begin it at midnight.

The length of the day and night is *equal*, in England, *twice* every year, once on the 21ſt of March, and again on the 21ſt of September. Both theſe times are called the *equinoxes*.

Thoſe intenſely hot days between the 19th of July and the 28th of Auguſt, are called *dog-days*, becauſe the ſtar called the *canicular*, or the great dog ſtar, during that time, riſes and ſets with the ſun.

The *longeſt* day is on the 21ſt of June, at the beginning of Summer, after which the days begin gradually to decreaſe. This is called the *ſummer-ſolſtice*, becauſe then the ſun ſtops ſhort in his journey towards the north, and begins to return ſouthward.

The *ſhorteſt* day is on the 21ſt of December, at the beginning of winter, after which the days begin gradually to increaſe. This is called the *winter ſolſtice*, becauſe then the ſun ſtops ſhort in his courſe towards the ſouth, and begins to return northward.

This change, however, is not the ſame in every part of the earth. There are, for example, ſome countries, where the length of the day and night is always exactly, or nearly the ſame*; and others where the night continues always ſix months, and the day conſequently as many †.

The *Romans* divided their months into *calends*, *nones*, and *ides*; calling the firſt day of every month its *calends*.

* At the Equator. † At the Poles.

CHAP.

CHAP. VII.

OF HOURS, MINUTES, AND SECONDS.

AN *hour* is the twenty-fourth part of a natural day. Different people reckon the hours in a different manner. Babyloniſh hours are thoſe, which are counted from ſun-riſing in a continued ſeries of twenty-four. Italian hours are thoſe reckoned from ſun-ſetting in a like ſeries. European hours are thoſe counted from midnight, twelve from thence to noon, and from noon to midnight twelve more. Thoſe which commence their order from noon, are called *aſtronomical*, becauſe uſed by aſtronomers.

An *hour* is uſually divided into ſixty equal parts called *minutes*; each minute into ſixty *ſeconds*; theſe again into ſixty *thirds*, and ſo on. The Jews, Chaldæans, Arabs, and other eaſtern people, divide the hours into a *thouſand* and *eighty* ſcruples, eighteen whereof are equal to our minute.

CHAP. VIII.

OF CYCLES, AND THE DOMINICAL LETTER.

A Cycle is a circle of years, months, and days, uſed by chronologers, to ſignify a perpetual round or circulation of the ſame parts of time, proceeding orderly from firſt to laſt, and recurring again from laſt to firſt, ſucceſſively, and without interruption.

As the annual motion of the ſun, and other heavenly bobies, cannot be meaſured exactly without any remainder of minutes, ſeconds, &c. to ſwallow up theſe fractions in whole numbers, that is, ſuch as only expreſs days and years, *cycles* have been invented; which, comprehending ſeveral revolutions of the ſame body, replace it, after a certain number of years, in the ſame point of the heavens whence it firſt departed; or, which is the ſame thing, in the ſame place of the civil calendar.

The moſt famous cycles are, the *Cycle of the Moon*, the *Cycle of the Sun*, and the *Cycle of Indiction*.

The cycle of the moon, or *lunar cycle*, called alſo the *Metonic* cycle, from its inventor *Meton*, an Athenian, is a circle or revolution of nineteen years, in which time the new and full moons are ſuppoſed to return to the ſame day of the month in the Julian calendar.

The cycle of the ſun, or *ſolar cycle*, is a revolution of twenty-eight years. When theſe are elapſed, the *Dominical*, or Sunday Letters in the calendar, return into their former place, and proceed in the ſame order as before. It is from theſe *Sunday Letters*, and not from any regard to the ſun's courſe, that the cycle has obtained its name.

The ſeven firſt letters of the alphabet, A, B, C, D, E, F, G, are uſed in our almanacks to denote the days of the week in order, from the firſt to the ſeventh, throughout the year. Now that which ſtands againſt Sunday, or the Lord's-day, in Latin *Dies Dominica*,

Dominica, is called the *Dominical Letter*, and ſerves to denote that day, as the other letters do the other days of the week.

The Dominical Letter is different every year. As the common year conſiſts of 365 days, that is, fifty-two weeks, and one day, it is evident the year muſt begin and end on the ſame day of the week, and therefore the next year will begin on the day following. This occaſions the firſt Sunday in January to fall every year a day ſooner than it did the year before, and conſequently to be denoted by a different letter.

In biſſextile or leap-year, conſiſting of 366 days, there are fifty-two weeks, and two days over; ſo that if the leap-year begins on a *Sunday*, it will end on a *Monday*, and the next year begin on a Tueſday, and conſequently the Dominical Letter will be removed two places backwards; that is, if it be A at the beginning of the leap-year, it will be F the year following. By this means, every fourth year being biſſextile, the order of the Dominical Letter is interrupted, and the ſeries does not return to its firſt ſtate till after four times ſeven, or twenty-eight years. This period of time is the cycle of which we are now diſcourſing.

The Dominical Letters are not the ſame in the *Gregorian*, as in the *Julian calendar*. By the reformation of the calendar under Pope Gregory, the order of the Dominical Letters was diſturbed; for the year 1582, which at the beginning had G for its Dominical Letter, came to have C in October, by the retrenchment of ten days after the 4th of that month. And

thus the Dominical Letter of the ancient Julian calendar is four places before that of the Gregorian, the letter A in the former anſwering to D in the latter.

In order to find the year of the *ſolar cycle* for any year of Chriſt, proceed thus: Add 9 to the given year, and divide the ſum by 28; the remainder will ſhew the year of the cycle, and the quotient the number of cycles ſince the birth of Chriſt. If there be no remainder, the given year is the 28th or laſt year of the cycle. The reaſon of the addition of 9 is, becauſe the ninth year of the ſolar cycle was paſt, when the firſt year of the *Chriſtian* computation began.

The *cycle of indiction* is a circle or revolution of fifteen years, which when expired begins anew, and goes round again without intermiſſion. This cycle has no relation to the celeſtial motions, but was made uſe of by the Romans to make known the time of paying certain taxes, or for other civil purpoſes. The popes have dated their bulls by the *year* of the *indiction* ever ſince the time of Charlemagne.

The commencement of this cycle being fixed to the 3d year before Chriſt, add 3 to the given year, divide the ſum by 15, and the remainder will ſhew the year of indiction for any given year of Chriſt. If nothing remains, it is the 15th or laſt year of the cycle.

CHAP.

CHAP. IX.

OF THE GOLDEN NUMBER, AND THE EPACTS.

THE *prime* or *golden number* is a revolution of nineteen years, and is that particular number which ſhews the year of the lunar cycle for any given year. So that to find the year of the lunar cycle is to find the golden number. Theſe numbers are called *golden*, becauſe, being of excellent uſe, they were expreſſed in ancient calendars by figures of gold.

In the firſt year of our Saviour's nativity, the golden number was 2; therefore add 1 to any given year of Chriſt, divide the ſum by 19, and the remainder is the golden number for that year. If nothing remains then 19 is the golden number. Thus, for inſtance, divide 1801 by 19, the remainder will be 15, the golden number for 1800.

This number is uſed in the calendar to ſhew the changes of the moon, and thereby to determine the time of Eaſter, and other moveable feaſts.

Epacts are, as the word implies, *added numbers*; that is, a number of days added to the lunar year, to make it equal to the ſolar year. The ſolar year has 365 days, and almoſt 6 hours; and the lunar year 354 days, and upwards of 8 hours. The *difference* is the *epact*. Now as this difference is not much ſhort of 11 days, it was made the epact of the firſt year of the lunar cycle.

To find the epact; multiply the golden number by 11, from that product ſubtract 11, divide the remainder by 30, and the remainder of the diviſion is the epact. For example: I would know the epact for the year 1800, of which the golden number is 15. This multiplied by 11, produces 165, from which 11 being ſubtracted, there remains 154; and this, when divided by 30, has a remainder of 4, the epact required.

If after the operation nothing remains, then 30 is the epact.

CHAP. X.

HOW TO FIND THE MOON'S AGE, AND THE DOMINICAL LETTER.

IN order to find the *moon's age*, add to the epact for March 0 in common years, and, in leap-years, for April 2, for May 3, for June 4, for July 5, for Auguſt 6, for September 8, for October 8, for November 10, for December 10, for January 0, for February 2.

Having added to the epact the number for the month, according to the foregoing rule, add thereto the day of the month for which the moon's age is required. The ſum of theſe three, if leſs than 30, is the moon's age; if more than 30, take 30 from it, and the remainder is the age of the moon.

How

The moon's age, ſubtracted from the day of the change, leaves the day of full moon. When nothing remains, that day of the month is the day of change.

How old is the moon on the 20th of May, 1800? In order to reſolve this queſtion, add to the epact, already found to be 4, the number for May, which is 3, and 20, the day mentioned in the queſtion, the ſum will be 27 days, the anſwer required.

To find the *Dominical Letter*, take the year and its fourth part, and add them together; divide the ſum by 7, and ſubtract what remains, after that diviſion, from the diviſor 7, the remainder gives the anſwer, accounting the letter A for 1, B for 2, C for 3, D for 4, E for 5, F for 6, and G for 7.

The *Dominical Letter* for 1800 is found thus: The year and its fourth 450 makes 2250. After this ſum is divided by 7, there remains 3, which ſubtracted from 7 leaves 4 for a remainder, which is the Dominical Letter for the year 1800.

CHAP. XI.

OF PERIODS.

A Period is a ſeries, or circle, of a certain number of years, uſed for meaſuring or computing time. Of theſe there are ſeveral, moſt of which take their names from the perſons who invented them.

Of the *Metonic* period, or *lunar cycle* of 19 years it is needleſs to ſay any thing more. It has been ſufficiently explained.

The *Calippic* period, ſo called from its inventor Calippus, is a ſeries of 76 years, which being elapſed, Calippus ſuppoſed that the new and full moons would return to the ſame day of the ſolar year. This was intended as an improvement of the *Metonic* period.

The *Victorian* period is a ſeries of 532 years, ariſing from the cycles of the ſun and moon multiplied into one another. It was invented by *Victorius*, a French clergyman, about the middle of the 5th century, and uſed by the weſtern churches for many ages, in computing the time of Eaſter, till the *Gregorian* reformation of the calendar.

The famous *Julian* period is a ſeries of 7980 years, ariſing from the multiplication of the cycles of the *ſun*, *moon*, and *indiction* into one another. This period is ſaid to have been invented by Joſeph Scaliger; and is called Julian, as being adapted to the Julian year. As it commences before the creation, and ſtill wants above 1500 years of being completed, it therefore comprehends all other cycles, periods, and epochas, and, in ſhort, the times of all actions and events, from the beginning of the world. Being thus a common receptacle, as it were, of all other epochas, it is of great uſe in reducing the years of any given epocha to thoſe of another; for which purpoſe it was invented.

CHAP.

CHAP. XII.

OF EPOCHAS OR ÆRAS.

AN Epocha, or *Æra*, is a certain fixed point of time, made famous by ſome remarkable event; from whence, as from a root, the enſuing years are numbered or computed.

As there is no aſtronomical conſideration to render one epocha preferable to another, their conſtitution is purely arbitrary, and therefore various epochas have been uſed at different times, and among different nations.

The *Chriſtian epocha* is the common epocha throughout Europe, commencing on the 25th of December, the day of our Saviour's nativity; or rather, according to the uſual account, from his circumciſion, on the 1ſt of January. In thoſe countries, which obſerve the Julian calendar, it commences from the incarnation, on the 25th of March, nine months prior to the nativity.

The author of this epocha, or way of computing from Chriſt, was Dionyſius Exiguus, a Roman abbot, about the beginning of the ſixth century. Till his time the Chriſtians computed their years, either from the perſecution under Diocleſian, or from the building of Rome, or according to the cuſtom of the people among whom they lived.

The calculations, however, of our modern aſtronomers, ſeem plainly to prove that the *Dionyſian* account

count places the birth of our Saviour ſeveral years too late. But that is not material.

The *Epocha of the Creation*, according to the *Jewiſh* computation, is the year of the *Julian* period 953, anſwering to the year of Chriſt 3761, and commencing on the 7th of October. Hence, if we ſubtract 952 from any given year of the Julian period, the remainder is the correſponding year of the Jewiſh epocha of the creation.

The *Epocha of the Olympiads*, which was uſed principally by the Greeks, is very famous in ancient hiſtory. It took its riſe from the Olympic games, which were celebrated at the beginning of every fifth year, near Olympia, a city of Elis in Peloponneſus. An Olympiad, therefore, was a period of four years; and by theſe periods the Greeks reckoned their time, the year in which the games were celebrated being counted the firſt year of each Olympiad.

The beginning of the firſt *Olympiad* is referred to the year of the *Julian* period 3938, or 776 years before Chriſt.

The *Epocha of the building of Rome*, was the principal one among the Romans. This epocha is the year of the *Julian* period 3961, and anſwers to the year 752 before Chriſt, commencing on the 21ſt of April.

The *Dioclefian* Epocha, or Epocha of the *Martyrs*, commences in the year of Chriſt 284, and that of the Julian period 4997. It obtained its name from the great number of Chriſtians who ſuffered martyrdom

in

in the reign of the emperor Diocleſian; and was generally uſed by Chriſtians till the year 532, when the way of computing from the birth of Chriſt began to prevail.

The *Epocha of the Hegira* is uſed by the *Turks*, *Arabs*, and others who profeſs the Mahometan faith. It commences on the 16th of July, in the year of Chriſt 622, and of the *Julian period* 5335. The word *Hegira* ſignifies *flight*; the event which gave occaſion to this epocha being Mahomet's flight from *Mecca*. The magiſtrates of that city, finding that his impoſture tended to *diſturb* the public peace, were determined to cut off the author of it, to prevent the farther ſpreading of the miſchief. But Mahomet, having timely notice of their deſign, fled by night to Medina, another city of Arabia, in the year of our Lord above-mentioned; and this is the principal æra from which the Mahometans compute their time.

CHAP. XIII.

OF A CENTURY, A LUSTRUM, A JUBILEE, AND OTHER PARTICULARS.

A *Century*, or an *age*, is a courſe of an hundred years.

A *luſtrum* is a ſpace of five years, uſed by the Romans, at the end of which a review of the people was made, firſt by the kings, then by the conſuls, but after the year 310 by the cenſors, who were magiſtrates created for that very purpoſe. After the

cenſus

cenſus was finiſhed, an expiatory or purifying ſacrifice was made, conſiſting of a ſow, a ſheep, and a bull, which were carried round the whole aſſembly, and then ſlain; and thus the people were ſaid to be purified*. And becauſe this was done at the end of every fifth year, hence *luſtrum* is often put for the ſpace of five years; eſpecially by the poets.

At every *luſtrum*, the ſenate itſelf was reviewed by one of the cenſors; and if any one, by his behaviour, had rendered himſelf *unworthy* of that high rank, or had ſunk his fortune below that of a ſenator, his name was paſſed over by the cenſor in reading the roll of ſenators; and thus he was held to be excluded from the ſenate †.

A *jubilee* is a periodical feſtivity, or public rejoicing, on account of ſome remarkable event, or in memory of ſome eminent perſon.

According to the æra by which we reckon, we date the time of every memorable tranſaction, as,

A. M. *Anno Mundi*, in the year of the world.

A. D. *Anno Domini*, in the year of our Lord.

A. C. *Ante Chriſtum*, before Chriſt; and ſometimes B. C. is put for before Chriſt.

A. Æ. C. *Anno Æræ Chriſtianæ*, in the year of the Chriſtian æra.

A. U. C. *Anno Urbis conditæ*, in the year of the building of the city of Rome; or A. ab U. C. in the year from the building of the city; and ſo of the other epochas.

* Luſtrari. † E ſenatu motus.

CHAP.

CHAP. XIV.

A CHRONOLOGICAL ACCOUNT OF MEMORABLE EVENTS FROM THE CREATION TO THE DELUGE.

ABOUT *four thouſand* and *four* years before the Chriſtian æra, God created the world, and our firſt parents Adam and Eve, placing them in the *Garden* of *Eden*, or the *terreſtrial paradiſe*, from whence they were ſoon expelled for eating the forbidden fruit.

In the *ſecond* year of the world, happened the birth of Cain, the firſt who was born of a woman. He killed his brother Abel A. M. 129.

In the year of the world 987, Enoch, for his piety, was tranſlated into heaven, being 365 years old.

In the year 1656, Methuſelah, the longeſt liver of all men, died, aged 969 years.

The *ſame year* Noah, his wife and three ſons, Shem, Ham, and Japhet, with their wives, entered the ark, which had been built by God's command. The flood began on the ſeventeenth day of the ſecond month, anſwering to our October, and continued a whole year. Thus the *old world* was deſtroyed by a deluge.

CHAP. XV.

REMARKABLE EVENTS FROM THE FLOOD TO THE BUILDING OF SOLOMON'S TEMPLE, A. M. THREE THOUSAND.

MUCH about the year of the world 1757, the tower of Babel was built by Noah's poſterity, upon which God miraculouſly confounded their language, and thus diſperſed them into different nations.

Soon after this event, Noah is, with great probability, ſuppoſed to have departed from his rebellious offſpring, and to have led a colony of ſome of the more tractable into the Eaſt. There, either he, or one of his ſucceſſors, in the opinion of the moſt celebrated hiſtorians, founded the *ancient Chineſe monarchy*.

In the year of the world 1770, the celeſtial obſervations were begun at Babylon, the city which firſt gave birth to learning and the ſciences. A few years after, Miſraim, the ſon of Ham, founded the kingdom of Egypt, which laſted 1663 years, down to its conqueſt by Cambyſes, in the year before Chriſt 525.

In the year 1945, Ninus, the ſon of Belus, founded the kingdom of Aſſyria, which laſted above 1000 years; and out of its ruins were formed the Aſſyrians of Babylon, thoſe of Nineveh, and the kingdom of the Medes.

Prometheus,

Prometheus firſt ſtruck fire from flints, A. M. 2289.

In the year of the world 2433, Moſes was born in Egypt, and *adopted* by Pharaoh's daughter, who educated him in all the learning of the Egyptians. Some years after, Cecrops brought a colony from Egypt into Attica, and *began* the kingdom of Athens, in Greece.

Scamander came from Crete into Phrygia, and began the kingdom of Troy, A. M. 2458.

In 2511, Cadmus carried the Phœnician letters into Greece, and built the citadel of Thebes. Two years after this, Moſes performed a number of miracles in Egypt, and departed from that kingdom, together with 600,000 Iſraelites, beſides children; which completed the 430 years of ſojourning. They miraculouſly paſſed through the Red Sea, and came to the deſert of Sinai, where Moſes received from God, and delivered to the people, the ten commandments, and the other laws, and ſet up the tabernacle, and in it the ark of the covenant.

In the year of the world 2519, the firſt ſhip that appeared in Greece was brought from Egypt by Danaus, who arrived at Rhodes, and brought with him his fifty daughters.

The firſt Olympic games were celebrated at Olympia, in Greece, A. M. 2551.

The year following, the firſt five books of Moſes, (called the Pentateuch) were written in the land of Moab, where he died ſoon after, aged 110.

In

In 2806, Helen, wife of Menelaus, king of Sparta, was carried away by Paris, which, in 2811, gave rise to the Trojan war, and siege of Troy by the Greeks, which continued ten years, when that city was taken and burnt.

In the year of the world 3000, the magnificent temple of Solomon, at Jerusalem, was finished.

CHAP. XVI.

MEMORABLE EVENTS FROM THE BUILDING OF THE TEMPLE, TO THE BIRTH OF CHRIST.

A. M. 3097 HOMER, the first profane writer and Greek poet, flourished. Hesiod, another famous Grecian poet, is supposed to have been nearly cotemporary with Homer.

3110 Money was first made of gold and silver at Argos.

3135 The city of Carthage, in Africa, was founded by queen Dido.

3251 The city of Rome, in Italy, was built by Romulus, first king of the Romans.

3284 The first eclipse of the moon on record.

3404 Thales of Miletus travelled into Egypt, consulted the priests of Memphis, acquired the knowledge of geometry, astronomy, and philosophy; returned to Greece, calculated eclipses, gave general notions of the universe, and maintained that one supreme intelligence regulates all its motions.

Maps,

A. M.

Maps, globes, and the ſigns of the Zodiac, were, about this time, invented by Anaxamander, the ſcholar of Thales.

Sappho, the Greek lyric poeteſs, flouriſhed at the ſame period.

3442 The firſt comedy at Athens, was acted upon a moveable ſcaffold.

3470 The firſt tragedy was acted at Athens, on a waggon, by Theſpis.

3507 Pythagoras, the founder of the Pythagorean philoſophy in Greece, flouriſhed; with whom Anacreon, the Greek lyric poet, was nearly contemporary.

3518 Æſchylus, the Greek tragic poet, firſt gained the prize of tragedy.

3569 Pindar, the Greek lyric poet, lived; and not many years after, flouriſhed Herodotus, the firſt writer of profane hiſtory.

3604 Socrates, the founder of moral philoſophy among the Greeks, who believed the immortality of the ſoul, a future ſtate of rewards and puniſhments, and other ſublime doctrines, was put to death by the Athenians. Of this, however, they ſoon repented, and erected to his memory a ſtatue of braſs.

Confucius, the Chineſe philoſopher, lived at the ſame time; and Thucydides, the Greek hiſtorian, about ten years after.

A. M.

3645 Xenophon, the Greek philoſopher and hiſtorian, flouriſhed; and Plato, the diſciple of Socrates, was almoſt contemporary with him.

3673 Alexander the Great, king of Macedon, conquered Darius, king of Perſia, and other nations of Aſia. In 3681, he died at Babylon, and his empire was divided by his generals into four kingdoms.

3681 Demoſthenes, the Athenian orator, poiſoned himſelf.

3720 Ptolemy Philadelphus, king of Egypt, employed ſeventy-two interpreters to tranſlate the Old Teſtament into the Greek language, which is called the Septuagint.

3727 Theocritus, the firſt Greek paſtoral poet; Euclid, of Alexandria, in Egypt, the mathematician; and Epicurus, founder of the Epicurean philoſophy in Greece, rendered themſelves famous by their writings.

3796 Archimedes, the Greek geometrician, flouriſhed.

3845 Terence of Carthage, the Latin comic poet, acquired great renown; as did alſo Diogenes, of Babylon, the ſtoic philoſopher.

3858 Carthage, the rival of Rome, was levelled with the ground.

3880 Polybius, of Greece, the Greek and Roman hiſtorian, publiſhed his much eſteemed productions

A. M.

3952 Julius Cæſar made his firſt expedition into Britain; and five years after, the battle of Pharſalia between Cæſar and Pompey was fought, in which the latter was defeated.

3953 Lucretius, the Roman poet, flouriſhed.

3957 The Alexandrian library, conſiſting of 400,000 valuable books, was burnt by accident.

3959 The war of Africa happened, in which Cato *killed* himſelf. The ſolar year was alſo introduced by Cæſar.

3960 Cæſar, the greateſt of the Roman conquerors, after having fought *fifty* pitched battles, and ſlain more than a million of men, and overturned the liberties of his country, was killed in the ſenate-houſe.

Diodorus Siculus, of Greece, the univerſal hiſtorian, and Vitruvius, the Roman architect, lived at the ſame time.

Cicero, the Roman orator and philoſopher, was put to death. Cornelius Nepos, the Roman biographer, publiſhed his lives of eminent men.

3970 Salluſt, the Roman hiſtorian, publiſhed his elegant productions. His hiſtory of Catiline's conſpiracy is admirably well written.

3973 The battle of Actium was fought, in which Mark Antony and Cleopatra were totally defeated by Octavius, nephew to Julius Cæſar.

3974 Alexandria, in Egypt, was taken by Octavius; upon which Antony and Cleopatra put themſelves

A. M.

ſelves to death, and Egypt was reduced to a Roman province.

Dionyſius, of Halicarnaſſus, wrote his Roman hiſtory.

3977 Octavius, by a decree of the ſenate, obtained the title of *Auguſtus Cæſar*, and an abſolute *exemption* from the laws, and was, properly ſpeaking, the *firſt Roman emperor*. At this time, Rome was *fifty* miles in circumference, and contained 463,000 men fit to bear arms.

4004 The temple of Janus was ſhut by Auguſtus, as an emblem of univerſal peace. Virgil, the famous epic and paſtoral poet, Horace, the celebrated lyric and ſatiric poet, flouriſhed under Auguſtus, and were patronized by him.

Jesus Christ, the Saviour of mankind, was born, at *Bethlehem*, on the 25th of December.

CHAP. XVII.

REMARKABLE EVENTS DURING THE FOUR FIRST CENTURIES OF THE CHRISTIAN ÆRA.

A. D.

1 HEROD maſſacres all the infants of Bethlehem, thinking that certainly *Chriſt* would not eſcape.

12 Our Saviour diſputes with the Doctors in the Temple.

17 Livy, the elegant hiſtorian, wrote his Roman hiſtory. Ovid, the ingenious elegiac poet; Celſus,

A. D.

Celſus, the philoſopher and phyſician; and Strabo, the Greek geographer, flouriſhed about the ſame time.

33 Chriſt was crucified on Friday, April 3, at three o'clock, P. M. His reſurrection took place on Sunday, April 5; and his aſcenſion on Thurſday, May 14.

Phædrus, the Roman fabuliſt, lived at this memorable period.

39 Pontius Pilate killed himſelf.

40 The name of Chriſtians was firſt given at Antioch to the followers of Chriſt.

49 London was founded by the Romans; and in 368 they ſurrounded it with a *wall*, ſome parts of which are ſtill obſervable.

63 Chriſtianity is ſuppoſed to have been introduced into Britain by St. Paul, or ſome of his diſciples.

64 Quintus Curtius, a Roman, wrote his hiſtory of Alexander the Great.

Seneca, of Spain, the philoſopher and tragic poet, was put to death.

Lucan, the Roman epic poet, rendered himſelf famous by his *Pharſalia*.

70 Whilſt the factious Jews were deſtroying one another with mutual fury, Titus, the Roman general, took Jeruſalem, which was razed to the ground, and the plough made to paſs over it.

79 Pliny,

A. D.

79 Pliny, the elder, the Roman natural hiſtorian, flouriſhed.

85 Julius Agricola, governor of South-Britain, to protect the civilized Britons from the incurſions of the Caledonians, built a line of forts between the rivers Forth and Clyde; defeated the Caledonians under Galgacus on the Grampian hills; and firſt ſailed round Britain, which he diſcovered to be an iſland.

93 Joſephus, the Jewiſh hiſtorian, Epictetus, the Greek ſtoic philoſopher, and Quintilian, the Roman orator and advocate, were the ornaments of the age in which they lived.

99 Tacitus and Lucius Florus, the Roman hiſtorians, and Martial, of Spain, the epigrammatic poet, flouriſhed.

117 Pliny, the younger, publiſhed his hiſtorical letters; Suetonius his Roman hiſtory; and Plutarch, the Grecian biographer, his lives.

121 The Caledonians recovered from the Romans all the ſouthern parts of Scotland; upon which the emperor Adrian built a wall between Newcaſtle and Carliſle. But this alſo proving ineffectual, Pollius Urbicus, the Roman general, about the year 144, repaired Agricola's fort, which he joined by a wall four yards thick.

128 Juvenal wrote his ſatires, and Juſtin his univerſal hiſtory, ſome time after.

180 Lucian,

A. D.

180 Lucian, the ingenious Roman philologer, publiſhed his dialogues.

193 Galen, the Greek philoſopher and phyſician, flouriſhed.

273 Longinus, the Greek orator, and author of the celebrated treatiſe on the *ſublime*, was put to death by Aurelian.

274 Silk was firſt brought from India. The manufactory of it was firſt introduced into Europe by ſome monks, in 551; and it was firſt worn by the clergy in England, in 1534.

306 Conſtantine the Great began his reign.

320 Arius, a prieſt of Alexandria, founded the ſect of the Arians.

325 The firſt general council was held at Nice, when 318 fathers attended, againſt Arius, when the *famous Nicene Creed* was compoſed.

328 Conſtantine removed the ſeat of empire from Rome to Byzantium; thence called Conſtantinople. Not long after, he ordered all the *heathen temples* to be deſtroyed.

342 Euſebius, the eccleſiaſtical hiſtorian and chronologer, flouriſhed.

363 The Roman emperor Julian, ſurnamed the Apoſtate, endeavoured in vain to rebuild the temple of Jeruſalem.

364 The Roman empire was divided into the eaſtern, of which Conſtantinople was the capital, and the weſtern, of which Rome con-

A. D.

tinued to be the capital, each being under the government of different emperors.

400 Bells were invented by Paulinus, of Campagnia.

CHAP. XVIII.

MEMORABLE EVENTS FROM THE BEGINNING OF THE FIFTH TO THE END OF THE TENTH CENTURY.

404 THE kingdom of Caledonia, or Scotland, revived under Fergus.

406 The Vandals, Alans, and Suevi, ſpread into France and Spain, by a conceſſion of Honorius, emperor of the Weſt.

426 The Romans, reduced to extremities at home, withdrew their troops from Britain, and never returned. Before their departure, they adviſed the Britons to arm in their own defence, and truſt to their own valour.

428 Eutropius publiſhed his abridgment of the Roman hiſtory.

476 The weſtern empire was finiſhed; and out of its ruins ſeveral new ſtates aroſe in Italy and other parts, conſiſting of Goths, Vandals, Huns and other Barbarians, under whom literature was extinguiſhed, and the works of the learned were deſtroyed.

513 Conſtan-

A. D.

513 Conſtantinople was beſieged by Vitalianus, whoſe *fleet* was burnt by a *ſpeculum* of braſs.

581 Latin ceaſed to be ſpoken in Italy.

622 Mahomet, a falſe prophet, fled from Mecca to Medina, in Arabia, in the 44th year of his age, and 10th of his miniſtry, when he laid the foundation of the Saracen empire, and from whom the Mahometan princes to this day claim their deſcent. His followers compute their time from this æra, which in Arabic is called *Hegira*, that is, the *Flight*.

653 Jeruſalem was taken by the Saracens, or followers of Mahomet.

The Saracens extend their conqueſts on every ſide, and retaliate the barbarities of the Goths and Vandals upon their poſterity.

664 Glaſs was invented in England by Benalt, a monk.

685 The Britons, after a brave ſtruggle of near 150 years, were totally expelled by the Saxons, and driven into Wales and Cornwall.

735 Bede, a prieſt of Northumberland, publiſhed the hiſtory of the Saxons, and Scots. Being almoſt the only learned man of his time, he was honoured with the title of the *venerable Bede*.

800 Charlemagne, king of France, began the empire of Germany, afterwards called the weſtern empire. He gave the preſent names to the

A. D.

winds and months, and endeavoured to reſtore learning in Europe; but mankind were not yet diſpoſed for it, being ſolely engroſſed in military enterprizes.

838 The Scots and Picts had a deciſive battle, in which the former prevailed, and both kingdoms were united by Kennet, which began the ſecond period of the Scottiſh hiſtory.

896 Alfred the Great, after ſubduing the Daniſh invaders, againſt whom he fought 56 battles by ſea and land, compoſed his body of laws, divided England into counties and hundreds, erected county-courts, and founded the univerſity of *Oxford*.

901 King Alfred publiſhed his hiſtory, his philoſophy, and his poetry.

915 The univerſity of Cambridge was founded.

979 Coronation oaths are ſaid to have been firſt uſed in England.

991 The figures in arithmetic were brought into Europe by the Saracens from Arabia. Letters of the alphabet were formerly uſed.

1090 Paper made of cotton rags was in uſe; that of linen rags in 1170. The manufacture of it was introduced into England at Dartford, in 1588.

CHAP.

CHAP. XIX.

REMARKABLE EVENTS OF THE ELEVENTH, TWELFTH, AND THIRTEENTH CENTURIES.

A. D.

1015 CHILDREN were forbidden, by law, to be ſold by their parents, in England.

1017 Canute, king of Denmark, got poſſeſſion of England.

1066 The battle of Haſtings was fought between Harold, and William, duke of Normandy, in which Harold was conquered and ſlain; after which William became king of England.

1070 William introduced the feudal laws into England.

1071 Muſical notes were invented.

1075 Henry IV. emperor of Germany, and the pope, quarrel about the nomination of the German biſhops. Henry, in penance, walked barefoot to the pope, towards the end of January.

1076 Juſtices of the peace were firſt appointed in England.

1080 The *Tower* of London was built by William, to curb his Engliſh ſubjects, numbers of whom *fled* to Scotland, where they introduced the Saxon or Engliſh language, were *protected* by *Malcolm*, and had lands given them.

A. D.

1096 The firſt cruſade to the Holy Land began, under ſeveral Chriſtian princes, to drive the infidels from Jeruſalem.

1118 The order of the Knights Templars was inſtituted, to defend the ſepulchres at Jeruſalem, and to protect Chriſtian ſtrangers.

1163 London bridge, conſiſting of 19 ſmall arches, was firſt built of ſtone.

1172 Henry II. king of England, and firſt of the Plantagenets, took poſſeſſion of Ireland; which from that period has been governed by an Engliſh *viceroy*, or *lord-lieutenant*.

1180 Glaſs windows began to be uſed in private houſes in England.

1186 The great conjunction of the ſun and moon and all the planets in Libra, happened in September.

1192 The battle of Aſcalon was fought, in Judea, in which Richard, king of England, defeated Saladine's army, conſiſting of 300,000 combatants.

1194 *Dieu et mon Droit* was firſt uſed as a motto by Richard, on a victory over the French.

1200 Chimnies were not known in England.

1202 *Surnames* began to be uſed. The *nobility* were the firſt who aſſumed them.

1208 London was incorporated, when the inhabitants obtained their firſt charter for electing their Lord Mayor, and other magiſtrates, from king John.

1215 *Magna*

A. D.

1215 *Magna Charta* was ſigned by king John and the Barons of England. In the ſame year, the *Court* of *Common Pleas* was eſtabliſhed.

1227 The Tartars, a new race of heroes, under Gingis-Kan, emerged from the northern parts of Aſia, over-ran all the Saracen empire; and, in imitation of former conquerors, carried death and deſolation wherever they marched.

1233 The inquiſition, begun in 1204, was truſted to the Dominicans.

1234 The *houſes* of *London*, and other cities in England, France, and Germany, were ſtill *thatched* with ſtraw.

1259 Matthew Paris, a monk of St. Alban's, publiſhed his hiſtory of England.

1264 According to ſome writers, the commons of England were ſummoned to parliament for the firſt time.

1273 The empire of the preſent Auſtrian family began in Germany.

1282 Lewellyn, prince of Wales, was defeated and killed by Edward I. who *united that principality* to England.

1284 Edward II. born at Carnarvon, was the firſt prince of Wales.

1292 Roger Bacon, of Somerſetſhire, the natural philoſopher, flouriſhed.

1298 Knives with ſilver handles, ſilver ſpoons, and cups, were a great luxury.

1299 Tallow

A. D.

1299 Tallow candles were ſo great a luxury, that ſplinters of wood were uſed for lights.

1300 Wine was ſold by the apothecaries as a cordial.

CHAP. XX.

