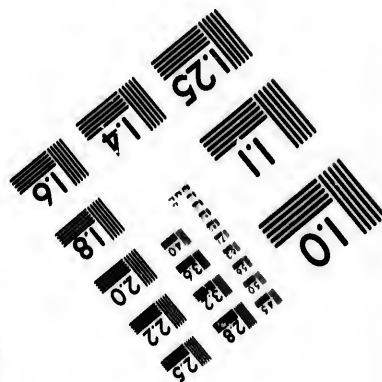
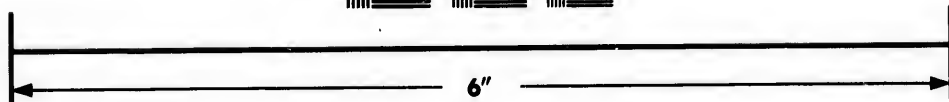


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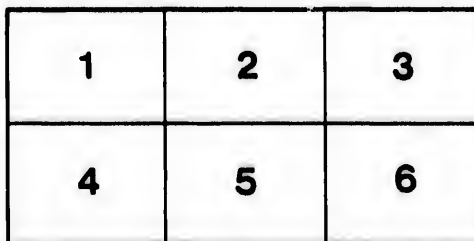
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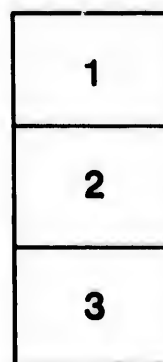
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215

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OF  
G E O G R A P H Y.

FOR THE USE OF SCHOOLS.

BY WILLIAM C. LEECH.

THE FIFTH EDITION,  
ENLARGED, IMPROVED, AND CORRECTED.



PRINTED BY P. WOGAN, No. 25, OLD-BRIDGE

1891.



## A D V E R T I S E M E N T.

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THE Utility of an ELEMENTARY GEOGRAPHY being universally admitted, and having myself experienced the Want of such an one, I have been induced to form the following little System, which is grounded upon the most approved Works of the Kind extant, and is adapted to the most puerile. The simplifying by easy and familiar Rules, the Study of a Science, the Knowledge whereof is justly ranked amongst the most useful and ornamental Branches of Polite Literature, I deemed a no less desirable than important Service; and, that I have, in some Degree effected this by the Idea I pursued, I am willing to flatter myself. The Advantages to be derived from the Use of the **BLANK MAPS** herein designed, will be found many and evident; besides the Facility and Proficiency that may be obtained thereby, all Possibility of Deception in the Learner is removed, who is necessarily obliged to attend to the true Geographical Characters, Situation, and Figure, at the Cost of no more Labour than is absolutely requisite; and it is certain, a more clear and perfect Knowledge cannot be acquired by any of the established modern Methods, wherein much Pains, Expence, and Time are confessedly consumed. From these Considerations I have been led to make it public, and trust that with the Candid, the Attempt will be an Apology.

THE AUTHOR.



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A SHORT AND EASY  
INTRODUCTION  
TO THE STUDY OF  
ASTRONOMY,  
AND  
GEOGRAPHY.

---

OF THE SOLAR SYSTEM.

1. **GEOGRAPHY** is a description of the Earth, shewing its real and imaginary lines and divisions. The word is derived from the Greek **ΓΗ**, the earth, and **ΓΡΑΦΩ**, to describe.

2. The elementary part of Geography is so blended with Astronomy, that a proficiency cannot be acquired in the one, without a competent knowledge of the other.

3. Astronomy is that science which exhibits the magnitudes, order, motions, and distances of the Heavenly Bodies; and teaches how to discover the time and quantity of eclipses, and all other celestial phenomena. The term is derived from the Greek words, **ΑΣΤΡΟΝ**, a star, and **ΝΟΜΟΣ**, a law or rule; and consequently had not originally that extensive meaning, which latter times have annexed to it.