SINGULAR OCCURRENCES OF THE FOURTEENTH AND FIFTEENTH CENTURIES.

1302 THE mariner's compaſs was invented, or improved, by Givia, of Naples.

1307 The Swiſs cantons began.

1308 John Fordun, a prieſt of Merns-ſhire, publiſhed the hiſtory of Scotland.

1310 Lincoln's Inn ſociety was eſtabliſhed.

1314 The battle of Bannockburn between Edward II. and Robert Bruce was fought, which eſtabliſhed the latter on the throne of Scotland.

1320 Gold was firſt coined in Chriſtendom. It was coined in England about the year 1344.

1340 Gunpowder and guns were firſt invented by Swartz, a monk of Cologn. In 1346, Edward III. had four pieces of cannon, which contributed to gain him the battle of Creſſy. The ſame year bombs and mortars were invented.

1341 Oil painting was firſt made uſe of by John Vaneck.

1342 Herald's col'ege was inſtituted in England.

1344 The

A. D.

1344 The firſt creation to titles by patent was uſed by Edward III.

1349 The order of the Garter was inſtituted in England by Edward III. and altered 1557. It conſiſts of 26 knights.

1357 Coals were firſt brought into uſe in England.

1362 The law pleadings in England were changed from French to Engliſh, as a favour of Edward III. to his people.

1363 John Wickliffe, an Engliſhman, began to oppoſe the errors of the church of Rome, with great acuteneſs and ſpirit. His followers were called Lollards.

1385 A company of linen-weavers, from the Netherlands, were eſtabliſhed in London.

1386 Windſor caſtle was built by Edward III.

1391 Cards were invented in France, for the king's amuſement.

1399 Weſtminſter Abbey and Weſtminſter Hall, were rebuilt and enlarged.

In the ſame year, the order of the Bath was inſtituted, at the coronation of Henry IV. and renewed in 1725. It conſiſts of 38 knights.

1400 Died the famous Geoffrey Chaucer, of London, the father of Engliſh poetry.

1402 Died John Gower, of Wales, the poet.

1411 The univerſity of St. Andrew's, in Scotland, was founded.

1415 The battle of Agincourt was gained over the French, by Henry V. of England.

1428 Laurantius,

A. D.

1428 Laurantius, of Harleim, invented the *art of printing*, which he practiſed with ſeparate *wooden* types. Guttenburgh afterwards invented *cut metal* types. But the art was carried to perfection by *Peter Schoeffer*, who invented the mode of *caſting* the types in *matrices*. *Frederic Corſellis* began to print at Oxford, in 1468, with *wooden types*; but it was *William Caxton* who introduced into England the art of printing with fuſile types in 1474.

1446 The ſea broke in at Dort, in Holland, and drowned 100,000 people.

1453 Conſtantinople was taken by the Turks, which put an end to the *eaſtern empire*, 1123 years from its dedication by *Conſtantine* the *Great*, and 2206 years from the foundation of Rome.

1454 The univerſity of Glaſgow, in Scotland, was founded.

1460 Engraving and etching in copper was invented.

1477 The univerſity of Aberdeen, in Scotland, was founded.

1483 Richard III. king of England, and laſt of the Plantagenets, was defeated and killed at the battle of Boſworth, by Henry (Tudor) VII. which put an end to the civil wars between the *houſes* of *York* and *Lancaſter*, after a conteſt of 30 years, and the loſs of 100,000 men.

1486 Henry

A. D.

1486 Henry eſtabliſhed fifty yeomen of the guards, the firſt ſtanding army.

1491 The Moors, hitherto a formidable enemy to the native Spaniards, were entirely ſubdued by Ferdinand, and became ſubjects to that prince on certain conditions, which were ill obſerved by the Spaniards, whoſe clergy employed the powers of the Inquiſition, with all its tortures; and, in 1609, near one million of the Moors were driven from Spain to the oppoſite coaſt of Africa, from whence they originally came.

1492 America was firſt diſcovered by Columbus, a Genoeſe, in the ſervice of Spain.

1494 Algebra was firſt known in Europe.

1497 South America was diſcovered by Americus Veſpuſius, from whom it has its name.

1499 North America was diſcovered by Cabot, for Henry VII.

1500 Maximilian divided the empire of Germany into ſix circles, and added four more in 1512.

CHAP. XXI.

MEMORABLE EVENTS OF THE SIXTEENTH CENTURY.

1505 SHILLINGS were firſt coined in England.

1509 *Gardening* was firſt introduced into England from the *Netherlands*, from whence *vegetables* had been hitherto imported.

1513 The

A. D.

1513 The battle of Flowden was fought, in which James IV. of Scotland was killed, with the flower of his nobility.

1517 Martin Luther began the reformation.

1520 Henry VIII. for his writings in favour of popery, received the title of Defender of the Faith from the Pope.

1529 The name of *Proteſtant* took its riſe from the *Reformed proteſting againſt the church of Rome*, at the diet of Spires in Germany.

1534 The reformation took place in England under Henry VIII.

1535 Died Sir Thomas More, of London, lord chancellor, who publiſhed hiſtory, politics, and divinity.

1537 Monaſteries and convents were diſſolved by Henry VIII.

1539 The firſt Engliſh tranſlation of the Bible was authoriſed. The *preſent* tranſlation was finiſhed in 1611.

1540 Cannon began to be uſed in ſhips.

1543 Silk ſtockings firſt worn by the French king. They were firſt uſed in England by queen Elizabeth, in the year 1651. The ſteel frame for weaving was invented by the Rev. Mr. Lee, of St. John's-college, Cambridge, in 1589.

This year, likewiſe, *pins* were firſt uſed in England; for before the invention of pins, the ladies uſed ſkewers.

1544 Good

A. D.

1544 Good lands were let in England at one ſhilling per acre.

1545 The famous council of Trent began, and continued 18 years.

1552 Died John Leland, of London, author of lives and antiquities.

1558 Queen Elizabeth began her reign.

1560 The reformation in Scotland was completed by John Knox

1563 Knives were firſt made in England.

1568 Died Roger Aſcham, of Yorkſhire, author of philology, and polite literature.

1569 The Royal Exchange was firſt built.

1572 There was a great maſſacre of Proteſtants, or Huguenots, at Paris.

During the ſame year, the Rev. John Knox, the Scotch reformer, died. He wrote a hiſtory of the church of Scotland.

1579 The Dutch ſhook off the Spaniſh yoke, and the republic of Holland began.

The Engliſh Eaſt-India company was incorporated. It was eſtabliſhed in 1600.

1580 Sir Francis Drake returned from his voyage round the world, being the firſt Engliſh circumnavigator.

Parochial regiſters were firſt appointed in England.

1582 Died George Buchanan, of Dumbartonſhire, the celebrated author of the hiſtory of Scotland,

A. D.

land, the Pſalms of David, and other poetical, as well as political, productions.

Pope Gregory introduced the New Style into Italy; the 5th of October being reckoned the 15th.

1583 Tobacco was firſt brought from Virginia into England.

1587 Mary queen of Scots beheaded by order of Elizabeth, after 18 years impriſonment.

1588 The Spaniſh armada deſtroyed by Drake, and other Engliſh admirals.

Henry IV. paſſed the edict of Nantz, tolerating the Proteſtants.

1589 Coaches were firſt introduced into England. The hackney act took place in 1693. The number of hackney-coaches was increaſed to 1000, in 1770.

1591 Trinity College, Dublin, was founded.

1597 *Watches* were firſt brought into England from *Germany*.

1598 Died Edmund Spenſer, of London, author of the Fairy Queen, and other poems.

CHAP. XXII.

REMARKABLE EVENTS OF THE SEVENTEENTH CENTURY.

1602 DECIMAL Arithmetic was invented at Bruges.

1603 Queen

A. D.

1603 Queen Elizabeth, the *laſt* of the Tudors, died, and nominated James VI. of Scotland, the *firſt* of the Stuarts, as her ſucceſſor; which *united* both kingdoms under the *name* of *Great Britain*.

1605 The Gunpowder-plot was diſcovered at Weſtminſter; being a project of the Roman catholics to blow up the king and both houſes of parliament.

1608 Galileo, of Florence, firſt diſcovered the Satellites about the planet Saturn, by the *teleſcope*, then juſt *invented* in Holland.

1610 Henry IV. was murdered at Paris by Ravilliac, a prieſt.

1613 Napier, of Marcheſton, in Scotland, invented the logarithms.

1614 Sir Hugh Middleton brought the New River to London from Ware.

1616 Died William Shakſpeare, of Stratford, who wrote 42 tragedies and comedies.

1619 Dr. William Harvey, an Engliſhman, diſcovered the doctrine of the circulation of the blood.

1623 Died William Camden, of London, author of hiſtory and antiquities.

1625 King James died, and was ſucceeded by his ſon, Charles I.

1628 Died Lord Chancellor Bacon, of London, who wrote on natural philoſophy and literature in general.

1634 Died

A. D.

1634 Died Lord Chief Juſtice Coke, of Norfolk, author of inſtitutes of the *Laws* of *England*.

1636 Regular poſts were eſtabliſhed from London to Scotland, Ireland, &c.

1638 Died Ben Jonſon, of London, the author of 53 dramatic pieces.

1640 The maſſacre in Ireland happened, when 40,000 Engliſh Proteſtants were killed.

1641 Died Sir Henry Spelman, of Norfolk, who publiſhed on laws and antiquities.

1642 King Charles, in the Houſe of Commons, impeached five members who had oppoſed his arbitrary meaſures; which began the civil war in England.

1643 The exciſe on beer and ale, &c. was firſt impoſed by parliament.

1646 Epiſcopacy was ſuppreſſed in England.

1649 Charles I. was beheaded at Whitehall, January 30, aged 49.

1654 Cromwell aſſumed the protectorſhip.

1658 Cromwell died, and was ſucceeded in the protectorſhip by his ſon Richard.

1660 King Charles II. was reſtored by Monk, commander of the army, after an exile of 12 years in France and Holland.

Epiſcopacy was reſtored in England and Scotland.

1662 The Royal Society was eſtabliſhed in London, by Charles II.

1665 The plague raged in London, and carried off 68,000 perſons.

1666 The

A. D.

1666 The great fire of London began, on the 2d of September, and continued three days, in which were deſtroyed 13,000 houſes, and 400 ſtreets.

Tea was firſt uſed in England.

1667 Died Abraham Cowley, of London, author of miſcellaneous poetry.

1672 Halfpence and farthings were firſt coined in England.

Lewis XIV. over-ran great part of Holland, when the Dutch opened their ſluices, being determined to *drown* their country, and retire to their *ſettlements* in the Eaſt Indies.

1674 Died John Milton, of London, author of Paradiſe Loſt, Regained, and various other pieces in verſe and proſe.

The ſame year, died Hyde, earl of Clarendon, a native of Wiltſhire, who publiſhed a Hiſtory of the Civil Wars in England.

1675 Died James Gregory, of Aberdeen, who wrote on mathematics, geometry, and optics.

1677 Died the Rev. Dr. Iſaac Barrow, of London, a celebrated divine, natural philoſopher, and mathematician.

1680 A great comet appeared, and from its nearneſs to our earth alarmed the inhabitants. It continued viſible from November the 3d to March the 9th.

William Penn, a Quaker, received a charter for planting Pennſylvania.

The

A. D.

The ſame year, died Samuel Butler, of Worceſterſhire, author of Hudibras, a burleſque poem.

1685 Died Charles II. aged 55, and was ſucceeded by his brother James II.

The duke of Monmouth, natural ſon to Charles II. raiſed a rebellion in the north of England, but was defeated at the battle of Kingedgemoor, and beheaded.

Thomas Otway, of London, died this year. He was the author of ten tragedies and comedies, and other poems.

1687 Died Edmund Waller, of Buckinghamſhire, author of poems, ſpeeches, and letters.

1688 The Revolution in Great Britain began, on the 4th of November. King James abdicated, and retired to France, in the month of December.

Dr. Ralph Cudworth, of Somerſetſhire, died. He was the author of *The Intellectual Syſtem.*

1689 King William and Queen Mary, daughter and ſon-in-law to James, were proclaimed on the 16th of February.

The land-tax act firſt paſſed in the parliament of England; as alſo the toleration-act.

Dr. Thomas Sydenham, of Dorſetſhire, author of the Hiſtory of Phyſic, died this year.

1690 Died Nathaniel Lee, of London, author of eleven tragedies; as alſo Robert Barclay, of Aberdeenſhire, author of the Apology for the Quakers.

1691 Died

A. D.

1691 Died the Hon. Robert Boyle, who wrote on natural and experimental philoſophy, as well as theology; as alſo Sir George Mackenzie, of Dundee, who publiſhed the antiquities and laws of Scotland.

1693 Bayonets at the end of loaded muſkets were firſt uſed by the French againſt the confederates, at the battle of Turin.

The duchy of Hanover was made the ninth electorate.

The bank of England was eſtabliſhed by king William.

The firſt public lottery was drawn this year.

1694 Died John Tillotſon, archbiſhop of Canterbury, a native of Halifax, and author of 254 ſermons.

1697 Sir William Temple, of London, died. He wrote on politics, and polite literature.

1699 The Scots ſettled a colony at the iſthmus of Darien, in America, and called it Caledonia.

1700 Charles XII. of Sweden began his reign.

CHAP. XXIII.

MEMORABLE EVENTS OF THE EIGHTEENTH CENTURY.

1701 THE ſociety for the propagation of the goſpel in foreign parts was erected.

John Dryden, of Northamptonſhire died this year. He was the author of 27 tragedies and

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comedies, a tranſlation of Virgil, and ſatiric poems.

1702 King William died, aged 50, and was ſucceeded by queen Anne, daughter to James II. who, with the Emperor and States General, renewed the war againſt France and Spain with unexampled ſucceſs.

1704 Gibraltar was taken from the Spaniards, by Admiral Rooke.

The battle of Blenheim was won by the duke of Marlborough and the allies, againſt the French.

The court of Exchequer inſtituted in England.

John Locke, of Somerſetſhire, died this year. He wrote on government, education, moral philoſophy, and divinity.

1705 Died John Ray, of Eſſex, who wrote on botany, natural philoſophy, and theology.

1706 The treaty of Union betwixt England and Scotland, was ſigned on the 22d of July.

1707 The firſt *Britiſh* parliament was aſſembled.

George Farquhar of Londonderry, author of eight comedies, died this year.

1708 Sardinia was erected into a kingdom, and given to the duke of Savoy.

1709 Peter the Great, czar of Muſcovy, defeated Charles XII. at Pultowa, who fled to Turkey.

1710 The cathedral church of St. Paul, London, was rebuilt by Sir Chriſtopher Wren, in 37 years,

at

A. D.

at the expence of *one million* of pounds, raiſed by a duty on coals.

1713 The peace of Utrecht was concluded, whereby Newfoundland, Nova Scotia, New Britain, and Hudſon's Bay, in North America, were yielded to Great Britain. Gibraltar and Minorca, in Europe, were alſo confirmed to the ſaid crown by this treaty.

Antony Aſhly Cooper, earl of Shafteſbury, the celebrated author of the *Characteriſtics*, died this year.

1714 Queen Anne died at the age of 50, and was ſucceeded by the elector of Hanover, George I.

Gilbert Burnet, a native of Scotland, biſhop of Saliſbury, died the ſame year. He wrote the hiſtory of his own times, and of the reformation, an expoſition of the thirty-nine articles of the church of England, and ſermons.

Intereſt was reduced to five per cent.

1715 The rebellion in Scotland began in September, under the earl of Mar, in favour of the Pretender. The action of Sheriff-muir, and the ſurrender of Preſton, both happened in November, when the rebels diſperſed.

Lewis XIV. died, and was ſucceeded by his great-grandſon, Lewis XV.

An act paſſed for prolonging the duration of parliaments to ſeven years.

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1718 Died Nicholas Rowe, of Devonſhire, author of ſeven tragedies, and a tranſlation of Lucan's Pharſalia.

The Northern Lights, or Aurora Borealis, firſt appeared this year.

1719 Lombe's ſilk-throwing machine, containing 26586 wheels, was erected at Derby. It took up one-eighth of a mile. One water-wheel moved the reſt; and in 24 hours it produced 318 millions, 504 thouſand, 960 yards of ſilk thread.

The South-Sea ſcheme in England began on the 7th of April, was at its height at the end of June, and quite ſunk about the end of September.

Joſeph Addiſon, of Wiltſhire, the elegant author of the Spectator, Guardian, poems, and political pieces, died this year.

About the ſame time died the Rev. John Flamſtead, of Devonſhire, and Dr. John Keill, of Edinburgh, both celebrated for their ſkill in aſtronomy and mathematics.

1721 Died Matthew Prior, of London, who wrote poems, and political pieces.

1724 William Wollaſton, of Staffordſhire died. He was the author of the religion of Nature delineated, a very valuable work.

1727 King George I. died, in the 68th year of his age, and was ſucceeded by his only ſon George II.

The

A. D.

The immortal Sir Iſaac Newton, of Lincolnſhire, died the ſame year. His philoſophical diſcoveries are well known to the learned.

Inoculation was firſt tried on criminals with ſucceſs.

Ruſſia, formerly a dukedom, was now eſtabliſhed as an empire.

1729 Died the Rev. Dr. Samuel Clarke, of Norwich, a celebrated divine, and mathematician.

Sir Richard Steele, of Dublin, and William Congreve, of Staffordſhire, died about the ſame time. The former wrote four comedies, many papers in the Tatler and Spectator, Ladies Library, and ſeveral other works. The latter was the author of the Mourning Bride, and ſeven other dramatic pieces.

1732 Kouli Khan uſurped the Perſian throne, conquered the Mogul empire, and returned with 231 millions ſterling.

The ſame year, died John Gay, of Exeter, author of poems, fables, and eleven dramatic pieces.

1734 Died John Arbuthnot, of Mearns-ſhire, who wrote on medicine, coins, and politics.

1736 Captain Porteus, having ordered his ſoldiers to fire upon the populace at the execution of a ſmuggler, was himſelf hanged by the mob at Edinburgh.

A. D.

1738 Weſtminſter-Bridge, conſiſting of 15 arches, was begun. It was finiſhed in 1750, at the expence of 389,000l. defrayed by parliament.

1742 Died Dr. Edmund Halley, who wrote on natural philoſophy, aſtronomy, and navigation.

Dr. Richard Bentley, of Yorkſhire, whoſe publications on claſſical learning and criticiſm are well known, died the ſame year.

1744 Commodore Anſon returned from his voyage round the world.

Alexander Pope, of London, author of many elegant poetical pieces, letters, and a tranſlation of Homer, died this year.

1745 The rebellion broke out in Scotland, and the Pretender's army was defeated by the duke of Cumberland, at Culloden, April 16, 1746.

The Rev. Dr. Jonathan Swift, of Dublin, died this year. He was the author of poems, political pieces, letters, and ſermons.

1746 Died Colin Maclaurin, of Argyleſhire, author of a treatiſe on Algebra, and a view of Newton's Philoſophy.

1748 The peace of Aix-la-Chapelle was concluded, by which a reſtitution of all places taken during the war, was to be made on all ſides.

James Thomſon, of Roxburghſhire, author of the Seaſons, five tragedies, and other poems, died

A. D.

died this year; as did alſo the Rev. Iſaac Watts, of Southampton, author of logic, philoſophy, pſalms, hymns, and ſermons; and Dr. Francis Hutcheſon, of Airſhire, who wrote a ſyſtem of moral philoſophy.

1749 The intereſt of the Britiſh funds was reduced to three per cent.

1750 The Rev. Dr. Conyers Middleton, of Yorkſhire, author of the Life of Cicero, died; as did alſo Andrew Baxter, of Old Aberdeen, who wrote on metaphyſics, and natural philoſophy.

CHAP. XXIV.

MEMORABLE EVENTS OF THE EIGHTEENTH CENTURY CONTINUED.

1751 FREDERIC, prince of Wales, father to his preſent Majeſty, died.

About the ſame time, died Henry St. John, Lord Bolingbroke, who wrote on philoſophy, metaphyſics, and politics; as alſo Dr. Alexander Monro, of Edinburgh, author of the "Anatomy of the human body."

1752 The new ſtyle was introduced into Great Britain; the third of September being counted the fourteenth.

1753 The Britiſh Muſeum was erected at Montague-houſe.

A. D.

1754 Died Dr. Richard Mead, of London, who wrote on poiſons, the plague, medicine, and precepts.

Henry Fielding, of Somerſetſhire, author of Tom Jones and Joſeph Andrews, died the ſame year.

1755 Liſbon was deſtroyed by an earthquake.

1756 One hundred and forty-ſix Engliſhmen were confined in the Black-Hole at Calcutta, in the Eaſt Indies, by order of the Nabob, and 123 were found dead next morning.

1757 Damiens attempted to aſſaſſinate the French king.

Colley Cibber, of London, died, who wrote 25 tragedies and comedies.

1759 General Wolfe was killed at the battle of Quebec, in the moment of victory.

1760 King George II. died, on the 25th day of October, in the 77th year of his age, and was ſucceeded by his preſent Majeſty, who, on the 22d of September, 1761, married the princeſs Charlotte, of Mecklenburgh Strelitz.

Black-Friars-Bridge, conſiſting of nine arches, was begun. It was finiſhed in 1770, at the expence of 152,840l. to be diſcharged by a toll.

1761 Died Thomas Sherlock, biſhop of London, author of ſixty-nine ſermons; and Benjamin Hoadley,

A. D.

Hoadley, biſhop of Wincheſter, who publiſhed ſermons and controverſial writings.

About the ſame time, Samuel Richardſon, of London, author of Grandiſon, Clariſſa, and Pamela, died; as alſo the Rev. Dr. John Leland, of Lancaſhire, who wrote an anſwer to the Deiſtical Writers.

1762 Peter III. emperor of Ruſſia, was depoſed, impriſoned, and murdered.

George Auguſtus Frederic, prince of Wales, was born on the 12th of Auguſt.

1764 The parliament granted 10,000l. to Mr. Harriſon, for his diſcovery of the longitude by his time-piece.

Hogarth, the celebrated painter, author of the Analyſis of Beauty, died this year.

1765 An act paſſed for annexing the ſovereignty of the iſland of Man to the crown of Great Britain.

The Rev. Dr. Edward Young, author of the Night Thoughts, three tragedies, and other poems, died this year; as did alſo Robert Simſon, of Glaſgow, author of conic ſections, and a tranſlation of Euclid and Apollonius.

1766 On the 21ſt of April, a ſpot or macula of the ſun, more than thrice the bigneſs of our earth, paſſed the ſun's centre.

1768 The Academy of Painting was eſtabliſhed in London.

A. D.

The ſame year, died the Rev. Lawrence Sterne, author of the Sentimental Journey, Triſtram Shandy, and 45 ſermons.

1770 Died the Rev. Dr. Jortin, author of the Life of Eraſmus, Eccleſiaſtical Hiſtory, and ſermons; as alſo Dr. Mark Akenſide, of Newcaſtle upon Tyne, author of poems.

Dr. Tobias Smollett, of Dumbartonſhire, who wrote a Hiſtory of England, novels, and tranſlations, died the ſame year.

1771 Dr. Solander and Mr. Banks, in his Majeſty's ſhip the Endeavour, lieutenant Cook, returned from a voyage round the world, having made ſeveral important diſcoveries in the South Seas.

Thomas Gray, profeſſor of modern hiſtory, Cambridge, author of the beautiful *Elegy* in a *Country Church-Yard*, and other poems, died this year.

1772 The king of Sweden changed the conſtitution of that kingdom.

The Pretender married a princeſs of Germany, grand-daughter of Thomas, late earl of Ayleſbury.

The emperor of Germany, the empreſs of Ruſſia, and the king of Pruſſia, ſtripped the king of Poland of great part of his dominions, which they divided among themſelves, in violation of the moſt ſolemn treaties.

1773 Captain Phipps (afterwards lord Mulgrave) was ſent to explore the North Pole; but having made

A. D.

made eighty-one degrees, was in danger of being locked up by the ice, and his attempt to diſcover a paſſage in that quarter proved fruitleſs.

1773 Died Philip Dormer Stanhope, earl of Cheſterfield, whoſe celebrated Letters to his Son, afterwards got into print; as alſo George lord Lyttelton, of Worceſterſhire, who wrote a *Hiſtory of King Henry II.*

The Jeſuits were expelled from the pope's dominions, and ſuppreſſed by his bull, on the 25th of Auguſt.

1774 The Britiſh parliament having paſſed an act, laying a duty of three-pence a pound upon all teas imported into America, the coloniſts, conſidering this as a grievance, denied the right of the Britiſh parliament to tax them.

Oliver Goldſmith, who wrote poems, eſſays, and ſeveral hiſtories, died this year; as alſo Zachary Pearce, biſhop of Rocheſter, author of Annotations on the New Teſtament.

1775 The firſt action happened in America between the king's troops and the provincials at Lexington, on the 19th of April. On the 17th of June, there was a bloody action.

Dr. John Hawkeſworth died this year. He was the author of the Adventurer, a periodical publication of great merit, and wrote an account of Cooke's Voyages, from the captain's papers.

A. D.

1776 The congreſs declared the American colonies free and independent ſtates.

David Hume, author of the Hiſtory of England, and Eſſays, died this year; as alſo James Ferguſon, of Aberdeenſhire, the famous aſtronomer.

1777 Lieutenant-general Burgoyne was obliged to ſurrender his army at Saratoga, in Canada, by convention, to the American army under the command of the generals Gates and Arnold.

Samuel Foote, of Cornwall, the celebrated wit and comedian, died this year. He wrote ſome humorous dramatic pieces.

1778 A treaty of alliance was concluded at Paris, between the French king and the thirteen united American colonies, in which their independence was acknowledged by the court of France.

1778 An engagement was fought off Breſt between the Engliſh fleet under the command of admiral Keppel, and the French fleet under the command of the count d'Orvilliers, on the 27th of July.

1779 Died David Garrick, of Hereford, one of the firſt actors that ever appeared on any ſtage, whence he was ſurnamed the Engliſh Roſcius. He wrote ſeveral dramatic and poetical pieces.

The

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The ſame year died William Warburton, biſhop of Glouceſter, author of the Divine Legation of Moſes, and various other works.

CHAP. XXV.

MEMORABLE EVENTS OF THE EIGHTEENTH CENTURY, CONCLUDED.

IN the year 1780, the *Proteſtant Aſſociation*, to the number of 50,000, went up to the Houſe of Commons, on the 9th of June, with their petition for the repeal of an act paſſed in favour of the papiſts.

That event was followed by the moſt daring riots in the city of London and Southwark, for ſeveral ſucceſſive days, in which ſome popiſh chapels were deſtroyed, together with the priſons of Newgate, the King's-Bench, the Fleet, ſeveral private houſes, &c. Theſe alarming riots were at length ſuppreſſed by the interpoſition of the military, and many of the rioters were tried and executed for felony.

Sir William Blackſtone, judge of the court of Common Pleas, London, died this year. He wrote commentaries on the Laws of England.

In 1782, the credit of the Britiſh arms was well ſuſtained at Gibraltar, under General Elliot, the governor; and their formidable attack on the 13th of September, with floating batteries of 212 braſs cannon, and red hot bullets, ended in the deſtruction of the Spaniſh ſhips, and a great number of their men.

The

The garriſon was relieved by Lord Howe, in the month of October, who offered battle to the combined force of France and Spain, though twelve ſail of the line inferior.

In 1783, the definitive treaty of peace was ratified between Great Britain, France, Spain, and the United States of America.

Lord Shelburne, and his colleagues, the peace-makers, were obliged to withdraw from power; for a majority of the commons enliſted under the banners of the *famous coalition leaders*, Mr. Fox and Lord North, who were made ſecretaries of ſtate, and the Duke of Portland firſt lord of the treaſury, on the 2d of April.

On the 19th of December, between twelve and one in the morning, a royal meſſenger was ſent to the two ſecretaries juſt mentioned, deſiring them to ſend the ſeals of their office immediately; and Mr. Pitt ſucceeded the Duke of Portland as firſt lord of the treaſury, bringing his friends into the reſpective departments, which formed the tenth adminiſtration ſince his Majeſty's acceſſion.

A bill brought into parliament by Mr. Fox, for new regulating the government of the Eaſt India company, and the commercial affairs and territories, which was thought to be unconſtitutional, occaſioned the diſmiſſion and political death of the *coalition miniſtry*.

In 1784, on the 26th of May, the memory of Handel was commemorated by a grand jubilee at Weſtminſter-abbey.

On

On the 15th of September, Mr. Lunardi aſcended in a balloon from the Artillery-ground, Moorfields, being the firſt attempt of that kind made in England.

Dr. Samuel Johnſon, of Litchfield, author of the Engliſh Dictionary, Rambler, Idler, Lives of the Engliſh Poets, Raſſelas, and ſeveral poetical pieces, died on the 13th of December, aged 71.

In 1785, died William Whitehead, poet-laureat, who wrote poems and plays.

In 1786, on the 26th of September, a commercial treaty was ſigned between England and France.

In 1787, died the learned Dr. Lowth, biſhop of London, author of an Engliſh grammar, a tranſlation of Iſaiah, and ſome poetical pieces.

In 1788, in the early part of October, the firſt ſymptoms appeared of a ſevere diſorder, which afflicted our gracious ſovereign. On the 6th of November, they were very alarming; and on the 13th, a form of prayer for his recovery, was ordered by the privy-council.

In 1789, on the 17th of February, his Majeſty was pronounced to be in a ſtate of convaleſcence; and, on the 26th, to be free from complaint. On the 23d of April, there was a general thankſgiving for the king's recovery, who attended the ſervice at St. Paul's, with a great proceſſion.

A revolution happened in France this year: the Baſtille was demoliſhed, the government new-modelled, and the power of the king very much abridged.

In

In 1790, there was a grand confederation in the Field of Mars, when Louis XVI. took a ſolemn oath to abide by the new conſtitution, as preſcribed by a decree of the National Aſſembly. However, notwithſtanding the ſolemn oath the French monarch had taken, he ſoon afterwards endeavoured to make his eſcape to the German dominions; but he was ſtopped on the borders of Flanders, brought back to Paris, and cloſely guarded in one of the royal palaces.

In 1791, there were dreadful riots in Birmingham, on occaſion of commemorating the French revolution, when ſeveral houſes were deſtroyed. Dr. Prieſtley's grand philoſophical apparatus, his extenſive and valuable library, together with his manuſcripts and furniture, were all committed to the flames. Some time after, the doctor, with ſeveral of his friends, went over to America.

In 1792, Lord Cornwallis made an advantageous peace with Tippoo Saib, in the Eaſt Indies, and received the two ſons of the tyrant as hoſtages. A great law queſtion was alſo determined by the Houſe of Lords (contrary to the opinion of the judges) that in caſes of libel, juries are judges of the *law*, as well as of the fact.

On the 10th of Auguſt, there was a dreadful engagement at the Thuilleries, in Paris; the Swiſs guards were vanquiſhed and maſſacred, whilſt the king and royal family were compelled to take refuge in the National Aſſembly. His majeſty was depoſed, and, with his family, impriſoned.

On

On the 22d of September, a dreadful inſurrection happened at Paris. The priſons were forced open, and all the ſtate priſoners, as well as confined prieſts, were maſſacred.

In 1793, on the 21ſt of January, the king of France was beheaded; and the queen ſhared the ſame fate on the 10th of October. The Duke of Orleans, alias M. Egalité, and the famous Counteſs de Barré, were alſo executed at Paris.

During the year 1793 likewiſe, a number of perſons met at Edinburgh, and held a convention, ſimilar to that in France; ſeveral of theſe perſons, men of reſpectable ſituations in life, were afterwards tranſported to Botany-bay.

The year 1794 was remarkable for a celebrated naval engagement; Lord Howe having, on the 1ſt of June, obtained a complete victory over the French fleet.

In 1795, on the 8th of April, his royal highneſs the prince of Wales was married to the princeſs Caroline of Brunſwick, his couſin.

On the 23d of the ſame month, the impeachment of Warren Haſtings, eſq; was finally determined in Weſtminſter-abbey, when the lord-chancellor informed him, that he was acquitted of the charges preferred againſt him by the Houſe of Commons, and that he was then diſcharged upon paying his fees. This memorable trial commenced on the 12th of February, 1788; but ſuch were the delays, by long adjournments, that the court in all this time, had ſat only one hundred and forty-nine days.

In

In 1796, during the month of Auguſt, the Dutch fleet, conſiſting of three ſail of the line and five frigates, having entered Saldana-bay, with a view to attack the Cape of Good Hope, were all captured by Lord Keith.

In 1797, Sir John Jervis, afterwards Earl St. Vincent, with fifteen ſail of the line, entirely defeated the Spaniſh fleet, conſiſting of twenty-ſeven ſail of the line. In this engagement, which took place near Cape St. Vincent, four ſhips were captured, namely, two of 112 guns, one of 84, and one of 74.

On the 11th of October, near Camperdown, the Britiſh fleet, under the command of Admiral Duncan, afterwards created Lord Viſcount Duncan, obtained a glorious victory over the Dutch fleet, commanded by Admiral De Winter. In this engagement, above ſeven hundred men were killed and wounded in the Britiſh fleet; the loſs to the vanquiſhed was much more conſiderable, they having 540 killed, and 620 wounded. Nine ſail of the line and two frigates, were captured by the Engliſh. Nothing could exceed the national rejoicing on account of this victory. In December, a day of ſolemn thankſgiving was appointed for the three great naval victories, by Lord Howe, and Admirals Jervis and Duncan. On that day, their majeſties went in proceſſion to St. Paul's cathedral, accompanied by the members of both houſes of parliament.

In 1798, on the 1ſt of Auguſt, near the mouth of the Nile, Admiral Nelſon, afterwards created Baron

Nelſon,

Nelſon, entirely defeated and captured the French fleet, conſiſting of fourteen ſhips of the line, and four frigates. Their ſix headmoſt ſhips were taken poſſeſſion of the firſt night, and l'Orient blew up. Next morning at day-light, the action re-commenced, and other ſhips were taken or deſtroyed; nor did the battle end till the forenoon of the third day, when the enemy's rear was compelled either to ſurrender or run. Two ſhips of the line and two frigates, by their being leſs diſabled in their maſts and rigging than our ſhips, eſcaped, although purſued. Some time after, however, theſe alſo were taken.

The reaſon of Admiral Nelſon's miſſing the French fleet, before they had landed Buonaparte with his army of 30,000 men in Egypt, was the falſe intelligence given to him by a neutral veſſel, or, perhaps, one ſent on purpoſe to deceive him. He was told, that the French fleet had left Malta three days earlier than the truth; and therefore, ſuppoſing them to be far advanced, he made a direct cut to Alexandria, whilſt Buonaparte went round by Candia.

The Chronology of Uſher, Blair and Playfair, and the Tablet of Memory, are works of merit on this ſubject.

BOOK IV.

RHETORIC.

CHAP. I.

DEFINITION OF RHETORIC.

RHETORIC is the art of ſpeaking with propriety on any ſubject, being derived from the Greek word *reo*, I ſpeak. Its principal end is to *inſtruct*, *perſuade*, and *pleaſe*.

The words *rhetoric* and *oratory* are nearly of the ſame ſignification. They are often uſed indifferently for each other, though ſome diſtinguiſh between them as between *theory* and *practice*, making it the buſineſs of a rhetorician to lay down rules and precepts for ſpeaking elegantly, and of an orator to uſe and apply them judiciouſly in practice.

The art of rhetoric, if taken in its full extent, is almoſt as ancient as the uſe of ſpeech; for eloquence moved men to live in ſociety, to give mutual aſſiſtance and inſtruction to each other, to ſubmit to laws, and ſeriouſly to conſider and regulate their affairs.

Hence it is plain there muſt be *two ſorts* of eloquence, the one more *ſimple*, ſuited to familiar intercourſe, or converſation, and to the ordinary dealings and commerce of the world; the other of a *higher* nature, and more proper for *diſcourſes* and *harangues* in public.

Eloquence has always flouriſhed amongſt a free people. Greece was remarkable for it, before it was

over-run

over-run by Alexander, and his captains; as was Rome, before the introduction of deſpotiſm by the Cæſars. I am far from thinking that either freedom or eloquence are confined to a republican form of government. The riches, the honours, and the glorious recompences attending it in Athens and Rome, made it flouriſh there, and riſe to a ſurpriſing height; and accordingly its credit failed and ſunk, as it loſt its encouragement and reward. In every age and country, therefore, where oratory is properly eſteemed and encouraged, men will be excited to the ſtudy of eloquence, and make vigorous efforts to bring it to its ancient perfection.

Some may think that the art of rhetoric is a matter of little importance, and not worth the labour and application it demands. But let them conſider of what uſe it is, on many occaſions, eſpecially at the bar, in the pulpit, and in the ſenate-houſe. Let them conſider, that *Eloquence*, that fair enchantreſs, that univerſal miſtreſs of hearts, has been ſeen to calm and aſſuage, in a moment, an unruly and mutinous people. She has been ſeen, in the public deliberations of a confuſed aſſembly, to make unhoped-for impreſſions upon the moſt obſtinate and prejudiced minds. She has been ſeen in camps and armies, going from rank to rank, giving life and vigour to the ſoldiers by the mouth of their generals, and at laſt triumphing by the arms of thoſe, whom ſhe had firſt conquered by her reaſons.

CHAP.

CHAP. II.

OF INVENTION AND DISPOSITION.

RHETORIC hath four parts, namely, *invention*, *diſpoſition*, *elocution*, and *pronunciation*.

Invention is the finding out ſuch arguments as are ſuited, according to the nature of the ſubject, to inſtruct, perſuade, or gain the aſſent and belief of our hearers. Arguments drawn from reaſon are to inform the judgment, or to inſtruct; thoſe from the affections, are to move the paſſions, or to *pleaſe*.

Nothing concerns an orator more, than thoroughly to underſtand the frame of human nature. This knowledge will enable him to work upon thoſe affections, which the author of nature has placed in human minds, as ſecret ſprings to all our actions. Without the *pathetic*, even the juſteſt reaſoning, ſupported by the ſoundeſt learning, will appear a cold, lifeleſs, unaffecting harangue.

The chief paſſions are joy, hope, grief, and fear. The reſt are anger, love, hatred, envy, compaſſion, indignation, emulation, levity, modeſty, and impudence. Some of theſe, the orator, as his ſubject requires, muſt ſhew in himſelf if he intends to work upon the affections of others; for, as Horace obſerves, in his *Art of Poetry*,

'Tis nature forms and ſoftens us within,
And writes our fortune's changes in our face.

Pleaſure

Pleaſure enchants, impetuous rage tranſports,
And grief dejects and wrings the tortur'd ſoul;
And theſe are all interpreted by ſpeech.
But he, whoſe words and fortunes diſagree,
Abſurd, unpitied, grows a public jeſt.

In ſhort, to be able to move the paſſions properly, is one of the moſt eſſential qualifications of an orator. As the archbiſhop of Cambray has obſerved from Cicero, "The whole art of eloquence conſiſts in enforcing the cleareſt proofs of any truth, with ſuch powerful motives as may affect the hearers, and employ their paſſions to juſt and worthy ends; may raiſe their indignation at ingratitude, their horror againſt cruelty, their compaſſion towards the miſerable, their love for virtue, and direct every other paſſion to its proper objects."

Diſpoſition is the ranging our arguments in the moſt orderly and proper manner.

The parts of an oration are uſually reckoned ſix: namely, exordium, narration, propoſition, confirmation, refutation, and peroration.

In the *exordium*, or beginning of an oration, the orator gives his audience ſome intimation of his ſubject, and prepares their mind for attention. In this part, the ſpeaker ought to be clear, modeſt, and not too prolix.

The *narration* is a brief recital of the whole caſe, from beginning to end. This ought to be plain and perſpicuous, that it may be underſtood; likely or

probable, that it may be believed; pleaſing, that it may be willingly liſtened to; and ſhort, that it may not tire the audience.

The *propoſition* propoſes the ſum of the whole diſcourſe, or matter in diſpute. If it divides the oration into parts, which ought never to exceed three, or four at moſt, it is called *partition*. The beauty of the partition or diviſion is, that it be full, diſtinct, plain, ſhort, and certain.

The *confirmation* is the ſtrengthening and confirming our cauſe, by all the proofs and arguments we can obtain from invention. In doing this, the orator places his ſtrongeſt arguments in the front, when the minds of his hearers are fired with the greateſt expectation. His weakeſt arguments he employs in the middle, where their number may render them of ſeeming importance. But he makes a reſerve of ſome of the moſt forcible reaſons to bring up the *rear*, becauſe what the audience hear *laſt* makes the greateſt impreſſion.

In the *refutation*, or confutation, the orator anſwers all his adverſary's arguments, and takes off all objections, by ſhewing them to be abſurd, falſe, or inconſiſtent.

The *peroration*, or concluſion, recapitulates or ſums up the ſtrongeſt and principal arguments, and endeavours to gain the aſſent of the hearers by moving the paſſions. In a concluſion, an orator ſhould always obſerve brevity and vehemence.

CHAP. III.

ON ELOCUTION, AND THE SEVEN TROPES.

THE parts of elocution are elegance, compoſition, and dignity.

Elegance conſiſts in the purity, perſpicuity, and politeneſs of language. It is chiefly acquired by reading the beſt and moſt correct authors, converſing with gentlemen and ſcholars, and by ſtudy and practice.

Compoſition regards grammatical plainneſs and propriety, by imitating the phraſe, idiom, and order of words made uſe of by the beſt authors, in the ſeveral ſorts of ſtile, whether in the humble, middle, or ſublime; or whether the ſubject be philoſophical, hiſtorical, or poetical.

Dignity is that which adorns language with ſublime thoughts and rhetorical flowers, ſuch as noble tropes, moving figures, and beautiful turns, or repetitions.

A *trope* is the elegant turning of a word, from its natural and proper to a relative ſignification. It is derived from the Greek word *trepo*, I turn.

The chief tropes in language are *ſeven*; namely, a metaphor, an allegory, a metonymy, a ſynecdoche, an irony, an hyperbole, and a catachreſis.

A *metaphor* in borrow'd words compares:
Thus, for exceſs, we ſay a *flood of tears*.

The term is Greek, and ſignifies *a transferring*. It is the moſt frequent and florid of all tropes, being a ſhort and ſprightly ſimilitude in one word.

We ſpeak metaphorically, when we ſay, a fine woman is *an angel*; a beautiful country, *a paradiſe*; man, *a ſhadow*; Chriſt, *a vine*; and his followers, the *branches*.

Though the metaphor be choſen on account of ſimilitude, yet it is not properly a compariſon or ſimile. A ſimile introduces a compariſon or likeneſs, but a metaphor ſtands for the thing itſelf. When we ſay, "The man acted *like a lion*," we ſpeak comparatively; but when we ſay, "The man is a lion," we ſpeak metaphorically.

An *allegory* is a chain of tropes:
I've paſs'd the *ſhoals*, fair *gales* now *ſwell* my hopes.

The word, which is Greek, ſignifies a ſpeaking otherwiſe; for in an allegory we convey our meaning under diſguiſed terms, and liken things to things by continued metaphors, ſtill ſpeaking one thing and meaning another; as *Venus* grows cold without *Ceres* and *Bacchus*. Here Venus is put for *love*, Ceres for *bread*, and Bacchus for *wine*.

To the allegory may be referred the *fable*, the *parable*, and the *ſimile*.

A *metonymy* takes ſome kindred name;
Juſt *heav'n*, for *God*, confounds their pride with ſhame.

The word *metonymy* ſignifies a *changing of names*; for by this trope we put one word for another, from ſome near relation or mutual dependance between them; as, I read *Milton*; that is, his writings. The whole

city

city came out to meet us; that is, all the inhabitants. Age is honourable; that is, aged men.

Synecdoche the whole for part doth take,
Or part for whole, juſt for the metre's ſake.
" While o'er thy *roof*, for *houſe*, loud thunders roll."

The term is Greek, and ſignifies *comprehenſion*. When we ſay, he has no colour in his cheeks, we take the whole for a part, meaning only *redneſs*. By this trope a round and certain number is frequently ſet down for an uncertain one; as when we ſay, I have told you of this a *thouſand* times, we mean no more than very often.

When a proper name is put for a common, or the contrary, it is called an *Antonomaſia*, which is a branch of the metonymy. Thus the *orator*, with the Romans, ſhall mean *Cicero*; with the Greeks, *Demoſthenes*. We call a rich man a *Crœſus*, and a cruel tyrant a *Nero*.

An *irony* the quite reverſe intends
Of what it ſpeaks. *Well done! right truſty friends!*

The word is of Greek original, and ſignifies diſſimulation; for by this trope we ſneeringly ſay one thing, and mean the contrary. This, however, is ſufficiently diſcovered either by the tone of the voice, the character of the perſon ſpoken of, or the very nature of the thing. Thus, for inſtance, when we ſee a little boy behave impudently and undutifully to his father and mother, we are apt to cry out, A *hopeful*

child, indeed! Whereas from our accent in uttering the words, as well as from the nature of the caſe, it is evident we mean quite the reverſe. In like manner, if we call a *harlot* by the name of *Penelope*, a woman remarkable for her chaſtity, or a fool by the name of *Solomon*, the wiſeſt of men, the irony is immediately perceived, as well from the character of the perſons commended, as from the exorbitance of the commendation.

Hyperbole ſoars high, or ſinks too low:
He touch'd the ſkies. A ſnail don't crawl ſo ſlow.

The term is Greek, ſignifying an over-ſhooting or exceeding; for by this trope we go beyond the bounds of truth, in repreſenting things greater or ſmaller, better or worſe than they really are, in order to raiſe admiration or love, fear or contempt. When we ſay that any thing is *whiter than ſnow*, or *ſwifter than the wind*, we ſpeak hyperbolically, in order to carry the idea as far as it will poſſibly go.

A *catachreſis* words abus'd applies:
Over his grave a *wooden tomb-ſtone* lies.

It is a Greek word, and ſignifies *abuſe*; for by this trope we make uſe of an improper term, either for want of a proper one, or for the ſake of boldneſs and novelty. Thus, having no appropriate and authoriſed name for a murderer of his prince, maſter, child, uncle, or other relation, we call ſuch a one a parricide, though the word in ſtrictneſs is only applicable

to

to him who has murdered his father. *To ride upon a ſwitch*, is a catachreſis; and ſo is a *braſs inkhorn*. The following poetical flight is evidently of the ſame nature.

" The eaſt wind *rides* the mad Sicilian wave."

The catachreſis ſhould never be admitted, but for the ſake of neceſſity, novelty, or energy.

" ——— I ſteer my bark, and ſail
" On even keel with gentle gale;
" At helm I make my reaſon ſit;
" My crew of paſſions all ſubmit.
" If dark and bluſt'ring prove ſome nights,
" Philoſophy puts forth her lights.
" Experience holds the cautious glaſs,
" To ſhun the breakers as I paſs."

There is a general analogy and relation, ſays a judicious writer*, between all tropes. In each of them, a man uſes a foreign or ſtrange word inſtead of a proper one; and therefore ſays one thing, and means ſomething different. When he ſays one thing, and means another almoſt the ſame, it is a *ſynecdoche*. When he ſays one thing, and means another mutually depending, it is a *metonymy*. When he ſays one thing, and means another oppoſite or contrary, it is an *irony*. When he ſays one thing, and means another like to it, it is a *metaphor*. A metaphor continued, and often

* Blackwall.

repeated, becomes an allegory. A metaphor carried to a great degree of boldneſs is an hyperbole; and when at firſt found it ſeems a little harſh and ſhocking, and may be imagined to carry ſome impropriety in it, it is a catachreſis.

CHAP. IV.

OF RHETORICAL FIGURES.

A Rhetorical figure is an *emphatical* manner of ſpeaking, different from the plain and ordinary way, and expreſſing either a *paſſion*, or containing a *beauty*. I ſhall take notice of ſuch as moſt frequently occur.

Apoſtrophe, addreſſing, leaves the theme:
He dies—Fade, ye fair flow'rs; be dry, thou ſtream!

The word ſignifies a *turning aſide*; for by this figure a perſon in a vehement commotion turns off from the ſubject in hand, and addreſſes heaven, earth, groves, rivers, things animate and inanimate; thereby intereſting, as it were, *univerſal nature* in his cauſe, and appealing to all the creation for the juſtneſs of tranſport.

Prolepſis, to prevent, objects and anſwers too:
Great things, you'll ſay, but not too great for you.

The meaning of the word is prevention; for by this figure an orator ſtarts an objection, which he foreſees may be made againſt any thing he affirms, deſires, or adviſes

adviſes to, and gives an anſwer to it. We have an example of the *prolepſis* in the following words of St. Paul. " But ſome men will ſay, How are the dead raiſed up, and with what body do they come? Thou fool, that which thou ſoweſt is not quickened except it die; and that which thou ſoweſt, is not that body which ſhall be, but bare grain, perhaps of wheat, or ſome other grain: But God giveth it a body as it pleaſeth him, and to every ſeed its own body."

Periphraſis takes many words for one:
Now night's pale empreſs quits her ſilver throne.

The term means a circumlocution, or ſpeaking round about, that is, uſing more words to expreſs any thing than are abſolutely neceſſary. Thus in the example, the *moon* is expreſſed by *night's pale empreſs*; and the ſenſe of the whole line might be comprehended in theſe few words, " *It is day-light.*"

Climax aſcends by ſteps; *folly breeds laughter,*
Laughter diſdain, diſdain makes ſhame her daughter.

The literal meaning of the term is a ladder, the figure being a gradation or amplification by ſteps, till the argument and period be beautifully finiſhed.

" The boy deſpiſes the infant, the man the boy, the philoſopher both, and the Chriſtian all."

The *anticlimax* has a very diſagreeable effect, as appears from the two following ſpecimens.

" Not only London echoes with thy fame,
" But alſo Iſlington has heard the fame."

" Queen Semiramis was the founder of Babylon, conqueror of the eaſt, and an excellent houſewife."

In *oxymoron* contradictions meet:
What's love? *A pleaſing pain, a bitter ſweet.*

The name itſelf implies a contradiction, ſignifying much the ſame as witty-fooliſh, or ſharp-blunt. But we muſt obſerve, that the contradictions in this figure are only ſeeming ones; for the members of a period may diſagree in appearance and ſound, but perfectly agree and be conſiſtent in ſenſe.

Proſopopeia ſpeech to things doth give:
The *ſtones* cry out, " *Let not the traitor live.*"

This figure, as the name implies, is the *fiction of a perſon.* Hereby good and bad qualities, virtues and vices, are introduced into diſcourſe as real beings; and by this we likewiſe give life and voice to things inanimate, making rocks, woods, rivers, buildings, and the like, expreſs the paſſions of rational creatures. " There lies that murderous knife."—" His ſtature reached the ſkies, and on his creſt ſat *horror* plumed."

Virgil's deſcription of *fame* is a beautiful proſopopeia;

" *Fame*, of all ills the *ſwifteſt* in its courſe,
" By motion *gathers* and *augments* its force;

" Low

" Low *creeps* at firſt, but ſwells t' enormous ſize,
" Stalks through the world, and *towers* into the
" ſkies."

The ſacred writings abound with ſpecimens of this figure.

" Let the *heavens rejoice*, and let the *earth be glad*; let the ſea *roar*, and the fulneſs thereof; let the *field be joyful*, and all that is therein. Then ſhall all the *trees* of the wood rejoice before the Lord, for he cometh to judge the earth. He ſhall judge the world with righteouſneſs, and the people with his truth."

Antitheſis, which ſignifies an *oppoſition of words or thoughts*, illuſtrates a ſubject by the introduction of contraries.

" Who ſees with equal eye as God of all,
" A hero periſh, and a ſparrow fall:
" Atoms, or ſyſtems, into ruin hurl'd,
" And now a bubble burſt, and now a world."

CHAP. V.

OF QUANTITY, ACCENT, AND EMPHASIS.

BY *quantity* I mean the diſtinction of ſyllables into *long* or *ſhort*, in reading either proſe or verſe. This depends on the various ſounds of the vowels.

By *accent* is meant that particular ſtreſs or force of ſound, which the voice lays upon any ſyllable; and though the accent is more frequently laid on a long ſyllable than a ſhort one, it is not ſo always; nor is

the accent always upon the ſame ſyllables in the ſame words. The ſame word when it is a *verb*, has the accent upon the laſt ſyllable, as to convért, to rebél, to recórd; but when it is a noun, it is accented on the firſt, as a cónvert, a rébel, a récord.

In order to read well, obſerve the following directions. 1. Take pains to acquire a perfect knowledge of the ſounds of all the letters in general. 2. Pronounce every word clearly and diſtinctly. 3. Let the tone of your voice in reading be the ſame as in ſpeaking. 4. Do not read in a hurry, for fear of learning to ſtammer. 5. Read ſo loud as to be heard by thoſe about you, but no louder. 6. Obſerve your pauſes well, and never make any, where the ſenſe will admit of none. 7. Humour your voice a little according to the ſubject. 8. Attend to thoſe who read well, and endeavour to imitate their pronunciation. 9. Read often before good judges, and be thankful when they correct you. 10. Conſider well the place of the emphaſis in a ſentence, and pronounce it accordingly.

By emphaſis is meant a ſtronger and fuller ſound of voice, by which we diſtinguiſh the accented ſyllable of ſome word, on which we deſign to lay particular ſtreſs, and to ſhow how it affects the reſt of the ſentence. Sometimes the emphatic word muſt be diſtinguiſhed by a particular tone of voice, as well as by a ſtronger accent. On the right management of the emphaſis, depends the whole life and ſpirit of every diſcourſe. If no emphaſis be placed on any words, not only is diſcourſe rendered heavy and lifeleſs,

leſs, but the meaning left often ambiguous. If the emphaſis be placed wrong, we pervert and confound the meaning wholly. To give a common inſtance; ſuch a ſimple queſtion as this, "Do you ride to town to-day?" is capable of no fewer than four different acceptations, according as the emphaſis is differently placed on the words. If it be pronounced thus: Do *you* ride to town to-day? the anſwer may naturally be, No; I ſend *my ſervant* in my ſtead. If thus: Do you *ride* to town to-day? Anſwer, No, I intend *to walk*. Do you ride *to town* to-day? No, I ride out into the *fields*. Do you ride to town *to-day?* No; but I ſhall *to-morrow*. In like manner, in ſolemn diſcourſe, the whole force and beauty of an expreſſion often depend on the accented word; and we may preſent to the hearer quite different views of the ſame ſentiment, by placing the emphaſis differently. In the following words of our Saviour, obſerve in what different lights the thought is placed, according as the words are placed, "Judas, betrayeſt thou the Son of Man with a kiſs?" *Betrayeſt* thou—makes the reproach turn, on the infamy of treachery. Betrayeſt *thou*—makes it reſt, upon Judas's connection with his Maſter. Betrayeſt thou the *Son of Man*—reſts it, upon our Saviour's perſonal character and eminence. Betrayeſt thou the Son of Man *with a kiſs*—turns it upon his proſtituting the ſignal of peace and friendſhip, to the purpoſe of a mark of deſtruction.

CHAP. VI.

ON READING VERSE.

THERE are two ways of writing on any ſubject, namely, in proſe, and in verſe.

Proſe is the uſual method of writing, without any confinement to a certain number of ſyllables, or ranging the words in any peculiar form; which, on the contrary, verſe requires.

The words in verſe muſt be ranged ſo, as that the accent may naturally fall on ſuch peculiar ſyllables as make a ſort of harmony to the ear. This is called *metre*, that is, *meaſure*. When two or more verſes, near to each other, are made to end with the ſame or the like *ſound*, it is called *rhyme*.

There is another ſort of verſe, which has no rhyme, called *blank* verſe, the words whereof are generally diſpoſed in metre, ſo as that the accent may fall on every *ſecond*, *fourth*, and *ſixth* ſyllable; and on the *eighth*, *tenth*, and *twelfth* alſo, if the lines are ſo long. The following verſe of ten ſyllables may ſerve for an example:

"The mónarch ſpóke, and ſtráit a múrmur róſe."

But our poetry allows of great and frequent variation from this rule, eſpecially in the firſt and ſecond ſyllables of the line; as in the verſe which rhymes with the former, where the accent is upon the firſt ſyllable:

"Loûd

" Loúd as the ſúrges when the témpeſt blóws."

There are two ſorts of metre which vary from this rnle; one of them is when the line contains but ſeven ſyllables, and the accent lies on the *firſt*, *third*, *fifth*, and *ſeventh*; as in the following:

" Cóuld we, which we néver cán,
" Strétch our líves beyónd their ſpân,
" Beaúty líke a ſhádow fliés,
" Ánd our yóuth beſóre us diés."

The other ſort has a haſty ſound, and requires an accent on every third ſyllable; as for example:

" 'Tís the voíce of the ſlúggard; I héar him com-
" pláin,
" You have wák'd me too ſoón, I muſt ſlúmber
again."

In reading verſe you are to pronounce it juſt as if it were proſe, obſerving the ſtops with great exactneſs, and giving each word or ſyllable its due and natural accent; but with theſe two reſtrictions, 1. Though there be no ſtop at the end of a line, make a ſmall pauſe (leſs than after a comma) before you begin the next. 2. If any word in the line has two ſounds, give it that which is moſt ſuitable to the rhyme and metre.

To favour the metre, for inſtance, the word *glittering* muſt ſometimes be pronounced as three ſyllables, and ſometimes as two, glitt'ring. And, upon the ſame

ſame account, the word *avenue* may have the accent either upon the firſt ſyllable or the ſecond; *ávenue* or avénue. Of poetry there are various kinds.

Paſtoral poetry deſcribes a ſhepherd's life, or that of rural nymphs and ſwains. *Elegy* is a mournful poem, or funeral ſong. The *Pindaric* ode, ſo called from its inventor Pindar, is a ſort of poetry which conſiſts of looſe and free numbers, and unequal meaſures. *Satire* is a free, jocoſe, witty, and ſharp poem, ſeverely inveighing againſt vice, and all corrupt manners and perſons. *Comedy* is an agreeable imitation of the actions, humours, and cuſtoms of common life. *Tragedy* repreſents, and acts over again, the calamities of illuſtrious men and women. The *Epic* or *Heroic* poem, is an intereſting relation of ſome illuſtrious and important actions of the hero celebrated in the poem; as the great exploits of Achilles in the Iliad of Homer, and thoſe of Æneas in the Æneid of Virgil. The *Epigram* is an inferior ſort of poem, whoſe peculiar character is brevity, beauty, and a ſharp turn of wit at the end.

As to the Acroſtic, Rondeau, Echo, &c. they are ſuch trifling pieces of art, that ſcarce any poet but in a merry vein, or on ſome jocoſe occaſion, will ever uſe them.

CHAP. VII.

OF ACTION.

GESTURE or action, the ſpeech of the body, ſhould be decent, moderate, eaſy, various, and proper to the nature of the diſcourſe. The body muſt be erect and ſtraight, and apt for gentle flexure on either ſide.

The head ſhould ſtand right upon the ſhoulders; the neck be free and eaſy of motion; the ſhoulders not hoiſted or ſhrugged up; nor the arms much projected, except in the vehement affections of joy and grief.

The countenance, which is principally to be regarded in geſture, muſt be variouſly expreſſive of the paſſions; but always natural, and free from affected airs, grimace, and contortions.

Great uſe ſhould likewiſe be made of the hands, eſpecially the right hand, which ſhould frequently be applied to the left breaſt, and then let fall to the right ſide. By the hand, in ſhort, we demand, call, threaten, deteſt, admire, and expreſs our thoughts almoſt as well as by ſpeech itſelf.

Stamping with the *foot* is only permitted on the ſtage.

CHAP. VIII.

OF STYLE.

STYLE is the mode of expreſſing our thoughts in words. Writers on rhetoric have reduced the kinds of ſtyle to three, which they call the plain, the ſublime, and mediate. As the buſineſs of an orator is to inſtruct, to pleaſe, and to move the paſſions, theſe three kinds of eloquence anſwer all thoſe purpoſes. The plain ſtyle is uſed to teach, the ſublime to move, and the mediate to delight.

CHAP. IX.

OF THE PLAIN STYLE.

PERSPICUITY, ſimplicity, and exactneſs are the characteriſtics of this ſtyle. Simplicity of thought, purity of diction, with an inexpreſſible elegance, which affects more ſenſibly than it ſeems to do, are its greateſt ornaments. It rejects all pomp, all affectation and varniſh, and is very ſparing in the uſe of tropes and figures; but ſtill it requires neat and decent language, and abhors all meanneſs of expreſſion.

This ſpecies of ſtyle may be compared to a ſimple but elegant entertainment, where all the diſhes are of an exquiſite taſte, but nothing admitted that is either too much forced, or too exceſſive, in ſauces, ſeaſoning, and preparation.

The

The plain ſtyle is well adapted to narration and proof, to letters and dialogues, and, indeed, to all ordinary ſubjects.

With regard to the epiſtolary ſtyle, an eaſy and genteel way of conveying our ſentiments, in the ſhorteſt and moſt expreſſive terms, is its greateſt excellence. Letters of buſineſs require no ornaments, but ſhould inform in a plain and ſuccinct manner. Letters of compliment muſt have gaiety, but no affectation. Letters of entertainment, perſuaſion, and condolence, may uſe ornaments; but an unaffected, eaſy, neat expreſſion, muſt ſhine through all.

CHAP. X.

OF THE SUBLIME STYLE.

THIS is a ſpecies of eloquence quite different from the former, being great, rich, and grave. It employs whatever is moſt elevated, and is moſt capable of moving the affections; ſuch as noble thoughts, rich expreſſions, bold figures, and lively paſſions. This ſort of eloquence tranſports us beyond ourſelves, and excites admiration and applauſe. It thunders and lightens, and, like a rapid ſtream, carries away and bears down all before it with irreſiſtible force.

This ſtyle is adapted to all ſubjects that are great and uncommon. It is uſed in tragedy and epic poetry.

There is a difference between the ſublime ſtyle, and what is called the ſublime, or ſublimity itſelf.

Suppoſe

Suppoſe I ſay, "The almighty Author of the univerſe, with a ſingle word created light." This is in the ſublime ſtyle; yet it is not ſublime, there being nothing extraordinary in it, which another perſon might not eaſily have expreſſed. But that of Moſes—"God ſaid, Let there be light, and there was light;" ſuch an unuſual turn of expreſſion, which ſhews the obedience of the creature to the orders of its Creator, is truly ſublime.

Longinus, a celebrated writer upon this ſubject, mentions five ſources or principles of ſublimity; namely, *a lofty conception, a capacity of moving the paſſions, the proper management of figures, ſplendid expreſſion,* and *magnificent compoſition.*

The firſt, though rather a natural than an acquired qualification, he adviſes to keep up and cultivate with the utmoſt care. He ſuppoſes the mind of a ſublime genius to have nothing low or groveling in it, but to be full of great ideas and generous ſentiments; it being impoſſible for thoſe, who have been accuſtomed to a mean and ſervile way of thinking, to produce any thing ſo *ſublime,* as to convey pleaſure and admiration to poſterity. And hence it is, that ſuch ſayings as are really grand and lofty have chiefly proceeded from thoſe, who have been remarkable for greatneſs of ſoul.

For inſtance; Alexander's anſwer to Parmenio is truly ſublime, and clearly expreſſes his elevated ſentiments and the greatneſs of his mind. Darius having offered Alexander his daughter and half his kingdom

to

to purchaſe peace, " I would accept of ſuch terms," ſays Parmenio, " if I were Alexander." To which Alexander made this noble reply, " And ſo would I, if I were Parmenio."

Many examples of the ſublime may be found in the works of Homer, Virgil, Milton, Cicero, and Demoſthenes, and other celebrated writers.

The holy ſcriptures abound with inſtances of inimitable ſublimity. With what awful pomp and majeſty is the Supreme Being repreſented in the eighteenth Pſalm. " He bowed the heavens and came down; and darkneſs was under his feet. He rode upon a cherub and did fly; yea, he did fly upon the wings of the wind."

The ſame vein of ſublimity is to be diſcerned in innumerable paſſages of the ſacred writings. I ſhall mention only one more from the book of Job, namely, the admirable deſcription of a war-horſe. " Haſt thou given the horſe ſtrength? Haſt thou clothed his neck with thunder? Canſt thou make him afraid as a graſshopper? The glory of his noſtrils is terrible. He paweth in the valley, and rejoiceth in his ſtrength; he goeth on to meet the armed men. He mocketh at fear and is not affrighted; neither turneth he back from the ſword. The quiver rattleth againſt him, the glittering ſpear and the ſhield. He ſwalloweth the ground with fierceneſs and rage; neither believeth he that it is the ſound of the trumpet. He ſaith among the trumpets, Ha, ha; and he ſmelleth the battle

battle afar off, the thunder of the captains and the ſhouting."

I ſhall conclude this chapter with an inſtance of the *ſublime*, taken from a modern author, whoſe writings are deſervedly admired by all perſons of taſte and judgment; I mean Mr. Thomſon, who, in his poem called *Summer*, thus loftily deſcribes a ſtorm of thunder and lightning:

" 'Tis liſt'ning fear, and dumb amazement all:
" When to the ſtartled eye the ſudden glance
" Appears far ſouth, eruptive through the cloud;
" And following ſlower, in exploſion vaſt,
" The *Thunder* raiſes his tremendous voice,
" At firſt, heard ſolemn o'er the verge of heav'n,
" The tempeſt growls; but as it nearer comes,
" And rolls its awful burden on the wind,
" The lightnings flaſh a larger curve and more
" The noiſe aſtounds; till over head a ſheet
" Of various flame diſcloſes wide, then ſhuts
" And opens wider, ſhuts and opens ſtill
" Expanſive, wrapping æther in a blaze.
" Follows the looſen'd, aggravated roar,
" Enlarging, deep'ning, mingling, peal on peal
" Cruſh'd horrible, convulſing heav'n and earth."

CHAP. XI.

OF THE MEDIATE STYLE.

THE mediate, called alſo the intermediate, or equable ſtyle, is a ſpecies of eloquence between the plain and the ſublime, having neither the ſimplicity of the former, nor the force and energy of the latter.

It is ſometimes called the *embelliſhed* or *florid* ſtyle, becauſe it admits of all the ornaments of art, the beauty of figures, the ſplendor of metaphors, the luſtre of thoughts, the grace of digreſſions, the harmony of numbers and cadence.

Quintilian compares it to a beautiful river, whoſe water is pure and clear, which flows gently, and is ſhaded on each ſide with verdant woods.

The mediate ſtyle is adapted to any ſubject of an indifferent nature, not very high, nor very low.

Cicero's Orations comprehend all the ſpecies of eloquence, or various ſorts of ſtyle; but perhaps the young ſcholar will more eaſily diſtinguiſh them in Virgil, whoſe *Eclogues* are an inſtance of the *plain* ſtyle, his *Georgics* of the *mediate*, and his *Æneid* of the nobleſt *ſublimity*.

CHAP. XII.

OF THE ASIATIC AND LACONIC STYLE.

THE *Aſiatic* ſtyle is very diffuſive or prolix, abundance of words being uſed to expreſs little matter. It was ſo called by the Greeks from the people of Aſia, who affected ſuch redundancies.

The *Laconic* ſtyle is quite the reverſe of the former, being diſtinguiſhed by its extraordinary conciſeneſs, and by comprehending a great deal of matter under a few words.

It is called *Laconic* from Laconia, a country of Peloponneſus, of which the chief city was Lacedæmon or Sparta, whoſe inhabitants were remarkable for writing and ſpeaking in a pithy and conciſe manner.

The anſwer of Cleomenes, the Spartan general, to the ambaſſador at Samos, is an inſtance of this ſtyle. "As to what you have ſaid, the firſt part I do not remember; the middle I do not underſtand; the laſt I do not approve."

As an example of a ſtill more ſententious and expreſſive conciſeneſs, take the following letter:

The Lacedæmonians to Philip.

"Dionyſius is at Corinth."

At the time when this was written, Dionyſius, who for his tyranny had been driven out of Sicily, taught a

ſchool

ſchool at Corinth for *bread*. It was, therefore, a hint to Philip not to proceed, as he had begun, to imitate Dionyſius's conduct, leſt he ſhould be reduced to the ſame neceſſitous condition.

But to carry the matter ſtill farther, the Lacedæmonians ſometimes anſwered a long epiſtle by a ſingle word, as they did that of an enemy threatening to deſtroy them with fire and ſword. To this they only returned the poor monoſyllable *If*; that is, "Do if you can." This was a very ſhort, but very comprehenſive reply.