B

4. The



4. The infinite abyss of space unbounded in every direction, which the Greeks called, *To PAN*, (every thing, the whole), the Latins, *INANE*, (the void), and we the Universe, comprehends innumerable Suns, round each of which as a centre, revolve a system of other bodies, called Planets or Worlds, receiving their light and heat therefrom. Now to have a just notion of any of these Sons, with his system of worlds moving round him, it will be sufficient to exhibit, briefly, a just and natural idea of the Solar or Mundane System; that is, the system of our Sun; so called from the Latin words, *SOL*, the Sun, and *MUNDUS*, the World.

5. The Sun, that immense and amazing globe of fire, the fountain of light and heat to the whole system, is about a million of times as large as our earth, and placed in the centre of the system, giving light and heat to seven primary and fifteen (or perhaps more) secondary planets, or opaque spherical bodies, which make their revolutions round him from west to east, in less or more time, according to their distances from him.

6. Mercury is the nearest to the sun; it is twenty times less than the earth, and revolves round the sun in two months and twenty-eight days.

7. Venus, the second planet in the system, is exactly as large as the earth, and revolves round the sun in seven months and fifteen days.

—Venus and Mercury, but especially the former, become evening and morning stars by turns; as shall be more fully explained farther on.

8. The Earth is the third planet from the sun, it moves round him in three hundred and sixty-five days, and six hours nearly, or one year; and being at a greater distance from the Sun than the two former planets, and therefore receiving less of his light and heat, to make up the deficiency, the wise Author of Nature has caused a secondary planet called the Moon, to move round it in twenty seven days and an half. The moon receives her light and heat from the sun, and reflects the same upon the earth; which in some measure compensates for the absence of the sun in the nights and winter seasons.

9. Mars,

9. Mars, the fourth in the system, is about one-fifth as large as the earth, and moves round the sun in something less than two years.

10. Jupiter is the fifth planet from the sun, and the largest that has yet been discovered, being near one thousand times larger than the earth, and five times more remote from the sun. Jupiter revolves round the sun in twelve years nearly, and has four satellites or moons moving round him; they receive their light and heat from the sun, and reflect the same upon Jupiter as our moon does upon the earth. He is also surrounded by dark circular spaces, or zones, called his Belts, which, either, are spaces on his surface, that do not reflect light so well as the other parts, or dark clouds in his atmosphere, that remain undispersed.

11. Saturn is the next in the order of the system, and, until within these eight years, was supposed the most remote from the sun. Saturn is about half as large as Jupiter, and is nearly thirty years revolving round the sun: He has seven moons moving round him, whereof two have been discovered lately by Dr. Herschell; and a prodigious ring or belt about him, placed edge-ways, but detached, nearly

to the distance of one of his semidiameters, from him: and the breadth of the ring is equal to another semidiameter.

12. Georgium Sidus, or the Georgian Planet, is the most distant from the sun, as yet discovered; it is ninety times as large as the earth, and moves round the sun in about eighty-three years. Its discoverer, Dr. Herschell, who called it the Georgian Planet, in honour of king George, has already found out three moons belonging to it. The distance of this planet from the sun, is nineteen times that of the earth's; and the sun appears three hundred and sixty times less, and his rays more faint, to its inhabitants than to us.

13. Besides the motion of the planets round the sun, called their Annual or Yearly Motion, they have another round their own axis from west to east, called their Diurnal or Daily Motion. So that each Planet has a twofold motion, an annual and a diurnal; but the sun has only the latter. He revolves round his axis from west to east, in twenty-five days and an half.—The times of the diurnal revolutions of only four of the planets are yet known, viz. Venus, the Earth, Mars, and Jupiter. The proximity

of

of Mercury to the sun, and the immense distance of Saturn; and the Georgium Sidus, have as yet baffled the attempts of astronomers to ascertain the times of their revolutions on their axis.— Venus turns once round in twenty-four of our days nearly; the Earth in twenty-four hours; Mars in twenty-four hours and forty minutes, and Jupiter in nine hours and fifty-six minutes.