CHAP. XIII.

ON THE FAULTS OF STYLE.

THE chief faults of ſtyle are, its being *tumid* or *ſwoln*, *frigid* and *puerile*, *dry* and *jejune*.

The *tumid* ſtyle abounds with ſwelling words, which give it a ſeeming greatneſs, but within are hollow and empty. Æſchylus puts ſuch into Boreas's mouth, on firing a houſe, viz.

"Whirlpools of flames tow'rds heav'n I vomit ſoon,
"Nor had I whiſtled yet my fav'rite tune."

Theſe words are magnificently terrible at firſt ſight; but if we bring *whirlpools of flames*, *vomiting towards heaven*, and the *whiſtler Boreas*, to the teſt of ſenſe and truth, what ſwoln contemptible bombaſt will theſe images appear!

The

The *frigid* or *puerile* ſtyle, affects certain trifling ornaments, inſipid jeſts, remote and ſtrained alluſions, and redundant deſcriptions. Of this frigid puerility we have a remarkable inſtance in a reflection of Hegeſias recorded by Plutarch. Alexander the Great was born the ſame night that the temple of Diana at Epheſus was burnt to the ground. This accident Hegeſias attempted to turn to Alexander's honour, by ſaying, " It was no wonder the temple was burnt at that time, when the goddeſs, attending at ſo great a birth, was not in the way to extinguiſh the flame."

The following diſtinction is made by ſome, between the frigid and the puerile ſtyle. The frigid ſtyle renders a diſcourſe dry and inſipid, by a languor and flatneſs of expreſſion; and the puerile, or boyiſh, makes it tireſome and diſguſting, by a ſwelling loftineſs and affected amplification. Thoſe who uſe the frigid ſtyle, employ pompous expreſſions, when the ſubject requires plain ones; and thoſe who fall into the puerile, make uſe of low expreſſions, when the matter requires the moſt ſublime.

The *dry* or *jejune* ſtyle is that, which is deſtitute of ornament, force, and ſpirit.

A ſtyle alſo may be too *ſtiff*, or too *looſe*, *fluctuating*, and *unconnected*.

CHAP.

CHAP. XIV.

OF CICERO AND DEMOSTHENES.

THESE two orators, though different in ſtyle, are both ſo ſuperlatively excellent in their kind, that it is not eaſy to determine which of them we ſhould chooſe to imitate. "The qualities," ſays Quintilian, "on which eloquence is founded, were alike in both; ſuch as the deſign, the order, the diviſion, the manner of preparing the audience, and, in a word, every thing that relates to *invention*. But, as to their ſtyle, there is a conſiderable difference. The one is more conciſe, the other more diffuſe; the one preſſes cloſer to his adverſary, the other allows him a larger ſpot to fight on. The one is always endeavouring to pierce him, as it were, with the vivacity of his ſtyle; the other often bears him down with the weight of his diſcourſe. Nothing can be retrenched from the one, nor added to the other. Demoſthenes has more care and ſtudy, Cicero more nature and genius."

Another judicious critic among the moderns, thus draws their characters. "Demoſthenes, from the impetuoſity of his temper, the ſtrength of his reaſon, and the vehemence of his action, had more force than Cicero; as Cicero, by his ſoft and delicate deportment, by his gentle, piercing, and paſſionate emotions, and his many natural graces, was more affecting than Demoſthenes. The Grecian ſtruck the mind by the ſtrength of his expreſſion, and the ardor and violence

of his declamation; the Roman reached the heart by certain charms and imperceptible beauties, which were natural to him, and which were heightened by all the art of eloquence."

Upon the whole, it is beſt for young perſons, eſpecially thoſe deſigned for the bar, to take for their model the ſtrong and nervous ſtyle of Demoſthenes, ſoftened and adorned with that of Cicero; ſo that the ſeverity of the former may be qualified with the graces of the latter, and that the conciſeneſs and vivacity of the Grecian may correct the luxuriancy of the Roman orator.

On this ſubject are, "Longinus de Sublimitate," tranſlated into Engliſh by Smith; Horace's "Ars Poetica;" Pope's "Eſſay on Criticiſm;" Rollin's "Belles Lettres;" and Blair's "Lectures on Rhetoric."

BOOK V.

BIOGRAPHY.

CHAP. I.

ALFRED THE GREAT.

TO imitate the brighteſt examples, and to follow the ſteps of thoſe who, by laudable exertions, have been ornaments of human nature, and an honour to

to their country, ſhould be the ſtudy of every Britiſh youth.

Such was Alfred the Great, the youngeſt ſon of Æthelwolf, king of the Weſt Saxons, who was born in the year 849. He entirely ſubdued the Daniſh invaders, againſt whom he fought fifty-ſix battles by ſea and land. In order to render the execution of juſtice more ſtrict and regular, he divided all England into counties and hundreds, and erected county-courts. Every houſeholder was anſwerable for the behaviour of his family, and even of his gueſts, if they reſided above three days in his houſe. In the trying of cauſes, his mode of deciſion claims our attention. Twelve freeholders were choſen, who having ſworn to adminiſter impartial juſtice, proceeded to the examination of the cauſe that was ſubmitted to them. In this ſimple form of trial we may perceive the origin of juries, or judgments by equals, an inſtitution now almoſt peculiar to the Engliſh nation, admirable in itſelf, and the beſt calculated for the preſervation of man's natural rights, and the adminiſtration of juſtice, that human wiſdom ever deviſed.

He choſe the ſheriffs and judges from among the men moſt celebrated for probity and knowledge in the kingdom. He removed all whom he found unequal to the truſt; and the better to guide magiſtrates of all kinds in the adminiſtration of juſtice, he framed a body of laws, which, though now loſt, ſerved long as the baſis of Engliſh juriſprudence, and is generally eſteemed the origin of our *common law*.

Alfred preſerved the moſt ſacred regard to the liberty of his people. His concern on this ſubject extended even to future times, and ought to endear his memory to every Engliſhman. "It is juſt," ſays he in his will, "that the Engliſh ſhould for ever remain *free as their own thoughts.*"

Senſible that good morals and knowledge are almoſt inſeparable in every age, though not in every individual, he gave great encouragement to the purſuit of learning. He invited over the moſt celebrated ſcholars from all parts of Europe. He eſtabliſhed ſchools every where for the inſtruction of the ignorant. He founded, or at leaſt repaired, the univerſity of Oxford, and compoſed a variety of poems, fables, and apt ſtories, to lead the untutored mind to the love of letters, and bend the heart to the practice of virtue. In a word, he was the father of Engliſh law, and Engliſh literature.

He introduced and encouraged manufactures of all kinds, and ſuffered no inventor of any uſeful or ingenious art to go unrewarded. He prompted men of activity and induſtry to apply themſelves to navigation, and to puſh commerce into the moſt diſtant countries. The elegances of life are ſaid to have been brought to him even from the Mediterranean and the Indies; and his ſubjects ſeeing theſe deſirable productions, and the means of acquiring riches by trade, were taught to reſpect thoſe peaceful virtues by which alone ſuch bleſſings can be earned or inſured.

This extraordinary man, who is juſtly conſidered, both by natives and foreigners, as the greateſt prince

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after Charlemagne that Europe ſaw for ſeveral ages, and as one of the wiſeſt and beſt that ever adorned the annals of any nation, died in the year 901, in the vigour of his age, and the full ſtrength of his faculties, after a life of fifty-three years, and a glorious reign of twenty-nine years and a half. His merit, both in public and private life, may be ſet in oppoſition to that of any ſovereign or citizen in ancient or modern times. He ſeems, indeed, as is obſerved by an elegant and profound hiſtorian, to be the complete model of that perfect character, which, under the denomination of a ſage, or truly wiſe man, philoſophers have been ſo fond of delineating without the hopes of ever ſeeing it realized *.

CHAP. II.

SIR THOMAS MORE.

AS great examples have a tendency to excite men to virtue, none can be exhibited to the preſent age, with more probability of ſucceſs, than that of Sir Thomas More, lord-chancellor of England in the reign of Henry VIII. This very extraordinary perſon was born in London, in the year 1480.

At the age of twenty-one, he was a burgeſs in parliament, and diſtinguiſhed himſelf remarkably in 1503, by oppoſing a ſubſidy demanded by Henry VII. with ſuch ſtrength of argument, that it was actually refuſed

* Hume.

by parliament. As ſoon as the vote had paſſed againſt it, Mr. Tyler, one of the king's privy-council, went preſently from the houſe, and told his majeſty, "*that a beardleſs boy had overthrown his purpoſe.*" This was giving his country a very early pledge, indeed, of patriotiſm and probity, from which nothing could ever ſeduce him whilſt he lived. He had too much intrepidity to be deterred by power, and too great a contempt for the things of this world to be allured by the proſpect of wealth and honour.

After making ſuitable progreſs in rhetoric, logic, and philoſophy, at Oxford, he was removed to the New Inn, London, in order to apply to the law, and ſoon after to Lincoln's Inn, where he continued his ſtudy till he became a barriſter.

Sir Thomas's parts ſoon became ſo well known to Henry VIII. that he ordered cardinal Wolſey to engage him in the ſervice of the court. With this view, the cardinal offered him a penſion, which Sir Thomas refuſed. In 1520, however, he was made treaſurer of the Exchequer. Upon the diſgrace of cardinal Wolſey, he was intruſted with the great ſeal. This favour was the more extraordinary, as he was the firſt layman who enjoyed it; but the truth is, it was apparently conferred with a view of engaging him to approve of the intended divorce of the king from Catharine of Arragon. Accordingly, he entered upon it with juſt apprehenſions of the danger to which it would expoſe him on that account; and, after he had executed all the duties of it for near three years, with a moſt

a moſt exemplary diligence, a true magnanimity of ſpirit, and a moſt uncorrupted integrity, he reſigned it, May 16, 1533. He did it with a view to his own ſafety, as he could not ſatisfy his conſcience with regard to the divorce.

In 1535, he died upon the ſcaffold, with heroic conſtancy, for refuſing to acknowledge the king's ſupremacy. Sir Thomas, who was a man of gay humour, retained his facetiouſneſs to the laſt. When he laid his head on the block, and ſaw the executioner ready with his weapon, "Stay, friend," ſaid he, "till I put aſide my beard;" for, added he, "it never committed treaſon." Mr. Addiſon, after deſcanting on this behaviour, obſerves, that "what was only philoſophy in this extraordinary man, would be phrenzy in one who does not reſemble him as well in the chearfulneſs of his temper, as in the ſanctity of his life and manners."

Sir Thomas More was the author of many and various works, being admirably ſkilled in every branch of polite learning. His moſt popular work is the hiſtory of Utopia, deſcribing the moſt perfect ſtate of a commonwealth. His eldeſt daughter, Margaret, was a woman of fine parts and amiable qualities; and ſeems to have been to More what Tullia was to her father Cicero, his delight and comfort. She was well acquainted with the Greek and Latin languages. Cardinal Pole was ſo charmed with the elegance of her Latin ſtyle, that he could not believe what he read was written by a woman.

CHAP. III.

SIR WALTER RALEIGH.

THIS illuſtrious man, deſcended from an ancient family in Devonſhire, was born in the year 1552. After a proper education at ſchool, he was ſent to Oxford, where he ſoon diſtinguiſhed himſelf by great force of natural parts, and an uncommon progreſs in academical learning; but ambition prompting him to purſue the road to fame in an active life, he did not remain long at Oxford.

In 1580, he was a captain in the wars of Ireland. At his return home, he was introduced to court; and, as Fuller relates, upon the following occaſion. Queen Elizabeth, taking the air in a walk, ſtopped at a dirty place, in doubt whether ſhe ſhould proceed; when Raleigh, dreſſed in a gay and genteel habit of thoſe times, immediately ſpread his new pluſh cloak on the ground, on which her majeſty gently treading, was conducted over clean and dry. The truth is, Raleigh always made a very elegant appearance. He had a polite addreſs, a handſome perſon, ſtrong natural wit, and a good judgment, with a bold and plauſible tongue, by which he could ſet out his parts to the beſt advantage. All theſe were very engaging advocates for royal favour, eſpecially in a female ſovereign; and, therefore, it is no wonder that he advanced apace in it.

Having a great deſire to make new diſcoveries, he ſuggeſted the firſt idea of the Engliſh colonies in North

North America; and attempted, as early as the year 1586, a ſettlement in the country now known by the name of North Carolina, then conſidered as part of Virginia, from which he brought tobacco to England. Queen Elizabeth was not backward in promoting the advantages which were promiſed by the traffick of this herb; but her ſucceſſor, James I. held it in ſuch abomination, that he uſed his utmoſt endeavours to explode the uſe of it.

Some time after, he projected the diſcovery and conqueſt of Guiana, in South America; and, ſending firſt an old experienced officer to take certain informations concerning it, he went thither himſelf in 1595, deſtroyed the city of San Joſeph, and took the Spaniſh governor.

Upon the acceſſion of king James, he loſt his intereſt at court, was ſtripped of his preferments, and even accuſed, tried, and condemned for high treaſon. That there was ſomething of a treaſonable conſpiracy againſt the king was generally believed, but it was never proved that he was engaged in it. Being reprieved, he was committed priſoner to the Tower of London, and deprived of his eſtate, which was given to the king's minion, Robert Car, afterwards earl of Somerſet. Henry, the king's eldeſt ſon, who was Raleigh's friend, endeavoured to procure him his eſtate, and had nearly effected it; but that hopeful and diſcerning prince dying in 1612, all his views were at an end.

But after he had languiſhed many years in confinement, when the envy excited by his ſuperior talents was laid aſleep, and commiſeration awakened for his unhappy condition, a report which he propagated, of a wonderful rich gold mine that he formerly had diſcovered in Guiana, obtained univerſal belief. People of all ranks were impatient to take poſſeſſion of a country overflowing with the precious metal, and to which the nation was ſuppoſed to have a right by priority of diſcovery. Thinking, therefore, that he had already undergone ſufficient puniſhment, James ordered him to be releaſed from the Tower; and when the hopes held out to the nation had induced multitudes to adopt his views, the king gave him permiſſion to purſue the projected enterprize, and veſted him with authority over his fellow-adventurers; but being ſtill diffident of his intentions, he refuſed to grant him a pardon, that he might have ſome check upon his future conduct.

Though Raleigh's commiſſion impowered him only to ſettle on a coaſt poſſeſſed by ſavages and barbarous inhabitants, he ſteered his courſe directly for the river Oronoco, where he knew there was a Spaniſh town, named St. Thomas, and ſent a detachment under his ſon and his old aſſociate, captain Keymis, who had accompanied him in his former voyage, to diſlodge the Spaniards, and take poſſeſſion of that town. The Spaniards, appriſed of this invaſion, oppoſed the landing of the Engliſh, as they had foreſeen. Young Raleigh was killed by a ſhot, while animating his followers.

followers. Keymis, however, and his ſurviving companions, not diſmayed by the unfortunate incident, took, plundered, and burnt St. Thomas, but found in it no booty any way adequate to their expectations.

On the examination of Raleigh and his companions before the privy council, it appeared that he had committed hoſtilities againſt the ſubjects of his majeſty's ally, the king of Spain, and that he had burnt and deſtroyed a town belonging to that prince; ſo that he might have been tried either by common law for this act of violence, or by martial law for this breach of orders. But it was the opinion of all the crown lawyers, as we learn from Bacon, that as Raleigh ſtill lay under an actual attainder for high treaſon, he could not be brought to a new trial for any other crime. James, therefore, in order to ſatisfy the court of Madrid, which was very clamorous on this occaſion, ſigned the warrant for his execution upon his former ſentence. Finding his fate inevitable, he collected all his courage, and met death with the moſt heroic indifference. Feeling the edge of the axe, with which he was to be beheaded, "'Tis a ſharp remedy," ſaid he, "but a ſure one for all ills!" then calmly laid his head on the block, and received the fatal blow.

Of all the tranſactions of a reign diſtinguiſhed by public diſcontent, this was perhaps the moſt odious. Men of every condition were filled with indignation againſt the court. Even ſuch as acknowledged the juſtice of Raleigh's puniſhment, blamed the meaſure. They thought it cruel to execute a ſentence, origi-

nally ſevere, and tacitly pardoned, which had been ſo long ſuſpended; and they conſidered it as mean and impolitic, even though a new trial had been inſtituted, to ſacrifice to a concealed enemy of England, the only man in the kingdom whoſe reputation was high for valour and military experience.

During his confinement in the Tower, he devoted the greateſt part of his time to reading and writing. His grand work is the *Hiſtory of the World*; which has always been conſidered as a very maſterly production.

CHAP. IV.

CARDINAL WOLSEY.

THOMAS WOLSEY, ſo famous in hiſtory, was born at Ipſwich, in the year 1471. He was deſcended, according to ſome of our beſt hiſtorians, from poor but honeſt parents, and the common tradition is, that he was the ſon of a butcher; though it appears, from his father's will, that he had an eſtate, which, in the poſſeſſion of a plebeian at that time, was very conſiderable. While at Oxford, he was charged with the education of three ſons of Thomas Grey, marquis of Dorſet, who preſented him to the rectory of Lymington, in Somerſetſhire. He had not long reſided on this benefice, before Sir Amias Paulet, a juſtice of the peace, ſet him in the ſtocks for being drunk, as it is ſaid, and making a diſturbance at a fair in the neighbourhood; but the knight had reaſon afterwards to repent of this affront; for Wolſey being made lord chancellor,

cellor, ſent for him, and after a ſevere expoſtulation, confined him for five or ſix years in the Temple, before he would grant him a diſcharge.

Fox, biſhop of Wincheſter, having introduced him to court, he ſoon obtained the deanery of Lincoln. Henry VIII. who had a great affection for him, appointed him a member of the privy council, made him prime miniſter; a little after, biſhop of Lincoln; and afterwards archbiſhop of York. By the intereſt of Francis I. he was raiſed to the purple; and Henry made him lord chancellor.

He aſpired to the popedom upon the death of Leo X. and Adrian VI. but without ſucceſs. At laſt he fell under the king's diſpleaſure. His too great obſequiouſneſs to the ſee of Rome, in the proceſs relating to the king's divorce from queen Catharine, made him odious to Henry, who, tired out with the continual complaints made againſt him, and the repeated ſolicitation of Anna Bullen, ſeized all his furniture, papers, and money. The riches he had amaſſed were ſo immenſe, that probably they invited the hand of power.

Some time after, however, the king gave him diſtant gleams of hope by ſending him a ring, accompanied with a gracious meſſage. Wolſey, who like every bad character, was proud to his equals, and mean to thoſe above him, happening to meet the king's meſſenger on horſeback, immediately alighted, and throwing himſelf on his knees in the mire, received,

ceived, in that abject manner, thoſe marks of his majeſty's condeſcenſion.

Having retired to his dioceſe of York, he performed many charitable and popular acts. But he was not allowed to remain long unmolefted. He was arreſted for high treaſon by the earl of Northumberland, and committed to the cuſtody of the lieutenant of the Tower, who had orders to bring him to London. This diſgrace affected his mind to ſuch a degree, that he fell ſick at Sheffield, in the earl of Shrewſbury's houſe, whence, by ſlow degrees, he proceeded to Leiceſter, where he died, on the 29th of November, 1530. "Had I but ſerved my God," cried he, a little before he expired, "as diligently as I have ſerved my king, he would not have forſaken me in the days of my grey hairs."

"Oh, how wretched
"Is that poor man, that hangs on princes favours.
"There is, betwixt that ſmile which we aſpire to,
"That ſweet regard of princes, and our ruin,
"More pangs and fears, than war and women know;
"And when he falls, he falls like *Lucifer*,
"Never to hope again."

Wolſey's treaſon, indeed, ſeems rather to have been againſt the people than againſt the prince, or even the ſtate. For although the violence and obſtinacy of Henry's character ought, perhaps, to apologiſe for many of the cardinal's public meaſures, his continued extortions upon the ſubject, by the moſt iniquitous methods,

methods, in what he called the legantine court, admit of no alleviation.

His ſchemes, however, for the promotion of learning, were noble; of which the college and lectures founded by him at Oxford, and his ſchool at Ipſwich, are laſting monuments.

CHAP. V.

SHAKESPEARE.

WILLIAM SHAKESPEARE, the great poet of nature, and the glory of the Britiſh nation, was deſcended of a reputable family at Stratford upon Avon. His father was in the wool trade, and dealt conſiderably that way. He had ten children, of whom our immortal poet was the eldeſt, and was born in the year 1564. At a proper age he was put to the free-ſchool in Stratford, where he acquired the rudiments of grammatical education. Whether he diſcovered at this time any extraordinary genius or inclination for literature, is uncertain. His father had no deſign to make a ſcholar of him; on the contrary, he took him early from ſchool, and employed him in his own buſineſs. In this, however, he did not long continue. Happening to get acquainted with ſome idle and diſſipated fellows (characters to be avoided by all well-diſpoſed young perſons) he was prevailed upon to engage with them in robbing Sir Thomas Lucy's park, near Stratford. To eſcape the law, he fled to London, where, as might be expected from a man of wit and humour

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in his circumſtances, he threw himſelf among the players. Thus was this grand luminary driven, by a very untoward accident, into his genuine and proper ſphere.

His firſt admiſſion into the play-houſe was ſuitable to his appearance; a ſtranger, and ignorant of the art, he was glad to be taken into the company of a very mean rank; nor did his performance recommend him to any diſtinguiſhed notice.

As a writer, however, he is an abſolute original. Though unacquainted, as is generally believed, with the dramatic laws, or with any model worthy of his imitation, he has by a bold delineation of general nature, and by adopting the ſolemn mythology of the North, witches, fairies, and ghoſts, been able to affect the human mind more ſtrongly than any other poet. By ſtudying only the heart of man, his tragic ſcenes come directly to the heart; and by copying manners, undiſguiſed by faſhion, his comic humour is for ever new.

It is ſaid that queen Elizabeth was ſo much pleaſed with the delightful character of Sir John Falſtaff, in the two parts of "Henry the Fourth," that ſhe commanded the author to continue it for one play more, and to ſhew the knight in love; which he executed inimitably in "The Merry Wives of Windſor."

This great luminary of the virgin reign, and the father of our drama, died on the 23d of April, 1616, being in the fifty-fourth year of his age, and was interred among his anceſtors, on the north ſide of the chancel,

chancel, in the great church of Stratford, where there is a handſome monument erected for him, inſcribed with the following elegiac diſtich in Latin:

" Judicio Pylium, genio Socratem, arte Maronem,
" Terra tegit, populus mœret, Olympus habet."

Earth covers, mankind lament, Heaven contains,
A Neſtor in judgment, a Socrates in genius, a Virgil in art.

CHAP. VI.

LORD CHANCELLOR BACON.

FRANCIS BACON, viſcount St. Alban's, and lord high chancellor of England, one of the greateſt and moſt univerſal geniuſes that any age or country has produced, was ſon of Sir Nicholas Bacon, lord-keeper of the great ſeal, and born at York-houſe in the Strand, on the 22d of January, 1561. Being thus deſcended, he was early initiated into a court life, and, as he himſelf expreſſes it, both by family and education, tinged with civil affairs. His extraordinary parts, even when a child, were ſo conſpicuous at court, that the queen would often delight to talk with him, and was wont to call him her young lord keeper. One ſaying of his ſhe was particularly pleaſed with. Having aſked him his age, when he was yet a boy, he anſwered her readily, that he was two years younger than her majeſty's happy reign *.

* Rawley's Life of Lord Bacon.

Before

Before he was full ſixteen years of age, he perfectly underſtood Ariſtotle's philoſophy. About this time, his father died, without making that ſeparate proviſion for him which he had intended. This obliging him to think of ſome profeſſion for his ſubſiſtence, he applied himſelf, more through neceſſity than choice, to the ſtudy of the common law. An early friendſhip had been contracted between him and the earl of Eſſex, who was educated at the ſame college. Cecil, who bore a mortal hatred to Eſſex, and entertained a ſecret jealouſy of Bacon, on account of his ſuperior talents, threw inſurmountable obſtacles in his way to preferment, ſuggeſting to the queen, that he was a ſpeculative man, whoſe head was filled with philoſophical notions, and therefore more likely to perplex than to forward public buſineſs; hence, the utmoſt intereſt of Eſſex, who, with all the warmth of an affectionate friend, ſolicited his preferment, could not poſſibly accompliſh it.

Upon the acceſſion of king James to the throne, however, his profeſſional merit was rewarded; and at laſt, in 1618, he was appointed lord high chancellor of England, and created baron of Verulam, in Hertfordſhire. In this high ſituation, he remained till the year 1721, when he was accuſed of bribery and corruption. The king gave him poſitive advice to ſubmit himſelf to his peers, promiſing, upon his princely word, to ſcreen him in the laſt determination; or, if that could not be, to reward him afterwards with ample retribution of favour. The chancellor, though he

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ſaw his approaching ruin, if he did not plead for himſelf, reſolved to obey, and took his leave of his majeſty with theſe words: "Thoſe that will ſtrike at your chancellor, it is much to be feared, will ſtrike at your crown;" and wiſhed, as he was the firſt, ſo he might be the laſt of ſacrifices*. The houſe of peers gave judgment againſt him, "That he ſhould be fined 40,000l. and be confined in the Tower during the king's pleaſure; that he ſhould for ever be incapable of any office, place, or employment in the ſtate; and that he ſhould never ſit in parliament." But he was ſoon reſtored to his liberty, had his fine remitted, and was ſummoned to the firſt parliament of Charles I. After this ſentence he retired from civil affairs, and gave himſelf wholly up to philoſophy and writing.

On account of the extent and variety of his talents, Bacon is juſtly conſidered as one of the moſt extraordinary men that any nation ever produced. He broke through the ſcholaſtic obſcurity of the age, like the ſun from beneath a cloud, and ſhewed mankind the neceſſity of thinking for themſelves, in order to become truly learned. He began with taking a view of the various objects of human knowledge: he divided theſe objects into claſſes; he examined what was already

* The greateſt blame is generally laid on his ſervants; and there is no doubt but ſome of them were guilty, and that their lord had this opinion of them. One day, during his trial, paſſing through a room where ſeveral of his domeſtics were ſitting, upon their riſing up to ſalute him, he ſaid, "Sit down, my maſters, your riſe hath been my fall."

known,

known, in regard to each of them; and he drew up an immenſe catalogue of what yet remained to be diſcovered. He went even further: he ſhewed the neceſſity of experimental phyſics, and of reaſoning experimentally on moral ſubjects*.

This great man died on the 9th of April, 1626, and was interred in St. Michael's church, St. Alban's, where a monument was erected for him by Sir Thomas Meautys, once his ſecretary, and afterwards clerk of the council. His effigy is in alabaſter, with a Latin inſcription, by Sir Henry Wotton, of which the following is a tranſlation:

"Francis Bacon, Baron of Verulam, Viſcount St. Alban's, or by more conſpicuous titles; of ſciences the light, of eloquence the law, ſat thus: who, after all natural wiſdom and ſecrets of life he had unfolded, Nature's law fulfilled, 'Let compounds be diſſolved!' in the year of our Lord, 1626, of his age 66."

Let the young reader, however, who admires his ſplendid talents, beware of imitating his defects. Integrity is to be held faſt, whatever be the conſequence.

* His works, collected into 5 vols. 4to, were beautifully and accurately printed by Bowyer and Strahan, in 1765.

CHAP.

CHAP. VII.

ADMIRAL BLAKE.

THIS famous admiral, was born in 1599, at Bridgewater, in Somerſetſhire, and educated at Oxford, where he wrote a copy of verſes on the death of Camden. He was pretty early tinctured with republican principles; and diſliking that ſeverity with which Laud, then biſhop of Bath and Wells, preſſed uniformity in his dioceſe, he began to fall into the puritanical opinions. The natural bluntneſs and ſincerity of his diſpoſition, led him to ſpeak freely upon all occaſions, inſomuch that, his ſentiments being generally known, the puritan party got him elected member for Bridgewater in 1640. When the civil war broke out, he declared for the parliament. However, when the king came to be tried, Blake diſapproved of that meaſure, as illegal, and was frequently heard to ſay, he would as freely venture his life to ſave the king's, as ever he did to ſerve the parliament. But this is thought to have been chiefly owing to the humanity of his temper; ſince, after the death of the king, he fell in wholly with the republican party, and next to Cromwell, was the ableſt officer the parliament had.

In 1649, he was appointed to command the fleet, in conjunction with colonels Deane and Popham. Soon after, he was ordered to ſail with a ſquadron of men of war, in purſuit of prince Rupert, whoſe fleet had ſteered their courſe to Liſbon, where they were pro-

tected by the king of Portugal. The king, however, refuſing to allow the admiral to attack the prince, Blake took five of the Brazil fleet richly laden, and at the ſame time ſent notice to him, that unleſs he ordered the prince's ſhips out of his river, he would ſeize the reſt of the Portugueſe ſhips from America. In 1650, the prince endeavoured to get out of the harbour, but was driven in again by Blake, who ſent to England nine Portugueſe ſhips bound for Brazil. Theſe were ſcarcely arrived, when he and Popham met with a fleet of twenty-three ſail from Brazil for Liſbon, of whom they ſunk the admiral, took the vice-admiral, and eleven other ſhips, having 10,000 cheſts of ſugar on board.

In his return home, he took a French man of war, the captain of which had committed hoſtilities. He ſent this prize, which was reported to be worth a million, into Calais, and followed the prince to the port of Carthagena, where he lay with the remainder of his fleet. In the mean time, prince Rupert ſailed to Malaga. Blake having received information that he had deſtroyed many Engliſh ſhips, followed him, and attacked him in the port, in January, 1651, entirely defeated him, and burnt his whole fleet, two only excepted. In February, he took a French man of war of forty guns, and ſent it with other prizes, to England. Soon after he came with his ſquadron to Plymouth, when he received the thanks of the parliament, and was made warden of the Cinque Ports. In 1652, he was appointed ſole admiral for nine months,

months, on a proſpect of a Dutch war. The ſtates ſent Van Trump, with forty-five ſail of men of war, into the Downs, to inſult the Engliſh. Blake, however, though he had but twenty-three ſhips, and could expect no ſuccour but from major Bourne, who commanded eight more, yet, being attacked by Van Trump, fought him bravely, and forced him to retreat. In this, and two ſucceſſive engagements, the Dutch loſt eleven men of war, thirty merchant ſhips, and had fifteen hundred men ſlain. The Engliſh loſt only one ſhip, but not fewer men than the enemy.

When Cromwell aſſumed the ſupreme power, the ſtates hoped to gain great advantage from it, but were diſappointed. Blake ſaid on this occaſion to his officers, "*It is not for us to mind ſtate affairs, but to keep foreigners from fooling us.*" Towards the end of April, 1653, Blake and his colleagues, with a fleet of an hundred ſail, ſtood over to the Dutch coaſt, and forced their fleet to take ſhelter in the Texel; where, for ſome time, they were kept by Monk and Deane, while Blake ſailed northward: at laſt Trump got out, and drew together a fleet of an hundred and twenty men of war. On the 3d of June, Deane and Monk engaged him at the North Foreland. On the 4th, Blake came to their aſſiſtance with eighteen freſh ſhips, by which means a complete victory was gained, and if the Dutch had not again ſaved themſelves on Calais ſands, their whole fleet had been ſunk or taken.

While the fleet was in the Mediterranean, the Algerines were ſo much afraid of this brave admiral, that

they ſtopped their Sallee rovers, obliged them to deliver up what Engliſh priſoners they had on board, and ſent them to Blake in order to procure his favour. The dey of Tunis, however, ſent him a haughty anſwer. "Do your worſt," ſaid he; "do you think we fear your fleet?" On hearing this, Blake, as his cuſtom was when in a paſſion, began to curl his whiſkers; and, after a ſhort conſultation with his officers, bore into the bay of Porto Ferino with his great ſhips, when, coming within muſquet-ſhot of the caſtle, he fired on it ſo briſkly, that in two hours it was rendered defenceleſs, and the guns on the works along the ſhore were diſmounted, though ſixty of them played at a time upon the Engliſh. He found nine ſhips in the road, and ordered every captain, even of his own ſhip, to man his long-boat with choice men, in order to enter the harbour and fire the Tuniſeens, while he and his fleet covered them from the caſtle, by playing continually on it with their cannon. The ſeamen in their boats boldly aſſaulted the pirates, and burnt all their ſhips, with the loſs of twenty-five men killed, and forty-eight wounded. This daring action ſpread the terror of his name through Africa and Aſia, which had for a long time before been formidable in Europe.

Not long after this, the Spaniſh plate fleet made their appearance, when a ſhip with two millions of plate on board, and another very richly laden, were taken near Cadiz. Theſe prizes, together with all the priſoners, were ſent into England under general Montague,

Montague, and Blake remained in the Mediterranean, till being informed that another plate fleet had put into Santa Cruz, in the iſland of Teneriffe, he ſailed thither in April, 1657, with a fleet of twenty-five men of war. On the 20th, he came into the road of Santa Cruz, and, though the Spaniſh governor had timely notice, was a man of courage and conduct, and had diſpoſed all things in the moſt proper manner, ſo that he looked upon an attack as what no wiſe admiral would think practicable; yet Blake, having ſummoned him, and received a ſhort anſwer, was determined to force the place, and to burn the fleet; which he performed in ſuch a manner as appears next to incredible. It is allowed to be one of the moſt remarkable actions that ever happened at ſea. Upon his return to the Mediterranean, he cruized ſome time before Cadiz; but finding himſelf declining faſt, reſolved to return home. He accordingly ſailed for England, but lived not to ſee his native land; for he died juſt as the fleet was entering Plymouth, on the 17th of Auguſt, 1657, aged 58.

CHAP. VIII.

MILTON.

MR. JOHN MILTON, a moſt illuſtrious Engliſh poet, was deſcended from an ancient family in the vicinity of Oxford. His father embraced the Proteſtant religion in his youth, and was on that account diſinherited. This event brought him to London,

where he applied himſelf to the buſineſs of a ſcrivener, and, marrying afterwards a lady of good family, ſettled in a houſe which he purchaſed in Bread-ſtreet. Here the poet, his eldeſt ſon, was born, in 1608, and trained with great care from his infancy by his parents. He applied ſo intenſely to books, at St. Paul's ſchool, that he hurt his conſtitution; for, after he was twelve years of age, he ſat up half the night at his ſtudies. This is ſuppoſed to have done the firſt injury to his eyes, of which he afterwards entirely loſt the ſight. He made an extraordinary progreſs, and gave ſome early ſpecimens, both in Latin and Engliſh, of an admirable genius for poetry.