14. Mercury and Venus are called Inferior Planets, because the earth's Orbit includes theirs; but Mars, Jupiter, Saturn, and the Georgium Sidus, are called Superior Planets, because their orbits include the Earth's. The inferior Planets will sometimes appear east of the sun, and sometimes west according to the part of their orbits they are in; when east they are Evening Stars, and when west, Morning Stars. Venus, at most, can set but three hours and a quarter after the sun, and rise three hours and a quarter before him, and Mercury two hours. When they rise and set with the sun if they be in the remote part of the orbit, we call this the Superior Conjunction, but if in the nearest part, the Inferior Conjunction; at which time, if they fall exactly between the earth and the sun, then such a phenomenon is called a Transit, and the planet will appear like a black spot passing over

the sun: These transits happen but seldom.— As the orbits of the superior planets include that of the earth therefore they will sometimes appear quite opposite to the sun, that is, rise when he sets, and set when he rises; and this is called the time of their Opposition; they may rise and set also with the sun, like the inferior planets: Hence the superior planets have both conjunctions and oppositions; but the inferior planets have only conjunctions.

15. The planets, in moving round the sun, are nearer to him at one time than another; for their orbits are not perfect circles but ELLIPSES; and the sun is placed in one of the FOCI, which are two points at some distance from the centre; and the distance of either focus from the centre, is called the Excentricity of the orbit. In the Earth's orbit, the excentricity is seventeen parts of a thousand; so that if the mean distance of the earth from the sun be supposed a thousand equal parts, the distance of the earth when nearest the sun is seventeen parts less than a thousand, but when farthest from him, in the opposite part of the orbit, seventeen parts more than a thousand.—The point in a planet's orbit, nearest the sun, is called the Perihelion, and the opposite point, the Aphelion: Perihelion from the

Greck

Greek, *PERRI*, about, or near to, and, *HELIOS*, the Sun; *Aphelion*, from *A*, wanting or absent from, and *HELIOS*, the sun.—The earth is in its perihelion about the latter end of December; and in its aphelion the latter end of June.

16. It has already been mentioned, that the Earth has one moon, Jupiter four, Saturn seven, and the Georgian planet three. These moons are called *Secondaries*, or planets of a second order in contradistinction to the others, which are called *Primaries*, or chief planets. They are also called *Satellites*, which is the Latin for *GUARDS*; because, like guards, they attend their primaries, continually moving round them, from west, to east, as they, in their immense orbits, revolve round the sun.

17. Comets are another sort of planets, moving, in all directions, round the sun, in orbits so very excentric, that some of them in their perihelions are more than a thousand times nearer the sun, than in their aphelions. In their return from their aphelions, their motion is continually accelerated by the attraction of the sun; so that by the time they reach their perihelions, their velocity is immensely great; but having

passed their perihelions, their velocity is continually diminished by the sun's attraction, untill they reach their aphelions, when it is the least; and in the opposite points of their ascents and descents, their velocity is the same.—Some comets have passed so near the sun, as to be only the distance of one of his diameters from him. They are so much heated in their perihelions, that they project tails to a prodigious length. In Sir Isaac Newton's time, a comet passed so near the sun, that he calculated its heat to be three thousand times greater than that of red-hot iron; and that it would be two hundred years in cooling.—Comet is derived from the Greek word *KOME*, hair; because the long tails of comets appear like hair; and hence they were called *Hairy Stars*.

18. The Fixed stars are supposed to be of the same matter with the sun, and made for the same ends, each of them being the centre of its own proper system of worlds or planets moving round it as our sun is. They are called *Fixed Stars*, because they never change their distances or positions in regard to each other; and the Planets were so called from the Greek word, *PLANETES*, a wanderer; for by reason of their revolutions round the sun, they appear, to the

inhabitants of the earth, to wander, or change their positions in the heavens continually.—The Fixed Stars are so inconceivably distant from us, that a cannon ball would take seven hundred thousand years in reaching Sirius, which is supposed the nearest to us; supposing it discharged from the earth, and continually to fly on with the same velocity it left the cannon's mouth:

19. The particles of light are the swiftest bodies we know of; they fly from the sun to the earth in eight minutes but a cannon ball would be twenty-five years in passing over the same space, which is about ninety-six millions of miles: Nevertheless, there may have been stars, or suns with their systems, created at the same time that our earth was, whose light has never yet reached us. Indeed, could we launch out into space, and fly with ten times the velocity of the particles of light, to the most distant star we see, and so on for ages in the same direction, even there we should find ourselves in the centre of creation, and see as many stars before as we left behind; for space is infinite without top or bottom. Well therefore may it be said, that "the human understanding is bewildered in the contemplation of the wonders of the firmament, that the giddy fancy turns round, and is entirely

"lost and sunk in the abyss of creation!" But the Creator fills all this infinite space, and his power, wisdom, goodness and above all his mercy, are as boundless!

20. As all the planets whether the be primaries or secondaries, are opaque spherical bodies which receive their light and heat from the sun; therefore, that half of each which is next the sun will be illuminated, and the other half will be dark; and each will project a dark shadow behind it, which, because the sun is much the largest body, must end in a point: the shadows of the planets are therefore dark cones, whose lengths will be greater or lesser, according to the planet's magnitude and distance from the sun. The length of the earth's shadow is about one hundred and seven of its diameters, and that of the moon thirty diameters of the earth: Now since the moon's mean distance from the earth is also thirty diameters of the earth; therefore the moon's shadow at a mean, will just reach the earth; but because her orbit round the earth is elliptical, and of consequence at one time she is nearer to the earth than the mean distance, and at another time more remote; therefore her shadow will sometimes extend a little beyond the earth and sometimes fall short of it: but the earth's



earth's shadow always extends far beyond the moon, as its length is three times and a half her distance, and its diameter, at the moon, is nearly equal to three of hers: These things being premised.

21. The eclipses of the sun and moon are produced in a similar way: An eclipse of the moon is caused by the earth's falling in between the moon and sun; and thereby intercepting his light; or in other words, an eclipse of the moon is caused by the moon's falling into the earth's shadow. An eclipse of the sun is produced by the moon's passing between the earth and the sun, or what is the same thing, by the moon's shadow striking the earth. In eclipses of the moon, that luminary absolutely loses its light; but in those of the sun he does not lose his light, the moon only intercepting it from the earth for that time; and hence solar eclipses are properly eclipses of the earth. There is another difference between lunar and solar eclipses; which is, that the moon may be totally darkened for near two hours; but no more than a few miles of the earth's surface can be totally deprived of the sun's rays, for about two minutes.

22. Jupiter's moons, like ours, are eclipsed every time they pass through his shadow; these eclipses happen very frequently, and are of special use in determining the longitudes of places on our earth; but the brevity of our plan prevents us from entering into the nature and utility of these curious phenomena.—The word eclipse is derived from the Greek, *ΕΚΛΕΙΡΟ*, to faint, or swoon away; and consequently in respect to the moon, the term is very well applied; but in respect of the sun, it does not answer so well; for he never faints away, or loses his light, as was said before.

23. The moon's face seems to assume various forms to the earth; for, from the new-moon to the full, which is about fourteen days and eighteen hours, it gradually increases, then from the full moon to the new, it gradually decreases; and hence is said, the moon's Crescent and Decrease. In the crescent, the moon first appears FALCATED (crooked), next BISECTED (halved, or half full), afterwards GIBBOUS (round backed), then FULL; in the decrease, first GIBBOUS, next BISECTED, again FALCATED, then DARK. These different appearances are called her Phases or Faces, from the greek word PHASES, an appearance. The reason whereof

because she shines with the borrowed light of the sun, and reflects it to the earth: and since only her half next the sun is always illuminated, therefore, in her revolution round the earth, she must necessarily turn a greater or lesser portion of this enlightened hemisphere to us, according to her different positions in respect to the sun, and of consequence assume such different phases.—The eclipses of the sun always happen at the **CHANGE**; for in that case, the sun and moon being in conjunction, and the dark side of the moon turned to the earth, if she exactly falls between the sun and the earth, there is necessarily an eclipse. The eclipses of the moon happen at the **FULL MOON**, when the sun being opposite to her, and her enlightened side turned to the earth, if she exactly fall into the earth's shadow, she consequently must suffer an eclipse, that is, lose the sun's light.