At Cambridge he neglected no part of academical learning, although his chief pleaſure lay in cultivating his poetical talents. After he had taken the degree of maſter of arts, he left the univerſity, and returned to his father; who, having acquired a competent fortune, had retired into Buckinghamſhire. In this retreat, Milton enriched his mind with the choiceſt ſtores of Grecian and Roman learning; and the poems entitled, *Comus*, *l'Allegro*, *Il Penſeroſo*, and *Lycidas*, all written in that county, would have tranſmitted his fame to the lateſt poſterity, if he had never performed any thing elſe.

During the period of the commonwealth, he was much engaged in political controverſies; but after the reſtoration, he applied himſelf diligently to finiſh his immortal poem, *Paradiſe Loſt*. In this purſuit, he had a perſon to read to him; and Mr. Ellwood, afterwards

wards an eminent writer among the Quakers, attended him for this purpoſe.

When the poem was finiſhed, he put it into Mr. Ellwood's hands, deſiring him to read it over, and give him his opinion of it. Upon returning it, he modeſtly and freely did ſo. "And after ſome farther diſcourſe about it," ſays Mr. Ellwood, "I pleaſantly told him, that he had ſaid much of Paradiſe Loſt, but what had he to ſay of Paradiſe found?" From this hint he immediately began his Paradiſe Regained.

This incomparable poet died in 1674, at his houſe near Bunhill fields, and was interred near his father in the chancel of St. Giles, Cripplegate; but no monument being found there afterwards, a decent one was erected in 1737, in Weſtminſter-abbey, by Mr. Benſon.

Dryden paſſes on Milton, the following high encomium:

"Three poets in three diſtant ages born,
"Greece, Italy, and England, did adorn:
"The firſt in loftineſs of thought ſurpaſs'd,
"The next in majeſty, in both the laſt.
"The force of nature could no farther go;
"To make a third ſhe join'd the other two."

CHAP. IX.

MR. LOCKE.

MR. JOHN LOCKE, the celebrated philoſopher, author of the *Eſſay on the Human Underſtanding*, *Thoughts on Education*, &c. was born in Somerſetſhire, in 1652. His father, who had been bred to the law, was ſteward to colonel Alexander Popham; but on the commencement of the civil wars, he became a captain in the army of the parliament. As he was very deſirous that his ſon might receive a good education, he placed him at Weſtminſter-ſchool, where he remained till he had attained the age of nineteen, at which period he was removed to Oxford, where he ſoon diſtinguiſhed himſelf by his abilities. He entered upon the ſtudy of phyſic, and even practiſed it at Oxford; but finding his conſtitution unfit for the fatigue of too much buſineſs, he gave it up, and began to apply himſelf to philoſophy. He had alſo, at different times, ſeveral places under government.

It is remarkable, that Sir Iſaac Newton's Principia was finiſhed about the ſame time with Mr. Locke's Eſſay on the Human Underſtanding; works in which both introduced a new and true way of philoſophiſing, founded upon experience and obſervation; and which effectually overturned the philoſophy of Deſcartes, the one with regard to the great ſyſtem of the world, and the other in the ſyſtem of men.

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This eminent man had a great knowledge of the world, and of the buſineſs of it; and his probity, his wiſdom, his experience, and his gentle manners, gained him the reſpect of his inferiors, the eſteem of his equals, and the friendſhip and confidence of the great. He was at firſt pretty much diſpoſed to give advice where he thought it was wanted; but experience of the little effect it generally produced, made him grow more reſerved. His converſation, for the moſt part, turned upon uſeful and ſerious ſubjects; yet, when an opportunity naturally occurred, he readily entered into the free and facetious. He was maſter of a number of entertaining ſtories, which he always introduced with great propriety, and told in a very agreeable manner; and he was no enemy even to raillery, when delicate and innocent. He was fond of converſing with mechanics in their own way; and uſed to ſay, that the knowledge of the arts contained more true philoſophy than learned hypotheſes. By putting queſtions to artificers, he would ſometimes diſcover a ſecret in their art, which they did not well underſtand themſelves, and by theſe means give them views entirely new, which they put in practice much to their advantage. He took delight in making uſe of his reaſon in every thing he did. He often uſed to ſay himſelf, that there was an art in every thing; and it was eaſy to be convinced of it, to ſee the manner in which he went about the moſt trifling thing he did, and always with ſome good reaſon.

Mr. Locke died on the 28th of October, 1704, in the ſeventy-third year of his age. A little before his death he declared, "*that he was in the ſentiments of perfect charity towards all men, and of a ſincere union with the church of Chriſt, under whatever name diſtinguiſhed.*"

In the latter end of his life he contracted a friendſhip with Anthony Collins, eſq. to whom he left a letter to be delivered after his death, which concludes with the following remarkable words: "May you live long and happy in the enjoyment of health, freedom, content, and all thoſe bleſſings which Providence has beſtowed on you, and your virtue entitles you to. You loved me living, and will preſerve my memory now I am dead. All the uſe to be made of it is, *that this life is a ſcene of vanity, which ſoon paſſes away, and affords no ſolid ſatisfaction, but in the conſciouſneſs of doing well, and in hopes of another life. This is what I can ſay upon experience, and what you will find to be true when you come to make up the account. Adieu.*"

The higheſt eulogium was beſtowed upon Mr. Locke by queen Caroline; who, having erected a pavilion in honour of philoſophy in Richmond park, placed there our author's buſt with thoſe of Bacon, Newton, and Clarke, as the four greateſt of the Engliſh philoſophers.

CHAP.

CHAP. X.

SIR ISAAC NEWTON.

THIS celebrated philoſopher and mathematician, was born in Lincolnſhire, on Chriſtmas-day, 1642. He loſt his father in his infancy; ſo that the care of his education fell to his mother, who, at twelve years of age, ſent him to the grammar-ſchool at Grantham; and after ſome years ſpent there, took him home, with the view of introducing him into country buſineſs, that he might ſooner be able to manage his own eſtate himſelf. But, finding him ſtick cloſe to his books, without any turn to buſineſs, ſhe reſolved not to croſs his inclination, and ſent him back to Grantham, where he ſtayed till he was eighteen years of age, when he removed to Trinity-college, in Cambridge, in 1660. He had not been long at the univerſity, when he turned his thoughts to the mathematics.

In this ſtudy he ſet out in the uſual method, and firſt took up Euclid. He underſtood the ſeveral demonſtrations at the firſt reading, and a caſt of his eye upon the contents of the theorems, was ſufficient to make him maſter of them. Some years after, he procured a glaſs priſm, in order to try the phænomena of colours. He was much pleaſed at firſt with the vivid brightneſs of the colours produced by this experiment; but, after a while, applying himſelf to conſider them in a philoſophical way, with that circumſpection

which was natural to him, he became immediately ſurpriſed to ſee them in an oblong form, which, according to the received rule of refractions, ought to be circular. At firſt he thought the irregularity might poſſibly be no more than accidental; but this was what he could not leave without further enquiry: accordingly, he ſoon invented an infallible method of deciding the queſtion, and the reſult was, his "New Theory of Light and Colours."

However, the theory alone, unexpected and ſurpriſing as it was, did not ſatisfy him; he rather conſidered the proper uſe that might be made of it for improving teleſcopes, which was his firſt deſign. To this end, having now diſcovered that light was not homogeneous, but an heterogeneous mixture of different refrangible rays, he computed the errors ariſing from this different refrangibility. He was now ſenſible that optical inſtruments might be brought to any degree of perfection deſired, in caſe there could be found a reflecting ſubſtance which would poliſh as finely as glaſs, and reflect as much light as glaſs tranſmits.

Amidſt theſe thoughts, he was forced from Cambridge, in 1665, by the plague; and it was more than two years before he made any further progreſs. However, he was far from paſſing the time idly in the country; on the contrary, it was here, at this time, that he firſt ſtarted the hint that gave riſe to the ſyſtem of the world, which is the main ſubject of his "Principia." He was ſitting alone in the garden, when

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ſome apples falling from a tree, led his thoughts upon the ſubject of gravity; and reflecting upon the power of that principle, he began to conſider, that, as this power is not found to be ſenſibly diminiſhed at the remoteſt diſtance from the centre of the earth, to which we can riſe, neither at the tops of the loftieſt buildings, nor on the ſummit of the higheſt mountains, it appeared to him reaſonable to conclude, that this power muſt extend much farther than is uſually thought. "Why not as high as the moon?" ſaid he to himſelf; "and, if ſo, her motion muſt be influenced by it." By arguing in this manner, he inferred, that, if the moon be retained in her orbit by the force of gravity, no doubt the primary planets are carried about the ſun by the like power; and by comparing the periods of the ſeveral planets with their diſtances from the ſun, he found, that, if any power like gravity held them in their courſes, its ſtrength muſt decreaſe in the duplicate proportion of increaſe of diſtance. This he concluded, by ſuppoſing them to move in perfect circles, concentric to the ſun, from which the orbits of the greateſt part of them do not much differ. Suppoſing, therefore, the power of gravity, when extended to the moon, to decreaſe in the ſame manner, he computed whether that force would be ſufficient to keep the moon in her orbit.

This great philoſopher died on the 20th of March, 1727, in the eighty-fifth year of his age. His corpſe lay in ſtate in the Jeruſalem-chamber, and on the 28th was conveyed into Weſtminſter-abbey, the lord-chan-

cellor, the dukes of Montroſe and Roxburgh, and the earls of Pembroke, Suſſex, and Macclesfield, holding up the pall. He was interred near the entrance into the choir, on the left hand, where a ſtately monument is erected to his memory, with an inſcription upon it, drawn up with the moſt conſummate elegance.

Sir Iſaac Newton was of a very meek diſpoſition, and a great lover of peace; he would rather have choſen to remain in obſcurity, than to have the calm of life ruffled by thoſe ſtorms and diſputes which genius and learning always draw upon thoſe who are too eminent for them. In contemplating his genius, it preſently becomes a doubt, which of theſe endowments had the greateſt ſhare, ſagacity, penetration, ſtrength, or diligence; and, after all, the mark that ſeems moſt to diſtinguiſh it is, that he himſelf made the juſteſt eſtimation of it, declaring, that, if he had done the world any ſervice, it was due to nothing but induſtry and patient thought; that he kept the ſubject under conſideration conſtantly before him, and waited till the firſt dawning opened gradually, by little and little, into a full and clear light. And hence, no doubt, aroſe that unuſual kind of horror which he had for all diſputes; a ſteady unbroken attention, free from thoſe frequent recoilings inſeparably incident to others, was his peculiar felicity; he knew it, and he knew the value of it. No wonder, then, that controverſy was looked on as his bane, when ſome objections, haſtily made to his diſcoveries concerning light and colours, induced him to lay aſide the deſign he had of

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publiſhing his optical lectures. We find him reflecting upon that diſpute to which he was unavoidably drawn, in theſe terms: "I blamed my own imprudence for parting with ſo real a bleſſing as my quiet, to run after a ſhadow."

With regard to his perſon, he was of a middling ſtature, and ſomewhat inclined to be fat in the latter part of his life. His countenance was pleaſing and venerable. He never made uſe of ſpectacles, and loſt but one tooth during his whole life.

His works were collected, in 1784, with a valuable commentary, in five handſome quarto volumes, by the Rev. Dr. Horſley, now biſhop of Rocheſter.

CHAP. XI.

ADDISON.

THE celebrated Joſeph Addiſon, eſq. ſon of Dr. Addiſon, dean of Litchfield, was born in the year 1672. He ſtudied the Latin and Greek languages, for ſome time, in the Charter-houſe, where he commenced his acquaintance with Sir Richard Steele. About fifteen he was entered at Queen's-college, Oxford, where he applied very cloſely to the ſtudy of claſſical learning, in which he made a ſurpriſing proficiency.

Mr. Addiſon had been cloſely preſſed, while at the univerſity, to enter into holy orders, and had once reſolved upon it; but his great modeſty, his natural diffidence, and an uncommon delicate ſenſe of the im-

portance of the ſacred function, made him afterwards alter his reſolution; and having expreſſed an inclination to travel, he was encouraged thereto by his patron, ſir John Somers, who by his intereſt procured him from the crown a penſion of 300l. per annum, to ſupport him in his travels. He accordingly made a tour to Italy in the year 1699; and, in 1701, he wrote a poetical epiſtle from Italy to the earl of Halifax, which has been univerſally eſteemed as a moſt excellent performance.

When he returned to England in 1702, with a meanneſs of appearance which gave teſtimony to the difficulties to which he had been reduced, he found his old patrons out of power; but he remained not long neglected, or uſeleſs. The victory at Blenheim, 1704, ſpread triumph and confidence over the nation, and lord Godolphin, lamenting to lord Halifax that it had not been celebrated in a manner equal to the ſubject, deſired him to propoſe it to ſome better poet. Halifax named Addiſon: who, having undertaken the work, communicated it to the treaſurer, while it was yet advanced no further than the ſimile of the angel, and was immediately rewarded by ſucceeding Mr. Locke in the place of commiſſioner of appeals. In the following year he was at Hanover with lord Halifax; and the year after, he was made under ſecretary of ſtate to ſir Charles Hedges; in which office he acquitted himſelf ſo well, that the earl of Sunderland, who ſucceeded ſir Charles, continued Mr. Addiſon in his employment.

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The marquis of Wharton, being appointed lord lieutenant of Ireland in 1709, took Mr. Addiſon with him as his ſecretary. Her majeſty alſo made him keeper of the records of Ireland, and as a farther mark of her favour, conſiderably augmented the ſalary annexed to that place. Whilſt he was in this kingdom, the Tatler was firſt publiſhed, and he diſcovered his friend, ſir Richard Steele, to be the author, by an obſervation on Virgil, which he had communicated to him. He afterwards aſſiſted conſiderably in carrying on this paper, which the author acknowledges. The Tatler being laid down, the Spectator was ſet on foot, and Mr. Addiſon furniſhed great part of the moſt admired papers. The Spectator made its firſt appearance in March, 1711, and was brought to a concluſion in September, 1712.

His celebrated Cato appeared in 1713. He formed the deſign of a tragedy upon this ſubject when he was very young, and wrote it when on his travels. He retouched it in England, without any intention of bringing it upon the ſtage; but his friends being perſuaded it would ſerve the cauſe of liberty, he was prevailed on by their ſolicitations, and it was accordingly exhibited on the theatre, with a prologue by Mr. Pope, and an epilogue by Dr. Garth. It was received with the moſt uncommon applauſe, having run thirty-five nights without interruption. The whigs applauded every line in which liberty was mentioned, as a ſatire on the tories; and the tories echoed every clap, to ſhew that the ſatire was unfelt.

About

About this time, another paper, called the Guardian, was publiſhed by Steele, to which Addiſon was a principal contributor. It was a continuation of the Spectator; and was diſtinguiſhed by the ſame elegance, and the ſame variety; but, in conſequence of Steele's propenſity to politics, was abruptly diſcontinued, to write the Engliſhman. The papers of Addiſon are marked in the Spectator by one of the letters in the name of *Clio*, and in the Guardian by a *hand*.

Before the arrival of king George, he was made ſecretary to the regency, and was required by his office to ſend notice to Hanover that the queen was dead, and that the throne was vacant. To do this would not have been difficult to any man but Addiſon, who was ſo overwhelmed with the greatneſs of the event, and ſo diſtracted by choice of expreſſion, that the lords, who could not wait for the niceties of criticiſm, called Mr. Southwell, a clerk in the houſe, and ordered him to diſpatch the meſſage. Southwell readily told what was neceſſary in the common ſtyle of buſineſs, and valued himſelf to have done what was too hard for Addiſon.

In 1716, he married the counteſs-dowager of Warwick, whom he is ſaid to have firſt known by becoming tutor to her ſon. The year after, he roſe to his higheſt elevation, being made ſecretary of ſtate. In this office, however, he did not long continue, on account of his declining health. He died at Holland-houſe, in the year 1719, leaving no child but a daughter. The interview he had with the earl of Warwick

Warwick on his death-bed, was of a very ſolemn nature. Lord Warwick was a young man of very irregular life, and, perhaps, of looſe opinions. Addiſon, for whom he did not want reſpect, had very diligently endeavoured to reclaim him; but his arguments and expoſtulations had no effect. One experiment, however, remained to be tried. When he found his life near its end, he directed the young lord to be called; and when he deſired, with great tenderneſs, to hear his injunctions, told him, "I have ſent for you that you may ſee how a chriſtian can die." What effect this awful ſcene had on the earl's behaviour is not known; he died himſelf in a ſhort time.

This delightful writer always employed wit on the ſide of virtue and religion. He diſſipated the prejudice that had long connected gaiety with vice, and eaſineſs of manners with laxity of principles. He reſtored virtue to its dignity, and taught innocence not to be aſhamed. This is an elevation of literary character, "above all Greek, above all Roman fame." No greater felicity can genius attain, than that of having purified intellectual pleaſure, ſeparating mirth from indecency, and wit from licentiouſneſs; of having taught a ſucceſſion of writers to bring elegance and gaiety to the aid of goodneſs. As a delineator of life and manners, Mr. Addiſon muſt be allowed to ſtand the firſt in the firſt rank. His humour, which, as Steele obſerves, is peculiar to himſelf, is ſo happily diffuſed, as to give the grace of novelty to domeſtic

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ſceues and daily occurrences. He never "outſteps the modeſty of nature," nor raiſes merriment or wonder by the violation of truth.

CHAP. XII.

DUKE OF MARLBOROUGH.

JOHN CHURCHILL, duke of Marlborough, the eldeſt ſon of a Devonſhire baronet, was born on Midſummer-day, in 1650. A clergyman in the neighbourhood inſtructed him in the firſt principles of literature; but his father, having other views than what a learned education afforded, carried him early to court, where he was particularly noticed by James, duke of York, when he was no more than twelve years of age. He had a pair of colours given him in the guards, during the firſt Dutch war in 1666.

In 1672, the duke of Monmouth, commanding a body of Engliſh auxiliaries in the ſervice of France, Churchill attended him, and was ſoon after made a captain of grenadiers in his grace's own regiment. He had a ſhare in all the actions of that famous campaign againſt the Dutch; and at the ſiege of Nimeguen, diſtinguiſhed himſelf ſo much, that he was particularly taken notice of by the celebrated marſhal Turenne. He ſhone out alſo with ſo much eclat at the reduction of Maeſtricht, that the French king thanked him for his behaviour at the head of the line, and aſſured him he would acquaint his ſovereign of it, which he did; and the duke of Monmouth, on his return to England,

land, told the king his father how much he had been indebted to the bravery of captain Churchill.

The laurels he brought from France were ſure to gain him preferment at home; accordingly the king made him a lieutenant-colonel, and the duke made him gentleman of his bed-chamber, and ſoon after maſter of the robes.

In 1685, he aſſiſted at the coronation of James II. and was created a peer of England by the title of baron Churchill. During this unhappy reign, he very prudently declined meddling much in buſineſs, ſpoke little, except when his advice was aſked, and then always recommended moderate meaſures. He declared very early to lord Galway, that if his maſter attempted to overturn the eſtabliſhed religion, he would not ſupport him.

The prince and princeſs of Orange being declared king and queen of England, lord Churchill was ſworn of their privy council, and raiſed to the dignity of earl of Marlborough, in the county of Wilts. Not long after, he was made commander in chief of the Engliſh forces ſent over to Holland. He preſided at the battle of Walcours, and gave ſuch extraordinary proofs of his ſkill, that prince Waldeck, ſpeaking in his commendation to the king, declared, that "he ſaw more into the art of war in a day, than ſome generals in many years." In 1698, king William appointed him governor to the duke of Glouceſter, with this extraordinary compliment, "*My lord, make him*

him but what you are, and my nephew will be all I wiſh to ſee him."

During the reign of queen Anne, the honour of the Britiſh arms was carried to an amazing height, particularly by Marlborough, who excelled both as a general and a ſtateſman. No ſooner was he placed at the head of the Engliſh army abroad, than his genius and activity were ſoon conſpicuous, and he became as much the favourite of the Dutch, as his wife was of the queen. In the courſe of the war, the pride of France was humbled, and ſeveral glorious victories were obtained by the earl, who was ſoon made duke of Marlborough. Thoſe of Blenheim and Ramilies, gave the firſt effectual check to the French power. By that of Blenheim, in 1704, the empire of Germany was ſaved from immediate deſtruction. Though prince Eugene was that day joined in command with the duke, yet the glory of the day was confeſſedly owing to the latter. The French general Tallard, was taken priſoner, and ſent to England; and 20,000 French and Bavarians were killed, wounded, or drowned in the Danube, beſides about 30,000 who were taken, and a proportionable number of cannon, artillery, and trophies of war. The battle of Ramilies, in 1706, was fought and gained under the duke of Marlborough alone. The loſs of the enemy there has been variouſly reported; it is generally ſuppoſed to have been 8000 killed or wounded, and 6000 taken priſoners; but the conſequence ſhewed its importance.

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The houſe of commons now addreſſed the queen for leave to bring in a bill to ſettle the duke's honours upon the male and female iſſue of his daughters. This was granted, and Blenheim-houſe, with the manor of Woodſtock, was, after the deceaſe of the ducheſs, on whom they were ſettled in jointure, entailed in the ſame manner with the honours.

Some time after this, the queen's affections were alienated from the ducheſs of Marlborough, and the whig adminiſtration. Her friends loſt their places, which were ſupplied by tories, and even the command of the army was taken from the duke of Marlborough in 1712, and given to the duke of Ormond, who produced orders for a ceſſation of arms, but they were diſregarded by the queen's allies in the Britiſh pay. And, indeed, the removal of the duke of Marlborough from the command of the army, while the war continued, was an act of the greateſt imprudence, and excited the aſtoniſhment of all Europe. So numerous had been his ſucceſſes, and ſo great his reputation, that his very name was almoſt equivalent to an army.

After the duke was diſmiſſed from all his employments, a proſecution was commenced againſt him by the attorney-general, for applying public money to his private uſe; and the workmen employed in building Blenheim-houſe, though ſet at work by the crown, were encouraged to ſue him for the money that was due to them. All his actions were alſo ſhamefully miſrepreſented. This unkind treatment induced him to go into voluntary exile. Accordingly, he embarked

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at Dover on the 14th of November, 1712, and landing at Oſtend, went to Antwerp, and ſo to Aix-la-Chapelle, being every where received with the honours due to his high rank and merit.

On the arrival of George I. however, he was particularly diſtinguiſhed by acts of royal favour; for he was again declared captain-general and commander in chief of all his majeſty's land forces, colonel of the firſt regiment of foot guards, and maſter of the ordnance. His death happened on the 16th of June, 1722, in the ſeventy-third year of his age, and his corpſe was interred, with the higheſt ſolemnity, in Weſtminſter-abbey.

CHAP. XIII.

GENERAL WOLFE.

MAJOR-GENERAL JAMES WOLFE, was the ſon of lieutenant-general Edward Wolfe, and was born at Weſterham, in the county of Kent, on the 11th of January, 1726. He ſeemed by nature formed for military greatneſs. His memory was retentive, his judgment deep, and his apprehenſion amazingly quick and clear. His conſtitutional courage was not only uniform and daring, perhaps to an extreme, but he poſſeſſed that higher ſpecies of it, that ſtrength, ſteadineſs, and activity of mind, which no difficulties could obſtruct, or dangers deter. With an univerſal livelineſs, almoſt to impetuoſity of temper, he was not ſubject to paſſion; with the greateſt independence of ſpirit, free from pride. Generous, almoſt

almoſt to profuſion, he contemned every little art for the acquiſition of wealth; whilſt he ſearched after objects for his charity and benevolence, the deſerving ſoldier never went unrewarded, and even the needy inferior officers frequently taſted of his bounty. Conſtant and diſtinguiſhing in his attachments, manly and unreſerved, yet gentle, kind, and conciliating in his manners, he enjoyed a large ſhare of the friendſhip, and almoſt the univerſal good-will of mankind. And to crown all, ſincerity and candour, a true ſenſe of honour, juſtice, and public liberty, ſeemed the inherent principles of his nature, and the uniform rule of his conduct.

He betook himſelf when very young to the profeſſion of arms; and with ſuch talents, joined to the moſt unwearied aſſiduity, no wonder he was ſoon ſingled out as a moſt riſing military genius. Even ſo early as the battle of La-feldt, when ſcarcely twenty, he exerted himſelf in ſo maſterly a manner, at a very critical juncture, that it drew the higheſt encomiums from the great officers then at the head of the army. During the whole war, he went on, without interruption, forming his military character; was preſent at every engagement, and never paſſed undiſtinguiſhed. Even after the peace, whilſt others lolled on pleaſure's downy lap, he was cultivating the arts of war. He introduced (without one act of inhumanity) ſuch regularity and exactneſs of diſcipline into his corps, that, as long as the ſix Britiſh battalions on the plains of Minden, are recorded in the

the annals of Europe, ſo long will Kingſley's ſtand among the foremoſt of that day.

Of that regiment he continued lieutenant-colonel, till the great miniſter, who rouſed the ſleeping genius of his country, called him forth into higher ſpheres of action. He was early in the moſt ſecret conſultation for the attack upon Rochfort; and what he would have done there, and what he afterwards did at Louiſbourg, are very well known to the world.

He was ſcarcely returned thence, when he was appointed to command the important expedition againſt Quebec. There his abilities ſhone out in their brighteſt luſtre: in ſpite of many unforeſeen difficulties, from the nature of the ſituation, from great ſuperiority of numbers, the ſtrength of the place itſelf, and his own bad ſtate of health, he perſevered with unwearied diligence, practiſing every ſtratagem of war to effect his purpoſe. At laſt, ſingly, and alone in opinion, he formed and executed that great, that dangerous, yet neceſſary plan, which drew out the French to their deſeat, and will forever denominate him the conqueror of Canada. But here tears will flow; for, when he was within the graſp of victory, he firſt received a ball through his wriſt, which immediately wrapping up, he went on, with the ſame alacrity, animating his troops by precept and example: he next received a ſhot in the groin, which he alſo concealed. Even after the mortal bullet had pierced his breaſt, he ſuffered himſelf unwillingly to be carried behind the ranks. Under all the agonies of approaching

proaching diſſolution, his anxiety for the fortune of the field continued; and when told that the French army was totally routed, and fled on all ſides, "Then," ſaid he, "I am happy!" and inſtantly expired in a kind of patriotic tranſport, which ſeemed to diffuſe over his darkening countenance, an air of exultation and triumph. His death happened on the 13th of September, 1759, in the thirty-third year of his age.

To all the qualities of a hero, general Wolfe united thoſe which conſtitute the great commander. He needed only years, and opportunity of action, to place him on a level with the moſt celebrated general of any age or nation; to moderate his ardour, expand his faculties, and give to his intuitive perception and ſcientific knowledge, the correctneſs of judgment perfected by experience.

CHAP. XIV.

CAPTAIN COOK.

CAPTAIN JAMES COOK, was born at Marton in Cleveland, in the county of York, on the 3d of November, 1728. His father, who was a day-labourer, bound him apprentice at the age of ſeventeen, to William Saunderſon, for four years, to learn the grocery and haberdaſhery buſineſs, at Snaith, a populous fiſhing-town about ten miles from Whitby; but after a year and half's ſervitude, having contracted a very ſtrong propenſity to the ſea, Mr. Saunderſon

was willing to indulge him in following the bent of his inclination, and gave up his indentures. While he continued at Snaith, by Mr. Saunderſon's account, he diſcovered much ſolidity of judgment, and was remarkably quick at accounts. In July, 1746, he was bound apprentice to Mr. J. Walker, of Whitby, for the term of three years, which time he ſerved to his maſter's full ſatisfaction.

Early in the year 1752, Mr. Walker ſent for him, and made him mate of one of his veſſels, called the Friendſhip, about 400 tons burden. In this ſtation he continued till May or June, 1753, in the coal trade. At that period, Mr. Walker made him an offer to go as commander of that ſhip, but he declined it; ſoon after he left her at London, and entered on board his majeſty's ſhip Eagle, a frigate of 28 or 30 guns, "having a mind (as he expreſſed himſelf to his maſter) "to try his fortune that way."

He received his commiſſion as lieutenant, on the firſt day of April, 1760; and ſoon after gave a ſpecimen of thoſe abilities which recommended him to the commands which he executed ſo highly to his credit, that his name will go down to poſterity as one of the moſt ſkilful navigators which this country has produced.

To a perfect knowledge of all the duties belonging to a ſea life, Mr. Cook had added a great ſkill in aſtronomy. In the year 1767, the Royal Society reſolved, that it would be proper to ſend perſons into ſome parts of the ſouth ſeas, to obſerve the tranſit of

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the planet Venus over the ſun's diſk, and by a memorial delivered to his majeſty, they recommended the iſlands of Marqueſas de Mendoza, or thoſe of Rotterdam, or Amſterdam, as the propereſt place then known for making ſuch obſervations. To this memorial a favourable anſwer was returned; and the Endeavour, a ſhip built for the coal-trade, was put in commiſſion, and the command of her given to lieutenant Cook. But before the veſſel was ready to ſail, captain Wallis returned from his voyage, and pointed out Otaheite as a place more proper for the purpoſe of the expedition, than either of thoſe mentioned by the Royal Society. This alteration was approved of, and our navigator was appointed by that learned body, with Mr. Charles Green, to obſerve the tranſit.

On this occaſion, lieutenant Cook was promoted to be captain. He immediately hoiſted the pendant, and took command of the ſhip, in which he ſailed down the river on the 30th of July, 1768. In this voyage he was accompanied by Joſeph Banks, eſq. ſince ſir Joſeph Banks, bart. knight of the Bath, and preſident of the Royal Society, and Dr. Solander. On the 13th of October, he arrived at Rio de Janeiro, and, on the 13th of April, 1769, came to Otaheite, where the tranſit of Venus was obſerved in different parts of the iſland. He ſtaid there till the 13th of July, after which he went in ſearch of ſeveral iſlands, which he diſcovered. He then proceeded to New Zealand, and, on the 12th of October, 1770, arrived at Batavia, with a veſſel almoſt worn out, and the

crew very ſickly. He reached the Cape of Good Hope on the 15th of March, 1771, anchored at St. Helena on the 1ſt of May, from whence he ſailed on the 4th, and came to anchor in the Downs on the 12th of June, after having been abſent almoſt three years; and in that time had experienced every danger to which a voyage of ſuch a length is incident, and in which he had made diſcoveries equal to thoſe of all the navigators of his country from the time of Columbus to the preſent.

Soon after captain Cook's return to England, it was reſolved to equip two ſhips to complete the diſcovery of the ſouthern hemiſphere. It had long been a prevailing idea, that the unexplored part contained another continent. To aſcertain the fact was the principal object of this expedition; and that nothing might be omitted that could tend to facilitate the enterprize, two ſhips were provided, furniſhed with every neceſſary which could promote the ſucceſs of the undertaking. The firſt of theſe ſhips was called the Reſolution, under the command of captain Cook; the other the Adventure, commanded by captain Furneaux. Both of them ſailed from Deptford on the 9th of April, 1772, and arrived at the Cape of Good Hope on the 30th of October. They departed from thence on the 22d of November, and from that time until the 17th of January, 1773, continued to diſcover the continent, when they were obliged to relinquiſh the deſign, obſerving the whole ſea covered with ice, from the direction of S. E. round by the ſouth to weſt.

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They then proceeded into the ſouth ſeas, and made many other diſcoveries, and returned to the Cape of Good Hope on the 21ſt of March, 1774, and from thence to England, on the 14th of July; having during three years and eighteen days (in which time the voyage was performed) loſt but one man by ſickneſs, in captain Cook's ſhip, although he had navigated throughout all the climates from fifty-two degrees north, to ſeventy-one degrees ſouth, with a company of an hundred and eighteen men.

The want of ſucceſs which attended captain Cook's attempt to diſcover a ſouthern continent, did not diſcourage another plan being reſolved on, which had been recommended ſome time before. This was no other than the finding out a northern paſſage, which the project of ſome chimerical projectors had conceived to be a practicable ſcheme. The dangers which our navigator had twice braved and eſcaped from, would have exempted him from being ſolicited a third time to venture his perſon in unknown countries, amongſt deſert iſlands, inhoſpitable climates, and in the midſt of ſavages; but, on his opinion being aſked concerning the perſon who would be moſt proper to execute this deſign, he once more relinquiſhed the quiets and comforts of domeſtic life, to engage in ſcenes of turbulence and confuſion, of difficulty and danger. His intrepid ſpirit, and inquiſitive mind, induced him again to offer his ſervices, and they were accepted without heſitation. The manner in which he had deported himſelf on former

occaſions, left no room to ſuppoſe a fitter man could be ſelected. He prepared for his departure with the utmoſt alacrity, and actually ſailed in the month of July, 1776.

A few months after his departure from England, notwithſtanding he was then abſent, the Royal Society voted him ſir Godfrey Copley's gold medal, as a reward for the account which he had tranſmitted to that body, of the method taken to preſerve the health of the crew of the ſhip; and ſir John Pringle, in an oration pronounced on the 30th of November, obſerved, "how meritorious that perſon muſt appear, who had not only made the moſt extenſive, but the moſt inſtructive voyages; who had not only diſcovered, but had ſurveyed vaſt tracts of new coaſt; who had diſpelled the illuſion of a *terra auſtralis incognita*, and had fixed the bounds of the habitable earth as well as thoſe of the navigable ocean in the ſouthern hemiſphere; but that, however ample a field for praiſe theſe circumſtances would afford, it was a noble motive that had prompted the ſociety to notice captain Cook in the honourable manner which had occaſioned his then addreſs." After deſcanting on the means uſed on the voyage, to preſerve the lives of the ſailors, he concluded his diſcourſe in theſe terms: "Allow me then, gentlemen, to deliver this medal, with his unperiſhing name engraven upon it, into the hands of one who will be happy to receive that truſt, and to hear that this reſpectable body never more cordially, nor more meritoriouſly, beſtowed that faithful ſymbol of their eſteem and affection.

fection. For if Rome decreed the civic crown to him who ſaved the life of a ſingle citizen, what wreaths are due to that man who, having himſelf ſaved many, perpetuates in your tranſactions the means by which Britain may now, on the moſt diſtant voyages, ſave numbers of her intrepid ſons, her mariners, who, braving every danger, have ſo liberally contributed to the fame, to the opulence, and to the maritime empire of this country?"

It will give pain to every ſenſible mind to reflect, that this honourable teſtimony to the merit of our gallant commander never came to his knowledge. While his friends were waiting with the moſt earneſt ſolicitude for tidings concerning him, and the whole nation expreſſed an anxious impatience to be informed of his ſucceſs, advice was received from captain Clerke, that captain Cook was killed in an affray with the natives, by an act of ſudden reſentment and fear, rather than from a bad diſpoſition, on the iſland of O, why, ee, the largeſt of the Sandwich iſles, on the 14th of February, 1779; and his death was univerſally regretted, not only in Great Britain, but alſo in other parts of Europe, by thoſe to whom his merits and public ſervices were known.

Captain Cook was a married man, and left ſeveral children behind him. On each of theſe, his majeſty ſettled a penſion of 25l. per ann. and 200l. per ann. on his widow. It is remarkable, if true, as reported, that captain Cook was godfather to his wife; and at the very time ſhe was chriſtened, declared, that he had

determined on the union which afterwards took place between them.

To what we have already ſaid of this circumnavigator, we ſhall add ſome extracts from the account given of his life and public ſervices, by captain King. "He was engaged in moſt of the buſy and active ſcenes in North America; yet he found time to read Euclid, and ſupply the deficiences of an early education. Sir Charles Saunders, at the ſiege of Quebec, committed to his care ſervices of the firſt importance. Lord Colville and ſir Charles both patroniſed him, and by their recommendation he was appointed to ſurvey the gulph of St. Lawrence, and the coaſt of Newfoundland. The conſtitution of his body was robuſt, inured to labour, and capable of undergoing the ſevereſt hardſhips. His ſtomach bore, without difficulty, the coarſeſt and moſt ungrateful food. Indeed, temperance in him was ſcarcely a virtue, ſo great was the indifference with which he ſubmitted to every kind of ſelf-denial. The qualities of his mind were of the ſame hardy vigorous kind with thoſe of his body. His courage was cool and determined, and accompanied with an admirable preſence of mind in the moment of danger. His manners were plain and unaffected. His temper might, perhaps, have been juſtly blameable, as ſubject to haſtineſs and paſſion, had not theſe been diſarmed by a diſpoſition the moſt benevolent and humane.

Such were the outlines of captain Cook's character; but its moſt diſtinguiſhing feature was that unremitted perſeverance in the purſuit of his object, which was not

not only ſuperior to the oppoſition of dangers, and the preſſure of hardſhips, but even exempt from the want of ordinary relaxation. Perhaps no ſcience ever received greater acceſſions from the labours of a ſingle man, than geography has done from thoſe of captain Cook. In his firſt voyage to the ſouth ſeas, he diſcovered the Society iſlands, derermined the inſularity of New Zealand, diſcovered the ſtraits which ſeparate the two iſlands, and are called after his name, and made a complete ſurvey of both. He afterwards explored the eaſtern coaſt of New Holland, hitherto unknown, an extent of upwards of two thouſand miles. In his ſecond expedition, he reſolved the great problem of a ſouthern continent, having traverſed that hemiſphere in ſuch a manner as not to leave a poſſibility of its exiſtence, unleſs near the pole, and out of the reach of navigation. During this voyage he diſcovered New Caledonia, the largeſt iſland in the ſouthern Pacific, except New Zealand; the iſland of Georgia; and an unknown coaſt which he named Sandwich Land, the Thulé of the ſouthern hemiſphere; and, having twice viſited the tropical ſeas, he ſettled the ſituations of the old, and made ſeveral new diſcoveries. But the laſt voyage is diſtinguiſhed above all the reſt, by the extent and importance of its diſcoveries. Beſides ſeveral ſmaller iſlands in the ſouthern Pacific, he diſcovered, to the north of the equinoctial line, the group called the Sandwich iſlands, which, from their ſituation and production, bid fairer for becoming an object of con-

ſequence in the ſyſtem of European navigation, than any other diſcovery in the ſouth ſea. He afterwards explored what had hitherto remained unknown of the weſtern coaſt of America, containing an extent of three thouſand five hundred miles; aſcertained the proximity of the two great continents of Aſia and America, paſſed the ſtraits between them, and ſurveyed the coaſt on each ſide, to ſuch a height of northern latitude, as to demonſtrate the impracticability of a paſſage in that hemiſphere, from the Atlantic to the Pacific ocean, either by an eaſtern or a weſtern courſe. In ſhort, if we except the ſea of Aniur, and the Japaneſe Archipelago, which ſtill remain imperfectly known to Europeans, he has completed the hydrography of the habitable globe." Captain King concludes his account of this extraordinary man, whoſe death cannot be ſufficiently lamented, in the following words: " Having given the moſt faithful account I have been able to collect, both from my own obſervation and the relation of others, of the death of my ever-honoured friend, and alſo of his character and ſervices, I ſhall now leave his memory to the gratitude and admiration of poſterity, accepting, with a melancholy ſatisfaction, the honour which the loſs of his has procured me, of ſeeing my name joined to his; and of teſtifying that affection and reſpect for his memory, which, whilſt he lived, it was no leſs my inclination than my conſtant ſtudy to ſhew him."

CHAP.

CHAP. XV.

HOWARD, THE PHILANTHROPIST.

MR. JOHN HOWARD, the indefatigable friend of the poor and unfortunate, was born at Hackney, in the year 1726. His father, who kept a carpet warehouſe in Long-lane, Smithfield, dying while he was very young, left him to the care of guardians, by whom he was apprenticed to a wholeſale grocer in the city of London. His conſtitution appearing too weak for attention to trade, and his father having left him, and an only ſiſter, in circumſtances which placed them above the neceſſity of purſuing it, he bought out the remainder of his indentures before the time, and took a tour in France and Italy. On his return, he lodged at the houſe of a Mrs. Lardeau, a widow, in Stoke-Newington, where he was ſo carefully attended by that lady, that though ſhe was many years older than himſelf, he formed an attachment to her, and, in 1752, made her his wife. She was poſſeſſed of a ſmall fortune, which he generouſly preſented to her ſiſter. She lived, however, only three years after their union, and he was a ſincere mourner for her loſs. About this time he became a fellow of the Royal Society, and, in 1756, being deſirous to view the ſtate of Liſbon, after the dreadful earthquake, he embarked for that city. In this voyage, the Hanover frigate, in which he ſailed, was taken by a French privateer; and the inconveniences

which he ſuffered during his ſubſequent confinement in France, are ſuppoſed to have awakened his ſympathies with peculiar ſtrength in favour of priſoners, and to have given riſe to his plans for rendering priſons leſs pernicious to health. It is ſuppoſed, that after his releaſe, he made the tour of Italy. On his return, he fixed himſelf at Brokenhurſt, a retired and pleaſant villa near Lymington, in the New Foreſt. Mr. Howard married a ſecond time, in 1758; but this lady, a daughter of a Mr. Leeds, of Croxton, in Cambridgeſhire, died in child-bed, of her only child, a ſon, in the year 1765. Either before, or ſoon after the death of his ſecond wife, he left Lymington, and purchaſed an eſtate at Cardigan, near Bedford, adjoining to that of his relation, Mr. Whitbread. Here he much conciliated the poor, by giving them employment, building them cottages, and other acts of benevolence; and regularly attended the congregation of diſſenters at Bedford, being of that perſuaſion. His time was alſo a good deal occupied by the education of his only ſon, a taſk for which he is ſaid to have been little qualified. With all his benevolence of heart, he is aſſerted to have been diſpoſed to a rigid ſeverity of diſcipline, ariſing probably from a very ſtrict ſenſe of rectitude, but not well calculated to form a tender mind to advantage. In 1773, he ſerved the office of ſheriff, which as he has ſaid himſelf, "brought the diſtreſs of priſoners more immediately under his notice," and led to his benevolent deſign of viſiting the gaols and other places of confinement throughout

England, for the ſake of procuring alleviation to the miſeries of the ſufferers. In 1774, truſting to his intereſt among the ſectaries at Bedford, he offered himſelf as a candidate for that borough, but was not returned; and endeavouring to gain his ſeat by petition, was unſucceſsful. He was, however, in the ſame year, examined before the houſe of commons, on the ſubject of the priſons, and received the thanks of the houſe for his attention to them. Thus encouraged, he completed his inſpection of the Britiſh priſons, and extended his views even to foreign countries. He travelled with this deſign, three times through France, four through Germany, five through Holland, twice through Italy, once in Spain and Portugal, and once alſo through the northern ſtates and Turkey. Theſe excurſions were taken between the years 1775 and 1787. In the mean time his ſiſter died, and left him a conſiderable property, which he regarded as the gift of Providence to promote his humane deſigns, and applied accordingly. He publiſhed alſo in 1777, "The ſtate of the priſons in England and Wales, with preliminary obſervations, and an account of ſome foreign priſons; dedicated to the Houſe of Commons, in 4to." In 1780, he publiſhed an appendix to this book, with the narrative of his travels in Italy; and, in 1784, republiſhed it, extending his account to many other countries. About this time, his benevolence had ſo much attracted the public attention, that a large ſubſcription was made for the purpoſe of

erecting a ſtatue to his honour; but he was too modeſt and ſincere to accept of ſuch a tribute, and wrote himſelf to the ſubſcribers to put a ſtop to it. "Have I not one friend in England," he ſaid, when he firſt heard of the deſign, "that would put a ſtop to ſuch a proceeding?" In 1789, he publiſhed, "An account of the principal lazarettos in Europe, with various papers relative to the plague; together with further obſervations on ſome foreign priſons and hoſpitals; and additional remarks on the preſent ſtate of thoſe in Great Britain and Ireland." He had publiſhed alſo, in 1780, a tranſlation of a French account of the Baſtille; and, in 1789, the duke of Tuſcany's new code of civil law, with an Engliſh tranſlation.

In his book on lazarettos, he had announced his intention of reviſiting Ruſſia, Turkey, and ſome other countries, and extending his tour in the Eaſt. "I am not inſenſible," ſays he, "of the dangers that muſt attend ſuch a journey. Truſting, however, in the protection of that kind Providence which has hitherto preſerved me, I calmly and cheerfully commit myſelf to the diſpoſal of unerring wiſdom. Should it pleaſe God to cut off my life in the proſecution of this deſign, let not my conduct be uncandidly imputed to raſhneſs or enthuſiaſm, but to a ſerious, deliberate conviction, that I am purſuing the path of duty; and to a ſincere deſire of being made an inſtrument of more extenſive uſefulneſs to my fellow-creatures, than could be expected in the narrower circle of a retired life." He

did actually fall a ſacrifice to this deſign; for, in viſiting a ſick patient at Cherſon, who had a malignant epidemic fever, he caught the diſtemper, and died, Jan. 20, 1790.

Mr. Howard was, in his own habits of life, rigidly temperate, and even abſtemious; ſubſiſting entirely, at one time, on potatoes; at another, chiefly on tea and bread and butter; of courſe, not mixing in convivial ſociety, nor accepting invitations to public repaſts. His labours have certainly had the admirable effect of drawing the attention of this country to the regulation of public priſons. In many places his improvements have been adopted; and, perhaps, in all gaols ſome advantage has been derived from them. We may hope that theſe plans will terminate in ſuch general regulations, as will make judicial confinement, inſtead of the means of confirming and increaſing depravity (as it has been too generally) the ſucceſsful inſtrument of amendment in morality, and acquiring habits of induſtry; while the few criminals, and probably very few, who may be too depraved for amendment, will be compelled to be beneficial to the community by their labour; and, being advantageouſly ſituated in point of health, may ſuffer nothing more than that reſtraint which is neceſſary for the ſake of ſociety, and that exertion which they ought never to have abandoned. Conſidered as the firſt mover of theſe important plans, Howard will always be honoured with the gratitude of his country; and his

monument,

monument, lately erected in St. Paul's cathedral, is a proof that this gratitude is not inert. The monument is, at the ſame time, a noble proof of the ſkill and genius of the artiſt, Mr. Bacon, and repreſents Mr. Howard in a Roman dreſs, with a look and attitude expreſſive of benevolence and activity, holding in one hand a ſcroll of plans for the improvement of priſons, hoſpitals, &c. and in the other a key, while he is trampling on chains and fetters. The epitaph is too long to be inſerted, and contains, indeed, a ſketch of his life; but concludes in words which we heartily adopt: "He trod an open, but unfrequented path, to immortality, in the ardent and unremitted exerciſe of of Chriſtian charity: may this tribute to his fame excite an emulation of his truly glorious atchievements."

On the ſubject of Biography, Plutarch's Lives, Biographia Britannica, the Biographical Dictionary, Campbell's Lives of the Admirals, Lives and Characters of Naval Officers, and Dr. Johnſon's Lives of the Poets, will afford much inſtruction and amuſement.

BOOK VI.

OF NATURAL PHILOSOPHY, AND METALLURGY.

CHAP. I.

OF METALS, WITH A SHORT ACCOUNT OF GOLD AND SILVER.

THERE are ſix kinds of metals, namely, gold, ſilver, copper, iron, lead, and tin; to which ſome add mercury, as a ſeventh.

Gold is the heavieſt, pureſt, and moſt ductile of all metals. It is chiefly found in mines, though ſometimes gold-duſt is found in the ſand and mud of rivers, particularly in Guinea; and hence the name for our largeſt gold coin. There are gold mines in moſt countries in the world; in Europe, however, they are very ſparingly ſcattered. The mines of Chili and Peru, in America, are the richeſt; but very fine gold is found in ſome parts of the Eaſt-Indies.

Of all the properties of gold its ductility is the moſt ſurpriſing. A ſingle ounce of gold may be extended by the gold-beater's hammer to a ſurface of near 150 ſquare feet; and by the gold wire-drawers it will be extended to upwards of a thouſand, yet remain ſo entire, as that the leaſt flaw ſhall not be perceived, even by the help of the microſcope.

Silver is a white rich metal, and, except gold, the fineſt and moſt ductile of any. There are ſilver mines in all parts of the world; but thoſe of Peru,

and

and ſome other parts of America, particularly thoſe of Potoſi, are by far the richeſt, and yield the ore in as great plenty as when firſt diſcovered; with this only difference, that the veins, which were then almoſt on the ſurface of that famous mountain, are now ſunk ſo deep, that the workmen go down to them by a deſcent of almoſt four or five hundred ſteps.

CHAP. II.

OF COPPER AND IRON.

COPPER is a hard, dry, heavy, ductile metal, abounding in vitriol and ill-digeſted ſulphur, and found in moſt parts of Europe, but particularly in Sweden. It is dug up in large fragments of ore, which are firſt beaten ſmall, then waſhed to ſeparate the earthy parts from it, then ſmelted and caſt into a kind of moulds to form large blocks, called ſalmons, or copper-cakes. This is the ordinary copper. There is a finer kind called roſe copper, and a ſtill finer, called virgin copper, which is ſometimes, but ſeldom, found pure in mines. It is the loweſt-priced metal uſed for coin.

Iron is a hard, dry, fuſible, and ductile metal, conſiſting of earth, ſalt, and ſulphur, but all impure, ill-mixed, and ill-digeſted, which renders it liable to ruſt. By often heating it in the fire, hammering it, and letting it cool of itſelf, it is ſoftened; by extinguiſhing it when hot in water, it is hardened.

There

There are ſeveral iron works in England; but the moſt conſiderable are thoſe in the foreſt of Dean, in Glouceſterſhire, where the ore is found in great abundance.

Though iron is the cheapeſt, it is certainly the moſt uſeful of all kinds of metal, and ſeems indiſpenſibly neceſſary to the carrying on every art and manufacture. Nay it appears to be a great mean of poliſhing and civilizing mankind; at leaſt much more ſo than the more precious metals. There have been inſtances of nations poſſeſſed of great quantities of gold, who yet remained in a ſtate of barbariſm. This, it is well known, was the caſe with the Americans, upon the firſt diſcovery of their country by Columbus. But there never was an inſtance of a nation, which underſtood the art of manufacturing iron, that did not attain, in time, to at leaſt ſome degree of civilization.

CHAP. III.

OF LEAD, TIN, AND MERCURY.

LEAD is a coarſe, heavy, ſoft metal, containing a little mercury, ſome ſulphur, and a great deal of earth. It is found in moſt countries; but is particularly plentiful in England. The various purpoſes to which it may be applied, are pretty generally known.

Tin is a whitiſh metal, not ſo hard as ſilver, nor ſo ſoft as lead; but though not ſo ſoft, it is more eaſily melted.

melted. The ſtannaries of tin mines in Cornwall and Devonſhire furniſh the greateſt part of the tin which is conſumed in all Europe. Six pounds of braſs, and fifteen pounds of lead, to an hundred pounds of tin, make the *compoſition* which is called *pewter*.

Mercury, or, as it is vulgarly called, quickſilver, is an imperfect metal, neither ductile, nor malleable, that is, neither capable of being drawn into length, nor ſpread into breadth by the hammer. It conſiſts entirely of a fluid matter, reſembling melted ſilver. It is found chiefly in Hungary, Spain, Italy, and Peru. The greateſt part of what is uſed in England is brought from the mines of Friuli in Italy.

Mercury is the heavieſt of all metals except gold. It is alſo the moſt fluid of all bodies; that is, its parts cohere the leaſt to each other, and are the moſt eaſily ſeparated. It is extremely volatile, and may be turned into fume by a very gentle heat. It eaſily enters and cloſely adheres to gold, leſs eaſily to ſilver, with difficulty to copper, and to iron not at all.

CHAP. IV.

OF PRECIOUS STONES.

THE *diamond*, by the ancients called adamant, is the moſt valuable of all precious ſtones. Its goodneſs conſiſts in its colour, luſtre, and weight; and its defects are flaws, veins, ſpecks of red or black ſand, and a bluiſh, or yellowiſh caſt.

Diamonds

Diamonds are found only in the Eaſt Indies, ſometimes in mines, and ſometimes in the ſand of rivers. They are the hardeſt of all gems, inſomuch that they can only be cut and ground by themſelves, and their own ſubſtance.

The manner of preparing them is firſt to rub them hard againſt each other, and the duſt, which is thus rubbed off the ſtones, ſerves to grind and poliſh them. This is done by means of a mill, which turns a wheel of ſoft iron, ſprinkled over with diamond duſt, mixed with oil of olives. The ſame duſt, well ground, and diluted with water and vinegar, is uſed in the ſawing of diamonds; which is performed with an iron or braſs wire as fine as a hair.

The *ruby*, which is next in value and eſteem to the diamond, is of a crimſon colour, ſomewhat inclining to purple. The *garnet* is ſomewhat like it, and perhaps of the ſame ſpecies. The *hyacinth* is ſometimes of a deep red, and ſometimes of a yellow colour. The *amethyſt* is of a bright purple, and the *emerald* of a green. The *ſapphire* is a ſky blue, and the *beryl*, a bluiſh green. The *topaz* or *chryſolite* is of a gold colour. Theſe are all tranſparent.

There are others that are opaque, or only half tranſparent; ſuch as the *cornelian*, which is the beſt, and of a pale red, and ſometimes bordering upon orange; the *onyx*, of a greyiſh caſt; the *turquoiſe*, ſomething between a blue and green; and the *lapis lazuli*, which is ſtudded with ſpots of gold on an azure ground.

CHAP.

CHAP. V.

OF THE MAGNET OR LOADSTONE.

THIS wonderful ſtone is uſually found in iron mines, and is produced in moſt parts of the world. It is a heavy ſtone, ſomething reſembling the ore of iron, only cloſer and more ponderous.

It is endowed with ſome ſurpriſing qualities and powers. It attracts iron, which will adhere to it very ſtrongly; and this virtue it alſo communicates to the iron ſo attracted.

In every magnet there are two poles, one of which points northward, the other ſouthward; and if the magnet be divided into ever ſo many pieces, the two poles will be found in each piece.

It is this property which has rendered it ſo uſeful in improving the art of navigation; for this gave riſe to the mariner's compaſs, by means of which a ſailor can now conduct his ſhip to the Eaſt or Weſt Indies, or even round the world, with as much eaſe, and as little danger, as he could formerly make a voyage to the coaſt of Norway or Holland.

The improvements in ſhip-building have kept pace with thoſe of navigation. To be convinced of this, one need only conſider the infinite difference there is between a firſt-rate man of war, and an Indian canoe, which ſeems to be little better than a large butcher's trough; and yet this was probably the firſt form of all ſailing veſſels.

Even

Even after men had learnt to build ſhips with more art, and of a larger ſize, they never ventured out of ſight of land without fear and trembling, becauſe they could not tell whether they were ſailing eaſt or weſt, ſouth or north, or to what part of the world they were going. But now, in the darkeſt night, and in the midſt of the boundleſs ocean, they know the courſe they are ſteering with as much certainty, as if it were in broad day, and within ſight of land.

CHAP. VI.

OF METEORS, AND THE DIFFERENT REGIONS OF AIR.

WHATEVER is engendered in the air which ſurrounds us, and which appears to be beyond the moon, is a meteor. This word ſignifies a body raiſed above the earth we inhabit.

Meteors are compoſed of vapours and exhalations.

Vapours are particles of water which mingle with the air.

Exhalations are particles of all the different terreſtrial bodies, which riſe into the air, ſuch as ſulphur, ſalts, bitumens, and other bodies of different natures, more or leſs combuſtible, ſolid, or heavy.

The air is compoſed of a high, middle, and lower region. The air of the higher region is lighter and colder than that of the middle; and that of the middle ſtill finer than the lower. It is heavieſt near the ſurface of the earth.

The

The weight of a column of air, one foot ſquare, reaching from the ſurface of the earth to the top of the atmoſphere*, is 2,160 pounds; ſo that a man of middling ſize, the ſurface of whoſe body is about 14 ſquare feet, ſuſtains a preſſure of air of *thirty thouſand* and 240 pounds; a preſſure that would be inſupportable, and even fatal to him, were it not that it is equal on every part, and counterbalanced by the ſpring of the air within him, which is diffuſed through the whole body, and re-acts with equal force againſt the outward preſſure.

CHAP. VII.

SOME OF THE PROPERTIES OF AIR.

THE air may be *rarefied*, or made to occupy more ſpace. If you take a bladder, entirely empty, as you think, and tie its neck with a ſtring, and lay it before the fire, the heat will ſo rarefy the little air incloſed in it, as to make it extend the bladder to its utmoſt ſtretch, and, if continued, will make it break through with the report of a gun.

The air may be *condenſed* even to a ſixtieth part of the ſpace it before occupied.

It is alſo endued with an *elaſtic* power. The air compreſſed in the wind-gun, will, by its elaſtic force when diſcharged, drive a bullet through a board at the diſtance of ſeveral yards, in the ſame manner as if it were with gunpowder.

* Eſtimated at about 45 miles.

The

The air-pump is a curious machine for extracting the air from a large hollow glaſs called a receiver, ſomewhat reſembling thoſe glaſſes that are uſed in gardens for covering tender plants. The ſpace contained in the receiver is then called a vacuum. Into this glaſs if any animal is put, and the air drawn from it, it will almoſt immediately die; which ſhews that air is neceſſary to the life of animals. They do not all die in the very ſame ſpace of time, but ſooner or later, according to the ſtrength of the vital principle within them, or according as they have been accuſtomed to live with more or leſs air. Dogs, cats, rats, and mice, die in about half a minute. Inſects, ſuch as waſps, bees, hornets, and graſshoppers, appear dead in two minutes, and will continue in that ſtate a whole day and night, and afterwards revive upon the re-admiſſion of the air. Ear-wigs, beetles, and ſnails, live a long time without air; and frogs will live longer without it than toads.

In the exhauſted receiver of an air-pump all bodies fall with the ſame rapidity. A feather falls as faſt as a guinea; that is, the lighteſt of all bodies falls as faſt as the heavieſt.

Common air is impregnated with a certain kind of vivifying ſpirit or quality, which is neceſſary to continue the lives of animals; and this, in a gallon of air, is ſufficient for one man during the ſpace of a minute, and no longer.

If a man deſcend into the deep in a diving-bell, he can only live as many minutes as the number of gallons of air contained in the bell amount to.

Even

Even a burning candle conſumes the vivifying ſpirit of a gallon of air in a minute, as appears by the following experiment. Set a lighted candle upon the air-pump, or indeed upon any other place ſo ſmooth, that, when covered with a receiver, no air can enter. If the receiver holds a gallon, the candle will burn a minute; and then, after having gradually decayed from the firſt inſtant, it will go out; which ſhews that a conſtant ſupply of freſh air is as neceſſary to feed flame, as it is to ſupport the lives of animals.

The *vivifying* ſpirit of air may be deſtroyed in a variety of ways. Firſt, by paſſing through the lungs of animals, as is evident from what we have juſt now ſaid. Secondly, by paſſing through fire, particularly charcoal fire, or the flame of ſulphur. Hence ſmokey chimnies muſt be very unwholeſome, eſpecially if the rooms they are in be ſmall and cloſe. Thirdly, by being long pent up in any cloſe place, ſuch as the holds of ſhips, oil-ciſterns, or wine-cellars. The air in many of theſe is ſometimes ſo corrupted, as to prove inſtant death to any animal that comes into it.

This air is called *damp*; not only becauſe it is filled with humid or moiſt vapours, but becauſe it deadens fire, extinguiſhes flame, and deſtroys life. The dreadful effects of damps are ſufficiently known to thoſe who work in mines.

Air is abſolutely neceſſary for the *propagation* of ſound. If the clapper be made to ſtrike ever ſo hard againſt the bell, it will make no ſound at all, when the air is exhauſted out of the receiver.

The

The *elaſtic* air, which is contained in many bodies, and is kept in them by the weight of the atmoſphere, may be got out of them either by boiling, or by the air-pump; but the fixed air, which is by much the greater quantity, cannot be got out but by diſtillation, fermentation, or putrefaction.

This is a wiſe law of Providence; for, if fixt air did not come out of bodies without difficulty, and ſpend ſome time in extricating itſelf from them, it would tear them to pieces. Trees would be rent by the change of air from a fixt to an elaſtic ſtate, and animals would be burſt in pieces by the exploſion of air in their food.

Dr. Hales found, by experiment, that the air in apples is ſo much condenſed, that, if it were let out into the common air, it would fill a ſpace of 48 times as great as the bulk of the apples themſelves. If, therefore, the air were let looſe at once in theſe ſubſtances, they would tear every thing to pieces about them, with a force ſuperior to that of gunpowder. Hence, in eating apples, it is well that they part with the air by degrees, as they are chewed, and ferment in the ſtomach, otherwiſe an apple would be immediate death to him that eats it.

CHAP. VIII.

OF THE WIND.

THE wind is nothing elſe but the air put violently in motion; and this is occaſioned chiefly by

means of heat. For, when any part of the air is heated by the ſun, or otherwiſe, it will ſwell, and thereby affect the adjacent air; and ſo, by various degrees of heat in different places, there will ariſe various motions of the air.

When the air is much heated, it will aſcend towards the upper part of the atmoſphere, and the adjacent air will ruſh in to ſupply its place; and therefore there will be a ſtream or current of air from all parts, towards the place where the heat is. And hence we ſee the reaſon, why the air ruſhes with ſuch force into a glaſs-houſe, a tile-kiln, or towards any place where a great fire is made; and alſo why ſmoke is carried up a chimney, and why the air ruſhes in at the key-hole of a door, or any ſmall chink, where there is fire in the room. In general, we may take it for granted, that the air will preſs towards that part of the world where it is moſt heated.

The winds are divided into four principal ones, the *north*, *ſouth*, *eaſt*, and *weſt*; which receive their names from the four quarters of the world.

From the *Frigid Zone* comes the north wind, which is conſequently the coldeſt.

The *ſouth wind* is the warmeſt, and particularly in the ſummer, becauſe it comes from the *Torrid Zone*, over countries where the ſun is moſt vertical.

The *eaſt wind* is the drieſt, becauſe it comes acroſs the vaſt continent of Aſia, which is but little watered by rivers or ſeas.

The

The *weſt wind* often blows us rain; becauſe, as it croſſes the great Atlantic ocean, it attracts a great quantity of vapours.

When theſe impetuous winds happen to meet, the greateſt inconveniencies follow. The ſulphureous exhalations from the ſouth, torrents of nitre from the north, and watery vapours from every ſide, become, indiſcriminately blended together in one confuſed maſs.—From hence proceed tempeſts, thunder, rain, hail, and whirlwind.

The velocity of wind is at the rate of 50 or 60 miles an hour, in a great ſtorm; that of a common briſk wind is about 15 miles an hour; and ſome winds move not even one mile in that ſpace of time.

A perſon, therefore, on horſeback, and even ſometimes on foot, may be ſaid to outſtrip the wind; for, if he moves faſter than the wind, which is very poſſible, he will have a wind in his face, though both move in the ſame direction.

The velocity of *ſound* is *thirteen* times as great as that of the ſtrongeſt wind.

CHAP. IX.

ON THE TROPICAL WINDS.

THERE are certain winds, called tropical winds, which blow almoſt always from the ſame point of the compaſs. They are of three kinds. 1. The *general trade winds*, which extend to near thirty degrees

of latitude on each ſide of the equator, in the Atlantic, Ethiopic, and Pacific oceans. On the north ſide of the equator, they blow from north-eaſt, on the ſouth ſide from the ſouth-eaſt, and near the equator from almoſt due eaſt. 2. The *monſoons*, or ſhifting trade winds, which blow ſix months in one direction, and the other ſix months in the oppoſite direction. Theſe are moſtly in the Indian, or Eaſtern ocean, and do not reach above two hundred leagues from the land. Their change is at the vernal and autumnal equinoxes, and it is accompanied with terrible ſtorms of thunder, lightning, and rain. The monſoons are occaſioned by the *cold air* moving towards thoſe places, in which the air is rarefied by the heat of the ſun, in order to reſtore its equilibrium. 3. The *land and ſea breezes*, which are periodical winds, and blow from the land from night to about mid-day, and from the ſea from about noon to mid-night. Theſe winds do not extend above two or three leagues from the ſhore.

Beyond the latitude of thirty degrees, north and ſouth, the winds, as we daily perceive in Great Britain, are more variable, though it may be obſerved in general, that the tendency of the wind is from a colder region to that which is hotter.

CHAP.

CHAP. X.

OF MISTS, CLOUDS, RAIN, DEW, SNOW, AND HAIL.

MISTS are thoſe collections of vapours, which chiefly riſe from fenny moiſt places, and become more viſible as the light of the day decreaſes.

Clouds are nothing elſe but a collection of moiſt particles, exhaled from the ſea and earth by the heat of the ſun, ſuſpended aloft in the air, and ſoaring on the wings of the wind.

The *height of the clouds* is ſuppoſed to be from about a quarter of a mile, to a mile. It is common for perſons, by climbing very high mountains, to get above the clouds, and ſee them ſwim beneath them.

The wonderful variety in the *colour* of the clouds, is owing to their particular ſituation with regard to the ſun, and the different reflections of his light. The different figures of the clouds reſult from their looſe and voluble texture, revolving into any form according to the different force of the winds.

Rain is nothing but thick clouds condenſed by the cold, which by their own weight fall upon the earth in ſmall quantities, called drops of water.

Thoſe ſmall clouds, ſometimes ſeen very high, and heaped upon one another, preſage rain very ſoon.

When the horizon, at the riſing or ſetting of the ſun, appears pale and yellowiſh, it is a ſign of the air being full of vapours, and threatens bad weather.

But when it is of a light red at thoſe times, there are but few vapours in the air, and fine weather may be expected.

If the cloud that melts is greatly rarefied, and its particles, in falling, meet an air moderately warm, theſe drops will be ſo ſmall, that they will not compoſe rain, but *rime* only.

Dew is produced from a quantity of particles of water extremely ſubtile, that float about in a calm and ſerene air in form of vapours, which, being condenſed by the coldneſs of the night, loſe by degrees their agitation, and many uniting together, fall in the morning in ſmall inviſible particles, like an extremely fine and delicate rain, which continues but a ſhort time, and is ſeen in drops of water like pearls, upon leaves and herbs.

Snow is produced thus. In winter the regions of the air are intenſely cold, and the clouds finding this great cold on every ſide, quickly paſs from that ſtate of condenſation which might reduce them to rain, into that which is able to reduce them to ice; ſo that in winter, as ſoon as the clouds begin to change into very fine drops of water, each of theſe ſmall particles freeze, and touching each other, form flakes of ſnow.

The ſmall intervals that the flakes leave between them, like ſo many pores, filled with a ſubtile air, are the cauſe of their *lightneſs*.

The ſnow is *white*, becauſe the ſmall particles of ice, which compoſe thoſe flakes, being hard, ſolid, tranſparent,

tranſparent, and differently arranged, reflect to us the light from all parts.

Hail is formed, when the parts of a cloud, beginning to fall, meet in their deſcent a very cold air, which freezes them; and theſe ſmall bits of ice are very near the figure and ſize that the drops of water would have been, had they fallen.

CHAP. XI.

OF THE SEVEN COLOURS, AND THE RAINBOW.

THERE are no more than ſeven *primary*, or original colours, namely, *red*, *orange*, *yellow*, *green*, *blue*, *indigo*, and *violet*. All the other colours are compoſed of ſome of theſe primary ones.

The *difference* of colours is owing to the different refrangibility of the rays of light, which prodnce them. By the *refrangibility* of the rays of light, I mean their tendency to be turned out of a ſtraight line, or to be rendered crooked, in paſſing through any medium. The leaſt refrangible rays are thoſe that produce red; and the moſt refrangible, are thoſe that produce violet. All the intermediate rays produce the intermediate colours in the order above-mentioned.

If the *rays* of the ſun were not of different colours, there would be only *one colour* in the world; for the colours are in the rays of light, and not in the bodies that are dyed with them. That this opinion is well founded, we may be convinced by obſerving, that

all bodies are of the ſame hue in the dark. Perhaps it may be ſaid, if it be abſolutely dark, we cannot ſee at all. True. But there ſure may be ſomething between an obſcure light and abſolute darkneſs, juſt ſufficient to ſhew us, that a man has got a great coat upon his back, though we cannot tell for certain, of what colour it is.

Black and *white* are not original colours. White is a mixture of all the *primary* colours; and black is a *privation* of them all, or no colour at all.

The *iris*, or *rainbow*, is a beautiful arch in the heavens, ornamented with all the *primary colours*. It is only ſeen when the ſpectator turns his back to the ſun, and when it rains on the oppoſite ſide.

Its beautiful colours ſtruck antiquity with amazement. To the philoſophers Pliny and Plutarch, it appeared as an object which we might admire, but could never explain.—The prieſts always preferred the wood, on which the rainbow had appeared to reſt, for their ſacrifices, vainly ſuppoſing that this wood had a perfume peculiarly agreeable to their deities.

According to ſir Iſaac Newton's theory, the rainbow is formed by the rays of the ſun being refracted by the drops of falling rain or miſt, and thence reflected to the ſpectator's eye.

All the colours of the rainbow may be produced by making the rays of the ſun paſs through a priſm.