24. The inferior planets, Mercury and Venus, shew the same phases nearly to the earth, as the moon: but almost the whole of the enlightened hemisphere of the superior planets is constantly turned to the earth; therefore these planets seem always to shine with a full face.

25. By reason of the moon's vicinity to the earth, she appears as large as the sun; yet the

sun is so large as to be more than sufficient to fill her orbit; for his diameter is about an hundred times that of the earth's, but the diameter of her orbit, is only equal to sixty of the earth's diameters.

26. The earth exhibits the same phases to the moon, that she does to us; for the earth and moon are mutually moons to each other; but with this difference, however, that only one half of the moon has the benefit of the earth's light; because her revolution round the earth is performed in the very same time that she turns once round on her axis, and consequently she always turns the same side to us; whereas every part of the earth receives moon light, on account of its turning all its sides to the moon.

27. Of all the satellities or secondary planets, yet known, our moon bears the greatest proportion to her primary, the earth. She is nearly  $\frac{1}{4}$  part of the earth's magnitude,—her diameter being about 2200 English miles. Her surface is exceedingly uneven, abounding in high mountains and deep vallies. Dr. Herschell has discovered that some of her mountains are volcanos, and that she is surrounded with an atmosphere, which doubtlessly, like ours, is designed for the respiration of animals: Hence we may rationally conclude that she is inhabited. OF



## OF THE EARTH.

**H**AVING taken a cursory view of the heavenly bodies, we proceed to give a more particular account of the planet which we inhabit.

The Earth, though called a globe, is not perfectly round, but is widened at the equator, and flattened at the poles; so that its diameter from east to west, is about thirty miles longer than from north to south. Its figure is an oblate spheroid. It moves round the sun once in a year. This is called the earth's ANNUAL motion, to which we are indebted for the difference in the length of the days and nights, and for the variety in the seasons. The diameter of the earth's orbit, is 190,346,000 miles. And since the circumference of a circle, is to its diameter, as 355 is to 113, the circumference of the earth's orbit is 597,987,646 miles. And as the earth describes this orbit in 365 days and 6 hours; (or in 8766 hours,) it is plain that it travels at the rate of 68,217 miles every hour; so that its velocity in its orbit is at least 142 times as great as the velocity of a cannon-ball,

supposing the ball to move through eight miles in a minute, which it is found to do nearly. At this rate it would take 22 years and 228 days for a cannon-ball to go from this earth to the sun.

The Earth is 25,038 miles in circumference; and by turning on its axis once in twenty-four hours from west to east, causes a continual succession of day and night, according as either side is turned to or from the sun; and occasions an apparent motion of the sun and heavenly bodies from east to west. This is called the earth's DIURNAL, or daily motion, by which the inhabitants of the equator are carried 1040 miles every hour.

That the earth is round like a globe is evident: **FIRST**; From its having been circumnavigated, or sailed round by Magellan, Sir Francis Drake, Lord Anson, Captain Cook and others. **SECONDLY**, From its shadow in eclipses of the moon, which shadow is bounded by a circular line.

As the earth is round and habitable on all sides it will doubtless appear strange, that persons can stand directly opposite to us on the other side. But this will easily be conceived, when it is considered

considered that the earth attracts all bodies, on or near its surface, towards its centre equally on all sides. If so, the people who are opposite to us stand just as firm as we do.

It is now ten o'clock in the morning, and we think we are standing upright on the upper part of the earth.—We shall think the same at ten o'clock this evening, when the earth shall have

turned half round, because we shall then perceive no difference of posture. We shall then be exactly in the position of those persons who now stand on the opposite side of the earth. Since they are strongly attracted towards the centre of the earth as we are, they can be in no more danger of falling downward, than we are at present of falling upwards.

## ARTIFICIAL GLOBE.

**A**N artificial globe is a round body, whose surface is every where equally remote from the centre; and on which the external form of our habitable world is represented, and all the parts of the earth and water are described in their natural order, form, distance and situation.