Rainbows ſometimes appear by night in the moonſhine. The *lunar* rainbow is formed exactly in the

ſame

ſame manner as the ſolar, by the bright beams of the moon ſtriking upon the boſom of a ſhower.

A lucid ring, called an *hala*, is ſometimes ſeen diffuſed round the moon. As this is always in a *rimy* or froſty ſeaſon, we may ſuppoſe it occaſioned by the refraction of light on the frozen particles of the air.

CHAP. XII.

OF EARTHQUAKES AND VOLCANOS.

AN *earthquake* is a ſudden motion, cauſed by the inflammation of ſome ſulphureous and bituminous exhalations, contained in the caverns of the earth, not far from its ſurface. In the ſouthern countries, earthquakes are very frequent.

An artificial earthquake may be made thus: Take ten or fifteen pounds of ſulphur, and as much of the filings of iron, and knead them with common water into the conſiſtency of a paſte. This being buried in the ground, will, in eight or ten hours time, burſt out in flames, and cauſe the earth to tremble all round, to a conſiderable diſtance.

There are many ſubterraneous places, from which iſſue torrents of ſmoke and of flames, rivers of melted metals, and clouds of aſhes and ſtones. They are called *volcanos*. The moſt famous are thoſe of mount *Etna* in Sicily, *Veſuvius* in Naples, and *Ecla* in Iceland.

In an eruption from the ſecond of theſe, the two cities of Pompeii and Herculaneum were buried by

the lava, and lay concealed in that ſtate for ſeveral ages, till they were lately diſcovered. Pliny the elder, the famous naturaliſt, periſhed on the occaſion. Pliny the younger, author of the epiſtles that go by his name, has given us an account of this cataſtrophe, in one of his letters.

The bowels of theſe burning mountains contain ſulphur, bitumen, and other inflammable matter, the effects of which are more dreadful than thoſe of thunder or of gunpowder, and they have in all ages aſtoniſhed mankind, and deſolated the earth.

CHAP. XIII.

OF THE AURORA BOREALIS.

THE *aurora borealis* is that ſhining light, which is often ſeen by night in the heavens, and which the vulgar call northern lights, or ſtreamers.

This phænomenon may be the reſult of certain nitrous and ſulphureous vapours, thinly ſpread through the atmoſphere above the clouds, where they ferment, and taking fire, the exploſion of one portion kindles the next, and the flaſhes ſucceed one another, till all the vapour is ſet on fire, the ſtreams whereof ſeem to converge towards the zenith of the ſpectator, or that point of the heavens, which is immediately over his head.

The *northern lights* were not much ſeen in England, till the month of March, 1716. Since that time, however, they have been, and ſtill continue to be, very frequent.

CHAP.

CHAP. XIV.

OF THE TIDES.

AS rivers flow and ſwell, ſo alſo does the ſea. Like them it has its currents, which agitate its waters, and preſerve them from putrefaction. That regular motion of the ſea, according to which it ebbs and flows twice in twenty-four hours, is called its *tides*.

In its flux, the ſea generally riſes for ſix hours, when it remains, as it were, ſuſpended, and in equilibrio, for about twelve minutes. At that time it is called *high water*.

In its reflux the ſea falls for ſix hours, when it remains, as it were, in a like manner, ſuſpended, and in equilibrio, for about twelve minutes. At that time it is called *low water*.

We are told that Ariſtotle, deſpairing to diſcover the true cauſe of theſe wonderful appearances, had the folly, in ſpite of his philoſophy, to throw himſelf headlong into the ſea.

The *tides* are occaſioned by the *attraction* of the *moon*. This doctrine remained in obſcurity, till the immortal ſir Iſaac Newton explained it by his great principle of gravity or attraction. For having demonſtrated that there is a principle in all bodies, within the ſolar ſyſtem, by which they mutually draw, or attract one another, in proportion to their diſtance; it follows, that thoſe parts of the ſea, which are im-

mediately below the moon, muſt be drawn towards it, and conſequently, wherever the moon is nearly vertical, the ſea will be raiſed, which occaſions the flowing of the tide there.

A ſimilar reaſon occaſions the flowing of the tide in thoſe places, where the moon is in the nadir, and which muſt be diametrically oppoſite to the former. For, in the hemiſphere fartheſt from the moon, the parts in the nadir being leſs attracted by her, than the other parts which are nearer to her, gravitate leſs towards the earth's centre, and conſequently muſt be higher than the reſt.

Thoſe parts of the earth, on the contrary, where the moon appears on the horizon, or ninety degrees diſtant from the zenith and nadir, will have low water. For, as the waters in the zenith and nadir riſe at the ſame time, the waters in their neighbourhood will preſs towards thoſe places, to maintain the equilibrium. To ſupply the places of theſe, others will move the ſame way, and ſo on to the places ninety degrees diſtant from the zenith and nadir, where the water will be loweſt.

By combining this doctrine with the diurnal motion of the earth, already explained, we ſhall be ſenſible of the reaſon why the tides ebb and flow, twice in twenty-four hours, in every place on the globe.

The tides are higher than ordinary twice every month, that is, about the times of new and full moon, and are called *ſpring tides*. For, at theſe times, the actions of both the ſun and the moon are united, and

draw

draw in the ſame ſtraight line, and conſequently the ſea muſt be more elevated. At the conjunction, or when the ſun and moon are on the ſame ſide of the earth, they both conſpire to raiſe the waters in the zenith, and conſequently in the nadir; and at the oppoſition, or when the earth is between the ſun and moon, while one occaſions high water in the zenith and nadir, the other does the ſame.

The tides are leſs than ordinary twice every month, about the firſt and laſt quarters of the moon, and are called *neap tides*. In theſe quarters, the ſun raiſes the waters where the moon depreſſes them, and depreſſes where the moon raiſes them; ſo that the tides are only occaſioned by the difference by which the action of the moon, which is neareſt us, prevails over that of the ſun.

Theſe things would happen uniformly, were the whole ſurface of the earth covered with water; but ſince there is a multitude of iſlands and continents, which interrupt the natural courſe of the water, a variety of appearances are to be met with in different places, which cannot be explained, without regarding the ſituation of ſhores, ſhoals, and other objects, which have a ſhare in producing them.

There are frequently ſtreams or currents in the ocean, which ſet ſhips a great way beyond their intended courſe. There is a current between Florida and the Bahama iſlands, which always runs from north to ſouth. A current runs conſtantly from the Atlantic, through the ſtraits of Gibraltar, into the Mediterranean.

Mediterranean. A current ſets out of the Baltic ſea, through the ſound or ſtrait between Sweden and Denmark, into the Britiſh channel; ſo that there are no tides in the Baltic.

About ſmall iſlands and head-lands in the middle of the ocean, the tides riſe very little; but in ſome bays, and about the mouths of rivers, they riſe from twelve to fifty feet.

Perhaps it may be ſaid, that as a current conſtantly runs from the Atlantic into the Mediterranean, the waters of the ſea ought to increaſe. By no means. The water extracted from it in vapours, is more than ſufficient to counterbalance the influx. It has been found by calculation, that in a ſummer's day, there may be raiſed in vapours, from the Mediterranean, 5280 millions of tuns of water. Yet this ſea does not receive, from all its nine great rivers, above 1827 millions of tuns per day, which is but one third of what is exhauſted in vapours; ſo that, were it not for the influx from the Atlantic, the Mediterranean would ſoon be rendered dry.

The tides flow from *eaſt* to *weſt*, for they muſt neceſſarily follow the moon's motion, which is from eaſt to weſt.

The courſe of the tides, however, is ſometimes *interrupted* by continents, and other large tracts of land. The tide, for inſtance, in the Indian ocean, being ſtopped by the eaſtern coaſt of Africa, muſt neceſſarily flow ſouth, towards the Cape of Good Hope, which having paſſed, it then runs northward along the

northern

northern coaſt of Africa, and that of Spain, Portugal, and France, till it enters the Engliſh channel; there meeting the tide from the German ocean, running a contrary way, it is neceſſarily ſtopped, and produces a very great ſwell of water.

Theſe *two tides* thus flowing in oppoſite directions, and meeting a little irregularly, have ſometimes occaſioned *two tides*, the one immediately after the other, in the river *Thames*, which, though proceeding from a natural cauſe, and conſequently very eaſy to be explained, has been looked upon as a prodigy.

As to the tide of rivers, it muſt always flow in a direction quite the reverſe of their natural ſtream; for the waters of the ſea being higher, they muſt neceſſarily flow into them, and make their waters flow back, or regurgitate. The tide of the Thames, and of all the other rivers on the eaſtern coaſt of England, muſt flow weſtward. The tide of the Severn, and of all the other rivers on the weſtern coaſt of England, muſt run eaſtward; and ſo of the reſt.

CHAP. XV.

ON THE SALTNESS OF THE SEA.

SEA-WATER is ſalt, while that of rivers is mild, freſh, ſweet, and fit for human purpoſes. Some think that this ſaltneſs ariſes from great beds of ſalt lying at the bottom of the ſea. But others more rationally ſuppoſe it is owing to the following cauſe. Salt is one of the original principles of nature, and

is

mixed, in greater or leſs quantities, with moſt other bodies. Now all rivers run into the ſea, and carry ſome ſalt with them: but no rivers run out of it, nor is any water taken from it, but either by exhalation or evaporation. But chymiſts have demonſtrably proved, that no ſalt can aſcend in either of theſe ways; and conſequently, that all the ſalt carried into the ſea, by the immenſe number of rivers that run into it, remains behind, and occaſions its ſaltneſs.

That no ſalt aſcends from the ſea, either by exhalation or evaporation, is evident from this, that rain-water, which falls from the clouds, and was originally exhaled from the ſea, is, of all kinds of water, the ſweeteſt, pureſt, and lighteſt, and is made the *ſtandard* by which philoſophers judge of all other waters.

CHAP. XVI.

ON ELECTRICITY, AND THUNDER AND LIGHTNING.

THE word *electricity* is derived from the Greek word ηλεκτρον, ſignifying amber, which was the firſt ſubſtance that was obſerved to have the property of attracting ſtraws, and other light bodies; for this was the ſimple origin of a ſcience that is now arrived at very great perfection.

The *electrical matter* is a ſubtle fire, which pervades all nature, and produces the moſt ſurpriſing effects.

Thunder and *lightning* are undoubtedly owing to electricity. Dr. Franklin has proved by a variety of experiments,

experiments, that the lightning of electricity, and the lightning that flashes from the clouds, in a thunder-storm, are exactly of the same kind, and operate in the same manner.

Electricians have the art of making a machine, by which they can draw fire from a variety of bodies, and even accumulate, or heap it together in such quantities, that when it is discharged, or let off, it will make a report like a pistol, and even kill animals.

The particulars, in which lightning and the electric fluid agree, are as follow. 1. Flashes of lightning are generally seen crooked, and waving in the air. The same is the electric spark always, when it is drawn from an irregular body, at some distance. 2. Lightning strikes the highest and most pointed objects in its way, in preference to others, as high hills and trees, towers, spires, masts of ships, points of spears, and the like. In like manner, all pointed conductors* receive or throw off the electric fluid more readily than those that are terminated by flat surfaces. 3. Lightning is observed to take the readiest and best conductor. So does electricity in the discharge of the Leyden phial†. For this reason Dr. Franklin supposes, that it would be safer, during a thunder-storm, to have one's cloaths wet than dry, as the lightning might then, in great measure, be trans-

* Conductor is a term used by electricians for denoting any thing that conducts the electric fire from one body to another.

† A glass that contains an accumulation of electric matter.

mitted

mitted to the ground, by the water on the outſide of the body. It is found, he ſays, that a wet rat cannot be killed by the exploſion of the electrical bottle, but that a dry rat may. 4. Lightning burns: ſo does electricity. Dr. Franklin ſays, that he could kindle with it hard dry roſin, ſpirits unwarmed, and even wood. 5. Lightning ſometimes diſſolves metals: ſo does electricity. 6. Lightning has often been known to ſtrike people blind. And a pigeon, after a violent ſhock of electricity, by which the Doctor intended to have killed it, was obſerved to have been ſtruck blind. 7. Lightning deſtroys animal life. Animals have likewiſe been killed by the ſhock of electricity. The largeſt animals, which Dr. Franklin and his friends had been able to kill, were a hen, and a turkey which weighed about ten pounds.

To demonſtrate, in the cleareſt manner poſſible, the ſameneſs of electrical fire with the matter of lightning, Dr. Franklin, aſtoniſhing as it muſt have appeared, contrived actually to bring lightning from the heavens, by means of an electrical kite, which he raiſed, when a ſtorm of thunder was perceived to be coming on.

This kite had a pointed wire fixed upon it, by which it drew the lightning from the clouds. The lightning deſcended along the hempen ſtring that held the kite, and was received by a key tied to the extremity of it. That part of the ſtring, which the Doctor held in his hand, was of ſilk *, that the electric fire might ſtop at the key, and not reach his body.

* Some bodies conduct the electric fire, and ſome do not conduct it. Silk is of the latter kind.

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He found, that the ſtring would conduct electricity even when nearly dry, but that when it was wet, it would conduct it quite freely; ſo that it would ſtream out plentifully from the key, at the approach of a perſon's finger. At this key he charged phials, and from electric fire thus obtained, he kindled ſpirits, and performed all the common electrical experiments.

This diſcovery of the ſameneſs of lightning and electricity, was applied by Dr. Franklin to a moſt uſeful purpoſe, namely, to the ſecuring buildings from the dreadful effects of lightning in a thunder-ſtorm. With regard to thunder itſelf, or the ſound or noiſe we hear; it is perfectly harmleſs. It is the lightning that does the miſchief.

He effected this, by fixing a pointed iron rod higher than any part of the building, and joining to the lower end of it a wire, which communicated with the earth. This rod the lightning was ſure to ſeize upon, in preference to any other part of the building, and deſcended along it and the wire till it reached the earth, where it was inſtantly diſſipated without doing any harm.

All public buildings, and eſpecially all magazines, ought to have ſuch an apparatus for defending them from lightning; and many, I believe, have.

The fire of electricity is very different from *common fire*, and operates in a very different manner. It has been known to melt a ſword in the ſcabbard, without injuring the ſcabbard itſelf; and to melt money

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in a man's pocket wirhout burning his clothes. In a word, it ſeems to be of ſuch a nature, that it can eaſily penetrate through porous bodies without affecting them, and ſpends all its force upon thoſe that are hard and ſolid.

The experiment of drawing lightning from heaven, by means of an electric kite, is attended with danger. It proved fatal to Abbé Richman; who, in 1753, was killed by a flaſh of lightning, which he drew from the clouds, in an experiment he was making at Peterſburgh.

Electricity has been applied to ſome medical purpoſes, with ſo much ſucceſs, that it may now be conſidered as part of the ſcience.

CHAP. XVII.

ON THE SOUND OF THUNDER, AND THUNDER-BOLTS.

THE reaſon, why we do not hear the dreadful noiſe of the thunder, as ſoon as we ſee the lightning, is, becauſe ſound is longer in arriving to our ears, than light to our ſight.

Light moves almoſt inſtantaneouſly. Sound moves no more than 1142 feet in a ſecond. That light moves much faſter than ſound, any one may ſatisfy himſelf by obſerving a gun diſcharged at a diſtance; for he will ſee the fire long before he hears the ſound.

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The continuation and repetition of the ſound is cauſed by a kind of echo formed in the clouds, to which many hard bodies upon the earth may contribute, which return thoſe rollings we hear after a great clap of thunder.

A *thunder-bolt* is nothing but a more ſolid and moſt rapid flame, which, with incredible ſwiftneſs flies from the clouds to the earth, and through every thing ſtanding in its way, being interrupted by nothing. It ſometimes kills men and animals, burns and overthrows large trees and buildings, and ſets fire to every thing in its way.

CHAP. XVIII.

OF WATER-SPOUTS, WHIRLWINDS, AND HURRICANES.

SIGNIOR Beccaria, of Turin, thinks that electricity is the cauſe of *water-ſpouts*. To make this more evident, he firſt deſcribes the circumſtances attending the appearance of theſe ſpouts; which are as follow.

They generally appear in calm weather. The ſea ſeems to boil, and ſend up a ſmoke under them, riſing into a hill towards the ſpout. At the ſame time, perſons who have been near them have heard a rumbling noiſe.

The *ſhape* of a water-ſpout is that of a ſpeaking trumpet, the wider end being in the clouds, and the narrower end towards the ſea.

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The ſize is various, even in the ſame ſpout. The colour is ſometimes inclining to white, and ſometimes to black. Their poſition is ſometimes perpendicular to the ſea, ſometimes oblique, and ſometimes the ſpout itſelf is in the form of a curve. Their continuance is very various, ſome diſappearing as ſoon as formed, and ſome continuing a conſiderable time. Another he has heard of continued a whole hour.

Beccaria likewiſe ſuppoſes, that *whirlwinds* and *hurricanes* are owing to electricity, and adds, that what water-ſpouts are at ſea, whirlwinds and hurricanes are by land. They have been known to tear up trees, to throw down buildings, make caverns in the earth; and, in all theſe caſes, to ſcatter earth, ſtones, bricks, timber, &c. to a great diſtance in every direction. Great quantities of water have been left, or raiſed by them, ſo as to make a kind of deluge; and they have always been attended with a prodigious rumbling noiſe.

That theſe phænomena depend upon electricity, cannot, he ſays, but appear very probable from the nature of ſeveral of them; but the conjecture is made more probable from the following additional circumſtances.

They generally appear in months peculiarly ſubject to thunder-ſtorms, and are commonly preceded, accompanied, or followed by lightning, rain, or hail. Whitiſh or yellowiſh flaſhes of light have ſometimes been ſeen, moving with prodigious ſwiftneſs about them. And, laſtly, the manner in which they

they terminate, exactly reſembles what might be expected from the prolongation of an electrified cloud, towards the ſea. The water and the cloud mutually attract one another. They ſuddenly contract themſelves, and diſperſe almoſt at once; the cloud riſing, and the water of the ſea under it falling to its level.

But the moſt remarkable circumſtance, and the moſt favourable to the ſuppoſition of their depending upon electricity, is, that they have been diſperſed by preſenting to them ſharp-pointed knives or ſwords. This, at leaſt, is the conſtant practice of mariners, in many parts of the world, where theſe water-ſpouts abound.

CHAP. XIX.

OF THE STOCKS OR PUBLIC FUNDS.

AS there are few ſubjects of converſation more general than the value of ſtocks, I ſhall here give a ſhort account of them.

By the word *ſtock* was originally meant, a particular ſum of money contributed for the eſtabliſhment of a fund, in order to enable a company to carry on a certain trade, by means of which the perſon became a partner in that trade, and received a ſhare in the profit made thereby, in proportion to the money employed.

But this term has been extended farther, though improperly, to ſignify any ſum of money, which has been lent to the government, on condition of receiving a certain

a certain intereſt till the money is repaid, and which makes a part of the national debt. As the ſecurity both of the government and the public companies is eſteemed preferable to that of any private perſon; as the ſtocks are negociable and may be ſold at any time; and as the intereſt is always punctually paid when due; ſo they are thereby enabled to borrow money on a lower intereſt, than what might be obtained from lending it to private perſons, where there is often ſome danger of loſing both principal and intereſt.

But as every capital ſtock or fund of a company is raiſed for a particular purpoſe, and limited by government to a certain ſum, it neceſſarily follows, that when that fund is completed, no ſtock can be bought of the company; though ſhares, already purchaſed, may be transferred from one perſon to another. This being the caſe, there is frequently a great diſproportion between the original value of the ſhares, and what is given for them when transferred. For if there are more buyers than ſellers, a perſon who is indifferent about ſelling, will not part with his ſhare without a conſiderable profit to himſelf. On the contrary, if many are diſpoſed to ſell, and few inclined to buy, the value of ſuch ſhares will naturally fall, in proportion to the impatience of thoſe who want to turn their ſtock into ſpecie.

Theſe obſervations may ſerve to give ſome idea of the nature of that unjuſtifiable practice, called *ſtock-jobbing*. The myſtery of which conſiſts in nothing more than this. The perſons concerned in that practice,

tice, who are denominated ſtock-jobbers, make contracts to buy or ſell, at a certain diſtant time, a certain quantity of ſome particular ſtock; againſt which time they endeavour, according as their contract is, either to raiſe or lower ſuch ſtock, by ſpreading rumours, and fictitious ſtories, in order to induce people either to ſell out in a hurry, and conſequently cheap, if they are to deliver ſtock; or to become unwilling to ſell it, and conſequently to make it dearer, if they are to receive ſtock.

The perſons, who make theſe contracts, are not in general poſſeſſed of any real ſtock; and when the time comes that they are to receive or deliver the quantity they have contracted for, they only pay ſuch a ſum of money as makes the difference between the price the ſtock was at, when they made the contract, and the price it happens to be at, when the contract is fulfilled. It is no uncommon thing for perſons not worth 100l. to make contracts, for the buying or ſelling 100,000l. ſtock. In the language of Exchange-alley, the buyer is in this caſe called the *Bull*, and the ſeller the *Bear*; one is for raiſing or toſſing up, and the other for lowering or trampling upon the ſtock.

Beſides theſe, there is another ſet of men, who, though of a higher rank, may properly enough come under the ſame denomination. Theſe are the great monied men, who are dealers in ſtock, and contractors with the government, whenever any money is to be borrowed. Theſe, indeed, are not fictitious, but

real buyers and ſellers of ſtock; but by raiſing falſe hopes, or creating groundleſs fears, by pretending to buy or ſell large quantities of ſtock on a ſudden, by uſing the above-mentioned ſet of men as their inſtruments, and other like practices, they are enabled to raiſe or fall ſtocks one or two per cent. at pleaſure.

On this ſubject the young ſtudent will derive much inſtruction from the philoſophy of Doctors Ferguſon, Nicholſon, and Enfield; from Doctors Franklin and Prieſtley, on Electricity; and from Dr. Gregory's Economy of Nature.

BOOK VII.

OF THE CONSTITUTION, GOVERNMENT, AND ADMINISTRATION OF THE LAW.

CHAP. I.

OF THE KING, AND BRITISH CONSTITUTION.

THE ſupreme executive power of Great Britain and Ireland, is veſted by our conſtitution in a ſingle perſon, king or queen; for it is indifferent to which ſex the crown deſcends. The perſon intitled to it, whether male or female, is immediately intruſted with all the enſigns, rights, and prerogatives of ſovereign power.

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The grand fundamental maxim, upon which the right of ſucceſſion to the throne of theſe kingdoms, depends, is; "That the crown, by common law and conſtitutional cuſtom, is hereditary; and this in a manner peculiar to itſelf; but that the right of inheritance may from time to time be changed, or limited by act of parliament:" under which limitations, the crown ſtill continues hereditary.

That the young reader may enter more clearly into the deduction of the royal ſucceſſion, by its being transferred from the houſe of Tudor to that of Stuart, it may be proper to inform him, that on the death of queen Elizabeth, without iſſue, it became neceſſary to recur to the other iſſue of her grandfather Henry VII. by Elizabeth of York his queen; whoſe eldeſt daughter Margaret, having married James IV. king of Scotland, king James the Sixth of Scotland, and of England the Firſt, was the lineal deſcendant from that alliance. So that in his perſon, as clearly as in Henry VIII. centred all the claims of the different competitors, from the Norman invaſion downward; he being indiſputably the lineal heir of William I. And, what is ſtill more remarkable, in his perſon alſo centred the right of the Saxon monarchs, which had been ſuſpended from the Norman invaſion till his acceſſion. For Margaret, the ſiſter of Edgar Atheling, daughter of Edward the Outlaw, and granddaughter of king Edmund Ironſide, was the perſon in whom the hereditary right of the Saxon kings, ſuppoſing it not aboliſhed by the conqueſt, reſided.

She married Malcolm III. king of Scotland; and Henry II. by a deſcent from Matilda their daughter, is generally called the reſtorer of the Saxon line. But it muſt be remembered, that Malcolm, by his Saxon queen, had ſons as well as daughters; and that the royal family of Scotland, from that time downward, were the offspring of Malcolm and Margaret. Of this royal family king James I. was the direct and lineal deſcendant; and therefore united in his perſon every poſſible claim by hereditary right to the Engliſh as well as Scottiſh throne, being the heir both of Egbert and William the Norman.

At the revolution in 1688, the convention of eſtates, or repreſentative body of the nation, declared that the miſconduct of king James II. amounted to an abdication of the government, and that the throne was thereby vacant.

In conſequence of this vacancy, and from a regard to the ancient line, the convention appointed the next proteſtant heirs of the blood royal of king Charles I. to fill the vacant throne, in the old order of ſucceſſion; with a temporary exception, or preference, to the perſon of William III.

On the impending failure of the proteſtant line of king Charles I. (whereby the throne might again have become vacant) the king and parliament extended the ſettlement of the crown to the proteſtant line of king James I. viz. to the princeſs Sophia of Hanover, and the heirs of her body, being proteſtants; and ſhe

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is now the common ſtock, from whom the heirs of the crown muſt deſcend.

The true ground and principle, upon which the revolution proceeded, was entirely a new caſe in politics, which had never before happened in our hiſtory: the abdication of the reigning monarch, and the vacancy of the throne thereupon. It was not a new limitation of the crown, by the king and both houſes of parliament. It was the act of the nation alone, upon a conviction that there was no king in being. For in a full aſſembly of the lords and commons, met in convention, upon the ſuppoſition of this vacancy, both houſes came to this reſolution: "That king James II. having endeavoured to ſubvert the conſtitution of the kingdom, by breaking the original contract between king and people; and by the advice of Jeſuits, and other wicked perſons, having violated the fundamental laws, and having withdrawn himſelf out of this kingdom, has abdicated the government, and that the throne is thereby vacant." Thus ended at once, by this ſudden and unexpected revolution, the old line of ſucceſſion, which from the Norman invaſion had laſted above 600 years, and from the union of the Saxon heptarchy in king Egbert, almoſt 900.

Though in ſome points the revolution was not ſo perfect as might have been wiſhed, yet from thence a new æra commenced, in which the bounds of prerogative and liberty have been better defined, the principles of government more thoroughly examined

and underſtood, and the rights of the ſubject more explicitly guarded by legal proviſions, than in any other period of the Engliſh hiſtory. In particular, it is worthy obſervation, that the convention, in this their judgment, avoided with great wiſdom the extremes, into which the theories of ſome zealous republicans would have led them. They held that this miſconduct of king James amounted to an *endeavour* to ſubvert the conſtitution, and not to an actual ſubverſion, or total diſſolution of the government. They, therefore, very prudently voted it to amount to no more, than an abdication of the government, and a conſequent vacancy of the throne. The government was allowed to ſubſiſt, though the executive magiſtrate was gone; and the kingly office to remain, though James was no longer king. Thus the conſtitution was kept entire; which, upon every ſound principle of government muſt otherwiſe have fallen to pieces, had ſo principal and conſtituent a part as the royal authority been aboliſhed, or even ſuſpended.

Hence it is eaſy to collect, that the title to the crown is at preſent hereditary, though not quite ſo abſolutely hereditary as formerly; and the common ſtock or anceſtor, from whom the deſcent muſt be derived, is alſo different. Formerly the common ſtock was king Egbert; then William the Conqueror; afterwards, in James the Firſt's time, the two common ſtocks united, and ſo continued till the vacancy in the throne in 1688. Now it is the princeſs Sophia, in whom the inheritance was veſted by the new king

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and parliament. Formerly the deſcent was abſolute, and the crown went to the next heir without any reſtriction. But now, upon the new ſettlement, the inheritance is conditional; being limited to ſuch deſcendants of the princeſs Sophia, as are proteſtant members of the church of England, and are married to none but proteſtants.

In this due medium, conſiſts the true conſtitutional notion of the right of ſucceſſion to the imperial crown of theſe kingdoms. Both the extremes, between which it ſteers, have been thought to be deſtructive of thoſe ends, for which ſocieties were formed, and are kept on foot. Where the magiſtrate, upon every ſucceſſion, is elected by the people, and may, by the expreſs proviſion of the law, be depoſed by his ſubjects, this may ſound like the perfection of liberty, and look well enough when delineated on paper; but in practice will be ever found extremely difficult. And, on the other hand, divine indefeaſible hereditary right, when coupled with the doctrine of unlimited paſſive obedience, is ſurely, of all conſtitutions, the moſt ſlaviſh and dreadful. But when ſuch an hereditary right, as our laws have created and veſted in the royal ſtock, is cloſely interwoven with thoſe liberties, which are equally the inheritance of the ſubject, this union will form a conſtitution, in theory the moſt beautiful of any, in practice the moſt approved, and, in all probability, will prove in duration the moſt permanent.

CHAP. II.

ON THE POWER OF THE BRITISH MONARCH.

THE king of Great Britain, notwithſtanding the limitation of the power of the crown, is one of the greateſt monarchs reigning over a free people. His perſon is ſacred in the eye of the law, which makes it high treaſon ſo much as to imagine, or intend his death. Neither can he, in himſelf, be deemed guilty of any crime, the law taking no cogniſance of his actions, but only in the perſons of his miniſters, if they infringe the laws of the land.

As to his power, it is very great, though he has no right to extend his prerogative, beyond the ancient limits, or the boundaries preſcribed by the conſtitution. He can make no new laws, nor raiſe any new taxes, nor act in oppoſition to any of the laws. But he can make war or peace; ſend and receive ambaſſadors; make treaties of league and commerce; levy armies, and fit out fleets, for the defence of his kingdom, the annoyance of his enemies, or the ſuppreſſion of rebellions; grant commiſſions to his officers, both by ſea and land, or revoke them at pleaſure; ſummon the parliament to meet, and when met, adjourn, prorogue, or diſſolve it; refuſe his aſſent to any bill, though it has paſſed both houſes; which, conſequently, by ſuch a refuſal, has no more force, than if it had never been moved. This prerogative, however, the

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kings of England have very ſeldom ventured to exercise.

He poſſeſſeth alſo the right of chooſing his own council; of nominating all the great officers of ſtate, of the houſhold, and of the church; and, in fine, is the fountain of honour, from whom all degrees of nobility and knighthood are derived. Such is the dignity and power of a king of Great Britain.

CHAP. III.

OF THE PARLIAMENT.

PARLIAMENTS, or general councils, in ſome ſhape, are of as high antiquity as the Saxon government in this iſland, and coeval with the kingdom itſelf. Blackſtone, in his valuable Commentaries, ſays, "It is generally agreed, that, in the main, the conſtitution of parliament, as it now ſtands, was marked out ſo long ago as the 17th year of the reign of king John, A. D. 1215. In the *Great Charter*, granted by that prince, he promiſes to ſummon all archbiſhops, biſhops, abbots, lords, and greater barons, perſonally; and all other tenants, under the crown, by the ſheriff and bailiffs, to meet at a certain place, within forty days notice, to aſſeſs aids and ſupplies when neceſſary. And this conſtitution hath ſubſiſted, in fact, at leaſt from the year 1266, in the reign of Henry III. There are ſtill extant writs of that date to ſummon knights, citizens, and burgeſſes to parliament."

The parliament is aſſembled by the king's writs, and its ſitting muſt not be intermitted above three years. Its conſtituent parts are, the king, ſitting there in his royal political capacity, and the three eſtates of the realm; the lords ſpiritual, the lords temporal (who ſit together with the king in one houſe), and the commons, who ſit by themſelves in another. The king and theſe three eſtates, together, form the great corporation or body politic of the kingdom, of which the king is ſaid to be *caput*, *principium*, et *finis*. For, upon their coming together, the king meets them, either in perſon, or by repreſentation, without which there can be no beginning of a parliament; and he alone has the power of diſſolving them.

It is highly neceſſary for preſerving the balance of the conſtitution, that the executive power ſhould be a branch, though not the whole, of the legiſlature. The crown cannot begin of itſelf any alterations in the preſent eſtabliſhed law; but it may approve or diſapprove of the alterations ſuggeſted and conſented to by the two houſes. The legiſlative, therefore, cannot abridge the executive power of any rights, which it now has by law, without its own conſent. The law muſt perpetually ſtand, as it now is, unleſs all the powers will agree to alter it.

In this conſiſts the true excellence of the Engliſh government, that all the parts of it form a mutual check upon each other. In the legiſlature, the people are a check upon the nobility, and the nobility a check upon the people, by the mutual privilege of rejecting, what

what the other has reſolved; while the king is a check upon both. This preſerves the executive power from encroachments.

CHAP. IV.

OF THE HOUSE OF LORDS.

THE lords ſpiritual conſiſt of two archbiſhops, and twenty-four biſhops. The lords temporal conſiſt of all the peers of the realm; the biſhops not being, in ſtrictneſs, held to be ſuch, but merely lords of parliament. Some of the peers ſit by deſcent, as do all ancient peers; ſome by creation, as do all the new made ones: others, ſince the union with Scotland, by election, which is the caſe of the ſixteen peers, who repreſent the body of the Scottiſh nobility. The number of the peers is indefinite, and may be increaſed at will by the power of the crown.

A body of nobility is more peculiarly neceſſary in our mixed conſtitution, in order to ſupport the rights both of the crown and of the people; by forming a barrier to withſtand the encroachments of both. It creates and preſerves that gradual ſcale of dignity, which proceeds from the peaſant to the prince; riſing like a pyramid from a broad foundation, and diminiſhing to a point as it riſes. The nobility, therefore, are the pillars, which are reared from among the people, more immediately to ſupport the throne; and if that falls, they muſt alſo be buried under its ruins. Accordingly, when Charles I. was put to death, the

commons, having determined to extirpate monarchy, alſo voted the houſe of lords to be uſeleſs and dangerous.

CHAP. V.

OF THE HOUSE OF COMMONS.

THE commons conſiſt of all ſuch men of any property in the kingdom, as have not ſeats in the houſe of lords; every one of whom has a voice in parliament, either perſonally, or by his repreſentatives.

This, however, muſt be underſtood with ſome limitation. Thoſe who are poſſeſſed of eſtates in land, though to the value of only *forty ſhillings* per annum, have a right to vote for members of parliament; as have moſt of the members of corporations and boroughs. But there are very large trading towns and populous places, which ſend no members to parliament; and of thoſe towns which do ſend members, great numbers of the inhabitants have no votes. Many thouſand perſons of great perſonal property, have, therefore, no repreſentatives. Indeed, the inequality and defectiveneſs of the repreſentation, has been juſtly conſidered as one of the greateſt imperfections in the Engliſh conſtitution. The duration of parliaments, being extended to ſeven years, has been conſidered in the ſame light.

In a free ſtate, every man, who is ſuppoſed a free agent, ought to be, in ſome meaſure, his own governor;

vernor; and therefore, a branch at leaſt of the legiſlative power ſhould reſide in the whole body of the people. In a large ſtate, it is very wiſely contrived, that the people ſhould do that by their repreſentatives, which it is impracticable to perform in perſon. The counties are therefore repreſented in parliament by knights, elected by the proprietors of lands. The cities and boroughs are repreſented by citizens and burgeſſes, choſen by the mercantile part, or ſuppoſed trading intereſt of the nation.

The number of Engliſh repreſentatives is 513, and of Scotch 45; in all 558. And every member, though choſen by one particular diſtrict, when elected and returned, ſerves for the whole realm. For the end of his coming thither is not particular, but general; not merely to ſerve his conſtituents, but alſo the commonwealth, and to adviſe his majeſty, as appears from the writ of ſummons.

The following oath, called the *bribery oath*, is adminiſtered to every perſon before they poll. "I —— do ſwear (or being one of the people called Quakers, do ſolemnly affirm) I have not received or had, by myſelf, or any perſon whatſoever in truſt for me, or for my uſe and benefit, directly or indirectly, any ſum or ſums of money, office, place or employment, gift or reward, or any promiſe or ſecurity for any money, office, or employment, or gift, in order to give my vote at this election; and that I have not before been polled at this election. So help me God."

CHAP.

CHAP. VI.

OF THE POWER OF PARLIAMENT.

THE power of parliament is ſo tranſcendent and abſolute, that it cannot be confined, either for cauſes or perſons, within any bounds. It hath ſovereign and uncontroulable authority in making, confirming, enlarging, reſtraining, abrogating, repealing, reviving, and expounding laws, concerning matters of all poſſible denominations, eccleſiaſtical or temporal, civil, military, maritime, or criminal. That abſolute deſpotic power, which muſt in all governments reſide ſomewhere, is here entruſted, by the Britiſh conſtitution. All miſchiefs and grievances, operations and remedies, that tranſcend the ordinary courſe of the laws, are within the reach of this extraordinary tribunal.

It can regulate or new model the ſucceſſion to the crown; as was done in the reign of Henry VIII. and William III. It can alter the eſtabliſhed religion of the land; as was done in a variety of inſtances, in the reign of king Henry VIII. and his three children, Edward VI. Mary, and Elizabeth. It can change and create afreſh even the conſtitution of the kingdom, and of parliaments themſelves; as was done by the act of union, and the ſeveral ſtatutes for triennial and ſeptennial elections. It can, in ſhort, do every thing that is not naturally impoſſible; and therefore ſome have

have not ſcrupled to call its power by a figure rather bold, the *omnipotence of parliament*.

But then their power, however great, is given them in truſt, and therefore ought to be employed according to the rules of juſtice, and for the promotion of the general welfare of the people. And it is a matter moſt eſſential to the liberties of the kingdom, that ſuch members be delegated to this important truſt, as are moſt eminent for their probity, their fortitude, and their knowledge; for it was a known apopthegm of the great lord treaſurer Burleigh, "that England could never be ruined but by a parliament." And, as ſir Matthew Hale obſerves, "this being the higheſt and greateſt court, over which none other can have juriſdiction in the kingdom, if by any means a miſgovernment ſhould any way fall upon it, the ſubjects of this kingdom are left without all manner of legal remedy."

In order to prevent the miſchief that might ariſe, by placing this extenſive authority in hands that are either incapable, or elſe improper to manage it, it is provided, that no one ſhall ſit or vote in either houſe of parliament, unleſs he be twenty-one years of age. To prevent innovations in religion and government, it is enacted, that no member ſhall vote or ſit in either houſe, till he hath, in the preſence of the houſe, taken the oaths of allegiance, ſupremacy, and abjuration. To prevent dangers that may ariſe to the kingdom from foreign attachments, connections or dependencies, it is enacted, that no alien, born out of

the dominions of the crown of Great Britain, even though he be naturalized, ſhall be capable of being a member of either houſe of parliament.

CHAP. VII.

ON THE PRIVILEGES OF THE MEMBERS.

SOME of the moſt important privileges of the members of either houſe are, privilege of ſpeech, of perſon, of their domeſtics, and of their lands and goods. As to the firſt, privilege of ſpeech, it is declared by a ſtatute of William and Mary, as one of the liberties of the people, "that the freedom of ſpeech, and debates, and proceedings in parliament, ought not to be impeached or queſtioned in any court or place out of parliament."

This freedom of ſpeech is particularly demanded of the king in perſon, by the ſpeaker of the houſe of commons, at the opening of every new parliament.

To aſſault by violence a member of either houſe, or his menial ſervants, is a high contempt of parliament, and puniſhed with great ſeverity.

Till lately, all members were exempted from legal arreſts, and ſeizures by proceſs from the courts of law. No entry could be made on their lands; their goods could not be diſtrained or ſeized; nor could they be taken into cuſtody, without a breach of the privileges of parliament.

This exemption, however, from arreſts for lawful debts, was always conſidered by the public as a grievance.

ance. The lords and commons, therefore, generouſly relinquiſhed their privilege by act of parliament, in 1770; and members of both houſes may now be ſued like other debtors.

The houſe of lords have a right to be attended by the judges of the courts of King's Bench and Common Pleas, and ſuch of the barons of the Exchequer as are of the degree of the coif, or have been made ſerjeants at law, as likewiſe by the maſters of the court of Chancery; for their advice in point of law, and for the greater dignity of their proceedings.

The ſpeaker of the houſe of lords is generally the lord chancellor, or lord keeper of the great ſeal, which dignities are commonly veſted in the ſame perſon.

CHAP. VIII.

PECULIAR RIGHTS OF THE HOUSE OF COMMONS.

THE houſe of commons may be properly ſtyled the grand inqueſt of Great Britain, impowered to enquire into all national grievances, in order to ſee them redreſſed.

The peculiar laws and cuſtoms of the houſe of commons relate principally to the raiſing of taxes, and the elections of members to ſerve in parliament.

With regard to taxes, it is the ancient indiſputable privilege and right of the houſe of commons, that all grants of ſubſidies, or parliamentary aids, begin in their houſe, and are firſt beſtowed by them; though their grants

grants are not effectual to all intents and purpoſes, until they have the aſſent of the other two branches of the legiſlature.

The general reaſon given for this excluſive privilege of the houſe of commons is, that the ſupplies are raiſed from the body of the people, and therefore it is proper, that they alone ſhould have the right of taxing themſelves. And ſo reaſonably jealous are the commons of this privilege, that they will not ſuffer the other houſe to exert any power but that of rejecting. They will not permit the leaſt alteration or amendment to be made, by the lords, to the mode of taxing the people by a money-bill. Under this appellation are included all bills by which money is directed to be raiſed upon the ſubject, for any purpoſe, or in any ſhape whatſoever; either for the exigences of government, and collected from the kingdom in general, as the land-tax; or for private benefit, and collected in any particular diſtrict, as by turnpikes, pariſh-rates, and the like.

The method of making laws is much the ſame in both houſes. In each houſe, the act of the majority binds the whole. This majority is declared by votes openly and publicly given; not as at Venice, and many other ſenatorial aſſemblies, privately or by ballot.

CHAP.

CHAP. IX.

OF PARLIAMENTARY BILLS.

TO bring a bill into the houſe of commons, if the relief ſought by it is of a private nature, it is firſt neceſſary to prefer a petition; which muſt be preſented by a member, and uſually ſets forth the grievance deſired to be remedied. This petition is referred to a committee of members, who examine the matter alledged, and accordingly report it to the houſe; and then leave is given to bring in the bill. In public matters, the bill is brought in upon a motion made to the houſe, without any petition. This is read a firſt time, and, at a convenient diſtance, a ſecond time; and, after each reading, the ſpeaker opens to the houſe the ſubſtance of the bill, and puts the queſtion, whether it ſhall proceed any farther.

The introduction of the bill may be originally oppoſed, as the bill itſelf may, at either of the readings. If the oppoſition ſucceeds, the bill muſt be dropt for that ſeſſion; and it muſt alſo, if oppoſed with ſucceſs, in any of the ſubſequent ſtages.

After the ſecond reading, it is committed; that is, referred to a committee, which is either ſelected by the houſe, in matters of ſmall importance; or elſe, if the bill is a matter of great, or national conſequence, the houſe reſolves itſelf into a committee of the whole houſe.

A com-

A committee of the whole houſe is compoſed of every member; and, to form it, the ſpeaker quits the chair (another member being appointed chairman) and may ſit and debate as a private member. In theſe committees, the bill is debated clauſe by clauſe. Amendments are made, the blanks are filled up, and ſometimes the bill is entirely new-modelled.

After it has gone through the committee, the chairman reports it to the houſe, with ſuch amendments as the committee have made. The houſe then re-conſider the whole bill, and the queſtion is repeatedly put, upon every clauſe and amendment.

When the houſe have agreed, or diſagreed, reſpecting the amendments of the committee, and ſometimes added new amendments of their own, the bill is ordered to be engroſſed, or written in a ſtrong groſs hand, on a roll of parchment, or, if neceſſary, on ſeveral rolls ſewed together.

When this is finiſhed, it is read a third time, and amendments are ſometimes then made to it; and, if a new clauſe be added, it is done by tacking a ſeparate piece of parchment to the bill, which is called *a rider*. The ſpeaker then again opens the contents; and holding it up in his hands, puts the queſtion whether the bill ſhall paſs. If this be agreed to, the title to it is then ſettled.

After this, one of the members is directed to carry it to the lords, and deſire their concurrence; who, attended by ſeveral more, carries it to the bar of the houſe

houſe of peers, and there delivers it to their ſpeaker, who comes down from his woolſack to receive it. It there paſſes through the ſame forms, as in the other houſe; and, if rejected, no more notice is taken, but it paſſes, *ſub ſilentio*, to prevent unbecoming altercations.

But if it be agreed to, the lords ſend a meſſage by two maſters in chancery, that they have agreed to the ſame; and the bill remains with the lords, if they have made no amendment to it. But if any amendments are made, ſuch amendments are ſent down with the bill, to receive the concurrence of the commons. If the commons do not agree to the amendments, a conference uſually follows, between members deputed from each houſe, who, for the moſt part, ſettle and adjuſt the difference. But, if both houſes remain inflexible, the bill is dropped. If the commons agree to the amendments, the bill is ſent back to the lords by one of the members, with a meſſage to acquaint them therewith.

The ſame forms are obſerved, when the bill begins in the houſe of lords. But when an act of grace or pardon is paſſed, it is firſt ſigned by his majeſty, and then read once only in each of the houſes, without any new engroſſing or amendment. And when both houſes have done with any bill, it is always depoſited in the houſe of peers, to wait the royal aſſent; except in the caſe of a money-bill, which, after receiving the concurrence of the lords, is ſent back to the houſe of commons.

It

It may not be improper to obſerve, that both in the houſes, and in their committees, the ſlighteſt expreſſion, or moſt minute alteration, does not paſs, till the ſpeaker, or the chairman, puts the queſtion; which, in the houſe of commons, is anſwered by *aye* or *no*; and, in the houſe of peers, by *content*, or *not content*.

CHAP. X.

OF THE ROYAL ASSENT TO BILLS.

THE giving the royal aſſent to bills is a matter of great form. When the king is to paſs bills in perſon, he appears on his throne in the houſe of peers, in his royal robes, with the crown on his head, and attended by his great officers of ſtate, and heralds. A ſeat on the right hand of the throne, where the princes of Scotland, when peers of England, formerly ſat, is reſerved for the prince of Wales. The other princes of the blood ſit on the left hand of the king; and the chancellor, on a cloſe bench, removed a little backwards. The viſcounts and temporal barons, or lords, face the throne, on benches, or wool-packs, covered with red cloth or baize. The biſhops are ſeated on a bench, which runs along the houſe to the bar on the right hand of the throne. The dukes and earls ſit on the left.

The chancellor and judges, on ordinary days, ſit upon wool-packs between the barons and the throne. The common opinion is, that the houſe ſitting on

wool

wool is ſymbolical of wool being formerly the ſtaple commodity of the kingdom. Many of the peers on ſolemn occaſions, appear in their parliamentary robes. None of the commons have any robes, excepting the ſpeaker, who wears a long black ſilk gown; and when he appears before the king it is trimmed with gold.

The royal aſſent may be given two ways. 1. In perſon; when the king ſends for the houſe of commons to the houſe of peers. The ſpeaker carries up the money-bills in his hand; and, in delivering them, he addreſſes his majeſty in a ſolemn ſpeech, in which he ſeldom fails to extol the generoſity and loyalty of the commons, and to tell his majeſty how neceſſary it is to be frugal of the public money. It is upon this occaſion, that the commons of Great Britain appear in their higheſt luſtre.

The titles of bills that have paſſed both houſes are read; and the king's anſwer is declared by the clerk of the parliament in Norman French. If the king conſents to a public bill, the clerk uſually declares, *le roy le veut*, "the king wills it ſo to be;" if to a private bill, *ſoit fait comme il eſt deſirē*, "be it as it is deſired." If the king refuſes his aſſent, it is in the gentle language of, *le roy s'aviſera*, "the king will adviſe upon it."

2. By a ſtatute of Henry VIII. the king may give his aſſent by letters patent under his great ſeal, ſigned with his hand, and notified, in his abſence, to both houſes aſſembled together in the high houſe, by commiſſioners

miſſioners conſiſting of certain peers, named in the letters. And, when the bill has received the royal aſſent in either of theſe ways, it is then, and not before, a ſtatute, or act of parliament.

An act of parliament thus made, is the exerciſe of the higheſt authority, that this kingdom acknowledges upon earth. It has power to bind every ſubject in the land, and even the king himſelf. It cannot be altered, amended, diſpenſed with, ſuſpended, or repealed, but in the ſame forms, and by the ſame authority of parliament; for it is a maxim in law, that it requires the ſame ſtrength to diſſolve, as to create an obligation.

CHAP. XI.

OF THE PRIVY-COUNCIL.

THE king of Great Britain, beſides his high court of parliament, has ſubordinate officers and miniſters to aſſiſt him, who are reſponſible for their advice and conduct. They are made by the king's nomination, without either patent or grant; and on taking the neceſſary oaths, they become immediately privy-counſellors, during the life of the king that chuſes them; but ſubject to removal at his direction.

The duty of a privy-counſellor appears from the oath of office, which conſiſts of ſeven articles: 1. To adviſe the king according to the beſt of his cunning and diſcretion. 2. To adviſe for the king's honour and

and the good of the public, without partiality through affection, love, need, doubt, or dread. 3. To keep the king's counſel ſecret. 4. To avoid corruption. 5. To help and ſtrengthen the execution of what ſhall be there reſolved. 6. To withſtand all perſons who would attempt the contrary. And laſtly, to obſerve, in general, all that a good and true counſellor ought to do for his ſovereign lord.

Among the privy-counſellors, the two ſecretaries of ſtate are more officially ſo than the others, as they are entruſted with the king's ſignet, and are ſuppoſed to adviſe with him in acts of government, which may not be proper to be communicated even to a privy-counſellor; ſuch as giving orders for ſecret expeditions, correſpondence with ſpies, or other agents, ſecuring traitors, and the like.

The office of ſecretary of ſtate is at preſent divided into a ſouthern and a northern department. The ſouthern contains France, Spain, Portugal, Italy, the Swiſs Cantons, Conſtantinople, and, in ſhort, all the ſtates in the ſouthern parts. The northern comprehends the different ſtates of Germany, Pruſſia, Poland, Ruſſia, Sweden, Denmark, Holland, Flanders, and the Hanſeatic towns.

The capital affairs of government, which were formerly intruſted with the ſecretaries of ſtate, are now tranſacted by a committee of the privy-council, commonly called a cabinet-council. This cabinet generally conſiſts of a ſelect number of miniſters and noblemen, according to the king's opinion of their in-

tegrity and abilities, or attachment to the views of the court. But, though its operations are powerful and extenſive, a cabinet-council is not eſſential to the conſtitution of England.

This obſervation naturally leads me to mention the perſon, who is ſo well known by the name of the *firſt miniſter*; a term unknown to the Engliſh conſtitution, though the office is, perhaps, neceſſary. The conſtitution points out the lord high chancellor as miniſter; but the affairs of his own court give him ſufficient employment. When the office of the firſt lord of the treaſury is united with that of chancellor of the exchequer, in the ſame perſon, he is conſidered as firſt miniſter. But though it is no office, yet there is a reſponſibility annexed to the ſituation, which renders it a poſt of difficulty and danger.

CHAP. XII.

OF THE GREAT OFFICERS OF THE CROWN.

I SHALL now take a ſhort review of the nine great officers of the crown, who by their poſts take place next to the princes of the royal family and the two primates.

The firſt is the *lord high ſteward* of England. This is an office very ancient, and formerly was hereditary, or at leaſt for life. But now it is exerciſed only occaſionally; that is, at a coronation, or when it is neceſſary to ſit as judge on a peer or peereſs, tried for a capital offence. In coronations, it is held, for that day

day only, by ſome high nobleman. In caſes of trial, it is exerciſed generally by the lord chancellor, or lord keeper; whoſe commiſſion, as high ſteward, ends with the trial, by breaking his white rod, the badge of his office.

The *lord high chancellor* preſides in the court of chancery, to moderate the ſeverities of the law, in all caſes where the property of the ſubject is concerned; and he is to determine according to the dictates of equity and reaſon. He is an officer of the greateſt weight and power of any now ſubſiſting in the kingdom, and is ſuperior in precedency to every temporal lord.

The poſt of *lord high treaſurer* has of late been veſted in a commiſſion, conſiſting of five perſons, who are called lords of the treaſury; but the firſt commiſſioner is ſuppoſed to poſſeſs the power of lord high treaſurer. He has the management and charge of all the revenues of the crown kept in the Exchequer; as alſo the letting of the leaſes of all crown lands, and the gift of all places belonging to the cuſtoms in the ſeveral ports of the kingdom. From this ſhort view of his office, its importance may eaſily be underſtood. He has, in fact, the public finances in his hands, beſides the diſpoſal of ſo great a number of lucrative places, that a catalogue of them would fill many pages.

The *lord preſident of the council* was an officer formerly of great power, and has precedence next after the lord chancellor, and lord treaſurer. His duty is to propoſe all the buſineſs tranſacted at the council-board,

and to report to the king, when his majeſty is not preſent, all its debates and proceedings.

The office of *lord privy ſeal* conſiſts in his putting the king's ſeal to all charters, grants, and the like, which are ſigned by the king, in order to their paſſing the great ſeal.

The office of *lord great chamberlain* of England is hereditary to the duke of Ancaſter's family. He attends the king's perſon, on his coronation, to dreſs him. He has likewiſe charge of the houſe of lords, during the ſitting of parliament; and of fitting up Weſtminſter-hall for coronations, or trials of peers.

The office of *lord high conſtable* has been diſuſed, ſince the attainder and execution of Stafford duke of Buckingham, in the year 1521; but it is occaſionally revived for a coronation.

The duke of Norfolk is hereditary *earl marſhal* of England. He regulates all points of precedency, according to the archives kept in the herald's office, which is entirely within his juriſdiction. He directs all ſolemn proceſſions, coronations, proclamations, general mournings, and the like. Before England became ſo commercial a country, as it has been for a hundred years paſt, this office required great abilities, learning, and knowledge of the Engliſh hiſtory, for its diſcharge. In time of war, he was judge of army-cauſes, and decided according to the principles of the civil law. If the cauſe did not admit of ſuch deciſion, it was left to a perſonal combat, which was attended with a great variety of

of ceremonies; the arrangement of which, even to the ſmalleſt trifle, fell within the marſhal's province.

The office of *lord high admiral* of England is now held by commiſſion, and is equal in importance to any of the preceding, eſpecially ſince the growth of the Britiſh naval power. The laſt lord high admiral was George prince of Denmark, and huſband to queen Anne. The Engliſh admiralty is a board of directions as well as execution, and is in its proceedings independent of the crown itſelf. All trials upon life and death, in maritime affairs, are appointed and held under a commiſſion immediately iſſuing from that board, and the members muſt ſign even the death warrants for execution. But it may be eaſily conceived, that, as they are removable at pleaſure, they do nothing that can claſh with the prerogative of the crown, and conform themſelves to the directions they receive from his majeſty. The board of admiralty regulates the whole naval force of the realm, and names all their officers, or confirms them when named; ſo that its juriſdiction is very extenſive.

CHAP. XIII.

ON THE COURTS OF LAW.

THE *court of chancery*, which is the court of equity, is next in dignity to the high court of parliament, and is deſigned to relieve the ſubject againſt frauds, breaches of truſt, and other oppreſſions,

and to mitigate the rigour of the law. The lord high chancellor ſits as ſole judge, and in his abſence the maſter of the rolls.

The *King's Bench* is ſo called, from the kings of England ſometimes ſitting there in perſon, or becauſe all matters determinable by common law, between the king and his ſubjects are there tried, except ſuch affairs as properly belong to the court of exchequer. This court is likewiſe a kind of check upon all the inferior courts of juſtice throughout the realm; appointing or removing county juſtices at pleaſure, as well as practitioners in the law. Here preſide four judges, the firſt of whom is ſtyled lord chief juſtice of the king's bench, or, by way of eminence, lord chief juſtice of England, to expreſs the great extent of his juriſdiction over the kingdom. The other three judges are called juſtices, or judges of the king's bench.

The *court of Common Pleas* takes cognizance of all civil actions depending between ſubject and ſubject. The firſt judge of this court is ſtyled lord chief juſtice of the Common Pleas; and beſides him, there are three other judges. None but ſerjeants at law are allowed to plead here.

The *court of Exchequer* was inſtituted for managing the revenues of the crown, and has a power of judging both according to law and according to equity. In the proceedings according to law, the lord chief baron of the Exchequer, and three other barons preſide as judges. They are ſtyled barons, becauſe formerly none, but barons of the realm, were allowed

to

to be judges of this court. When this court proceeds according to equity, then the lord treaſurer and the chancellor of the Exchequer preſide, aſſiſted by the other barons. All matters touching the king's treaſury, revenue, cuſtoms, and fines, are here tried and determined.

Beſides theſe, there are courts of conſcience ſettled in many parts of England, for the relief of the poor, in the recovery of payment of ſmall debts, not exceeding *forty ſhillings*.

CHAP. XIV.

OF THE SHERIFFS, AND OTHER OFFICERS.

FOR putting the laws effectually in execution, a high-ſheriff is annually appointed for every county by the king, whoſe office is both miniſterial and judicial. He executes the king's mandate, and all writs directed to him out of the king's court of juſtice. He impannels juries, brings cauſes and malefactors to trial, and ſees ſentence, both in civil and criminal affairs, executed. He attends the judges at the aſſizes, and guards them all the time they are in his county. He likewiſe decides the elections of knights of the ſhire, and judges of the qualifications of voters.

As his office is judicial, he keeps a court called the county-court, to hear and determine all civil cauſes in the county, under forty ſhillings. As the keeper of the king's peace, both by common law and ſpecial commiſſion,

commiſſion, he is the firſt man in the county, and ſuperior in rank to any nobleman in it, during his office.

The next office to the ſheriff is the *juſtice of peace*, ſeveral of whom are commiſſioned for each county. To them is intruſted the power of putting great part of the ſtatute law in execution, with regard to the highways, the poor, vagrants, treaſons, felonies, riots, the preſervation of the game, and the like. They examine, and commit to priſon, all who break or diſturb the peace, and diſquiet the king's ſubjects. The juſtice of peace ought to be a perſon of great good ſenſe and integrity, and to have ſome knowledge of the law. As much power is lodged in his hands, and as nothing is ſo intoxicating, without theſe qualifications, he will be apt to make miſtakes, and to ſtep beyond his authority.

Each county has two *coroners*, who are to enquire, by a jury of neighbours, how, and by whom, any perſon came by a violent death, and to enter it on record as a plea of the crown. Another branch of his office is to enquire concerning ſhipwreck, and to certify whether wreck or not, and who is in poſſeſſion of the goods.

A *conſtable* is a very ancient and reſpectable officer of the peace, under the Engliſh conſtitution. His buſineſs is to keep the peace, in all caſes of quarrels and riots. He can impriſon offenders till they are brought before a juſtice of peace; and it is his duty

to

to execute, within his diſtrict, every warrant that is directed to him from that magiſtrate, or a bench of juſtices.

CHAP. XV.

OF CITIES AND BOROUGHS.

THE civil government of *cities* is a kind of ſmall independent policy of itſelf; for every city hath, by charter from the king, a juriſdiction within itſelf, to judge in all matters civil and criminal; with this reſtraint only, that all civil cauſes may be removed from their courts to the higher courts at Weſtminſter; and all offences that are capital, are committed to the judge of the aſſize. The government of cities differs according to their different charters, immunities, and conſtitutions. They are conſtituted with a mayor, aldermen, and burgeſſes, who, together, make the corporation of the city, and hold a court of judicature, where the mayor preſides as judge. Some cities are counties and chooſe their own ſheriffs; and all of them have a power of making bye-laws for their own government. Some have thought the government of cities, by mayor, aldermen, and common-council, is an epitome of the Engliſh government, by king, lords, and commons.

The government of incorporated *boroughs* is much after the ſame manner. In ſome there is a mayor, and in others two bailiffs; all which, during their mayoralty

mayoralty or magiſtracy, are juſtices of the peace within their liberties, and conſequently eſquires.

The cinque-ports are five havens (formerly eſteemed moſt important ones), which lie on the eaſt part of England, towards France, as Dover, Sandwich, Romney, Haſtings, and Hythe, to which Winchelſea and Rye have been ſince added, with ſimilar franchiſes in many reſpects. Theſe cinque-ports were endowed with particular privileges by our ancient kings, upon condition that they ſhould provide a certain number of ſhips, at their own charge, to ſerve in the wars for forty days, as often as they were wanted.

CHAP. XVI.

OF JURIES.

THERE neither is, nor ever was, any conſtitution provided with ſo many fences, as that of England is, for the ſecurity of perſonal liberty. Every man impriſoned has a right to bring a writ, before a judge at Weſtminſter-hall, called his *Habeas Corpus*. If that judge, after conſidering the cauſe of commitment, ſhall find that the offence is bailable, the party is immediately admitted to bail, till he is condemned or acquitted in a proper court of juſtice.

The rights of individuals are ſo attentively conſidered, that the ſubject may, without the leaſt danger, ſue his ſovereign, or thoſe who act in his name, and under his authority. He may do this in open court, where

where the king may be caſt, and be obliged to pay damages to his ſubject.

If a man is charged with a capital offence, he muſt not undergo the ignominy of being tried for his life, till the evidences of his guilt are laid before the grand jury of the town or county, in which the fact is alledged to have been committed, and not without twelve of them agreeing to a bill of indictment againſt him. If they do this, he is to ſtand a ſecond trial before twelve other men, whoſe opinion is definitive.

In ſome caſes, the priſoner (who is always ſuppoſed innocent till there be ſufficient proof of his guilt) is allowed a copy of his indictment, in order to help him to make his defence. He is alſo furniſhed with his pannel, or liſt of the jury, who are his true and proper judges, that he may learn their characters, and diſcover whether they want abilities, or whether they are prejudiced againſt him. He may in open court peremptorily object to twenty of the number, and to as many more, as he can give reaſons for their not being admitted as his judges; till at laſt twelve unexceptionable men, the neighbours of the party accuſed, or living near the place where the ſuppoſed fact was committed, are approved of, who take the following oath: "*That they ſhall well and truly try, and true deliverance make, between the king and the priſoner, whom they ſhall have in charge, according to the evidence.*" By challenging the jury, the priſoner prevents all poſſibility of bribery, or the influence of any ſuperior power. By their living near the place where the fact

was

was committed, they are ſuppoſed to be men who knew the priſoner's courſe of life, and the credit of the evidence.

Theſe are the judges, from whoſe ſentence the priſoner is to expect life or death. Upon their integrity and underſtanding, the lives of all, who are brought into danger, ultimately depend; and from their judgment there lies no appeal. They muſt, therefore, be all of one mind. After they have fully heard the evidence, they are confined without meat, drink, or candle, till they are unanimous in acquitting or condemning the priſoner.

CHAP. XVII.

ON THE TRIAL OF MALEFACTORS.

THE court being met, and the priſoner called to the bar, the clerk commands him to hold up his hand, then charges him with the crime of which he is accuſed, and aſks him whether he is *guilty* or *not guilty*. If the priſoner anſwer *guilty*, the trial is at an end. But if he anſwer *not guilty*, the court proceeds on the trial, even though he may before have confeſſed the fact; for the law of England takes no notice of ſuch confeſſion. Unleſs the witneſſes, who are upon oath, prove him guilty of the crime, the jury muſt acquit him; for they are directed to bring in their verdict, according to the evidence given in court.

When

When the witneſſes have given in their evidence, and the priſoner has, by himſelf or his counſel, croſs-examined them, the judge recites to the jury the ſubſtance of the evidence given againſt the priſoner, and bids them diſcharge their conſcience. If the matter be very clear, they commonly give their verdict without going out of the court; and the foreman, for himſelf and the reſt, declares the perſon *guilty* or *not guilty*, as it may happen to be. But if any doubt ariſes among the jury, and the matter requires debate, they all withdraw into a room, with a copy of the indictment, where they are locked up till they unanimouſly agree upon the verdict; and if any one of the jury ſhould die during this their confinement, the priſoner is acquitted.

When the jury have agreed on the verdict, they inform the court of it by an officer who waits without, and the priſoner is again brought to the bar to hear his verdict. This is unalterable, except in ſome doubtful caſes, when the verdict is brought in *ſpecial*, and is therefore to be determined by the twelve judges of England.

If the priſoner be found guilty, he is then aſked, what reaſon he can give, why ſentence of death ſhould not be paſſed upon him? There is now properly no benefit of clergy. It is changed to tranſportation or burning in the hand. Upon a capital conviction, the ſentence of death, after a ſummary account of the trial, is pronounced on the priſoner, in theſe words: "The law is, that thou ſhalt return

to the place from whence thou cameſt, and from thence be carried to the place of execution, where thou ſhalt be hanged by the neck, till thy body be dead, and the Lord have mercy on thy ſoul." The ſheriff is then charged with the execution.

All the priſoners found *not guilty* by the jury, are immediately acquitted and diſcharged, and in ſome caſes obtain a copy of their indictment from the court, to proceed at law againſt their proſecutors.

CHAP. XVIII.

OF PUNISHMENTS.

THOUGH the laws of England be eſteemed more merciful, with reſpect to offenders, than thoſe which at preſent ſubſiſt in any other part of the known world; yet the puniſhment of ſuch as, on their trial, refuſed to plead *guilty* or *not guilty*, was formerly very cruel. The priſoner was laid upon his back, naked, on the bare floor. His arms and legs were ſtretched out with cords, and a conſiderable weight of iron was laid upon his breaſt. He was to be allowed only three morſels of barley bread the firſt day, and the next, nothing but three draughts of ſuch foul water as was neareſt to the priſon door. This was to be alternately his diet, till he expired. It was ſeldom neceſſary, however, to inflict this puniſhment; and the cruel proceſs is now aboliſhed. By a late act of parliament, the priſoner's refuſal to plead is to be conſidered as a conviction, and he is to ſuffer the ſame

ſame puniſhment, as if he had been tried, and found guilty.

The law of England includes all capital crimes under *high treaſon*, *petty treaſon*, and *felony*. The firſt conſiſts in plotting, conſpiring, or riſing up in arms againſt the ſovereign, or in counterfeiting the coin. The traitor is puniſhed in the following manner. After being hanged on a gallows for ſome minutes, the body is cut down alive, the heart is taken out and expoſed for ſome minutes, and the entrails are burnt. The head is then cut off, and the body quartered; after which, the head is uſually fixed on ſome conſpicuous place. All the criminal's lands and goods are forfeited; his wife loſes her dowry, and the children both their eſtates and nobility.

But though coining of money is adjudged high treaſon, the criminal is only hanged.

Though the ſentence paſſed upon all traitors is the ſame, yet with reſpect to perſons of quality, the puniſhment is generally altered to beheading. A ſcaffold is erected for that purpoſe, on which the criminal places his head upon a block, and the executioner ſtrikes it off with an axe.

The puniſhment for *miſpriſion* of high treaſon, that is, for neglecting or concealing it, is impriſonment for life, the forfeiture of all the offender's goods, and the profits ariſing from his lands.

Petty treaſon is when a child kills his father, a wife her huſband, a clergyman his biſhop, or a ſervant his

maſter or miſtreſs. This crime is puniſhed by hanging. Women guilty both of this crime and of high treaſon, are ſentenced to be burnt alive; but inſtead of ſuffering the full rigour of the law, they are ſtrangled at the ſtake before the fire takes hold of them.

Felony includes murders, robberies, forging notes, bonds, deeds, and the like. Theſe are all puniſhed by hanging; and murderers are executed within twenty-four hours after ſentence is pronounced, and then delivered to the ſurgeons in order to be publicly diſſected. As Sunday, however, is not reckoned a day, they are generally tried on Saturday, ſo that they obtain a reſpite till Monday. Perſons guilty of robbery, when there are ſome alleviating circumſtances, are either tranſported, or condemned to hard labour in works of public utility, upon the river Thames, &c. for a certain number of years.

Manſlaughter is the unlawful killing of a perſon without premeditated malice, but with a preſent intent to kill; as when two, who formerly meant no harm to each other, quarrel, and the one kills the other. In this caſe, the criminal is allowed the benefit of his clergy for the firſt time, and only burnt in the hand.

Chance-medley is the accidental killing of a man without an evil intent, for which the offender is alſo to be burnt in the hand, unleſs the offender was doing an unlawful act; which laſt circumſtance makes the puniſhment death.

Shoplifting

Shoplifting and receiving goods knowing them to be ſtolen, are puniſhed with hard labour for a number of years, or burning in the hand.

Perjury is puniſhed with the pillory and impriſonment. Thoſe who keep diſorderly houſes are liable to the ſame puniſhment.

Petty-larceny, or ſmall theft, under the value of twelve-pence, is puniſhed by whipping.

Libelling, uſing falſe weights and meaſures, and foreſtalling the markets, are commonly puniſhed by ſtanding on the pillory.

For *ſtriking*, ſo as to *draw blood* in the king's court, the criminal is puniſhed with loſing his right hand.

For *ſtriking* in *Weſtminſter-hall*, while the courts of juſtice are ſitting, the puniſhment is impriſonment for life, and forfeiture of all the offender's eſtate.

Drunkards, vagabonds, and looſe diſorderly perſons, are puniſhed by being ſet in the ſtocks, or by paying a fine.

Grotius, Puffendorf, Locke, Blackſtone, De Lolme, and Monteſquieu, are writers of the firſt rank, on Government and Juriſprudence.

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