In order to determine the situation of places on the globe, it is supposed to be circumscribed by several imaginary circles. Each circle is divided into 360 equal parts, called degrees; each degree is divided into 60 minutes, and each minute into 60 seconds.

**AXIS OF THE EARTH.]** The axis of the earth is an imaginary line passing through its centre from north to south upon which the globe is supposed to turn every twenty four hours. The extreme points of the axis are called the poles.

**CIRCLES.]** A circle passing through the centre of the globe, and thereby dividing it into two equal parts or hemispheres, is called a **GREAT CIRCLE**. Of these there are six.—The equator, the meridian, the ecliptic, the horizon, and two colures.

Circles dividing the sphere into unequal parts, are called **SMALL OR LESSER CIRCLES**, of which

which there are four, the two tropics, and the two polar circles.

**EQUATOR.]** The equator is that line or circle which encompasses the middle of the earth, dividing the northern half from the southern. This line is often called the **EQUINOCTIAL**, because, when the sun appears therein, the days and nights are equal in all parts of the world.—From this line latitude is reckoned.

**MERIDIAN.]** This circle is represented on the artificial globe by a brass ring, and is divided into 360 degrees. It passes through the poles of the earth, and the **ZENITH**, and the **NADIR**, crossing the equator at right angles, and dividing the globe into eastern and western hemispheres. It is called **MERIDIAN** from the Latin **MERIDIES**, **MID-DAY**; because when the sun comes to the south part of this circle it is called noon, and the day is half spent. There are an infinite number of meridians, which vary as you travel east or west. Geographers assume one of the meridians for the **FIRST**; commonly that which passes through the metropolis of their own country. The meridian of London is the first for the English; and that of Paris for the French.

**ECLIPTIC.]** The ecliptic is a great circle, in whose plane the earth performs her annual revolution round the sun; or in which the sun, seems to move round the earth once in a year. This circle is called the **ECLIPTIC**, from the word **ECLIPSE**, because no eclipse of the sun or moon happens, but when the moon is in or near the place of this circle. It makes an angle with the equator of  $23^{\circ} 30'$ , and intersects it in two opposite parts called the **EQUINOCTIAL POINTS**, because when the sun is in either of these points he has no declination, and shines equally to both poles, and the day is then equal to the night all over the world. The times when the sun passes through these points, are the 21st of March, and the 21st of September; the former is called the **VERNAL**, the latter the **AUTUMNAL** equinox.

The ecliptic is divided into twelve equal parts of thirty degrees each, called signs. These begin at the vernal intersection of the ecliptic with the equator, and are numbered from west to east. The names and characters of the signs, with the months in which the sun enters them, are as follow:



North Signs.	1	Aries	The Ram	♈	March
	2	Taurus	The Bull	♉	April
	3	Gemini	The Twins	♊	May
	4	Cancer	The Crab	♋	June
	5	Leo	The Lion	♌	July
	6	Virgo	The Virgin	♍	August
	7	Libra	The Scales	♎	September
	8	Scorpio	The Scorpion	♏	October
	9	Sagittarius	The Archer	♐	November
	10	Capricornus	The Goat	♑	December
	11	Aquarius	The Water-Bearer	♒	January
	12	Pisces	The Fishes	♓	February
South Signs.					

**ZODIAC.]** If two circles were drawing parallel to the ecliptic, at the distance of eight degrees on each side of it, the space, or girdle included between these two parallels, sixteen degrees broad, and divided in the middle by the ecliptic, will comprehend within it the orbits of all the planets, and is called the **ZODIAC**.

**HORIZON.]** The horizon is represented on the artificial globe by a broad wooden circle, dividing into upper and lower hemispheres. There are, geographically speaking, two horizons, the **SENSIBLE** and the **RATIONAL**. The sensible horizon is that circle which limits our prospect; where the sky and the land and water appear to meet. The rational or real horizon, is a circle whose plane passes through

the center of the earth, dividing it into upper and lower hemispheres.

The horizon is divided into four quarters, and each quarter into 90 degrees. The four quartering points, viz. east, west, north and south, are called the **CARDINAL POINTS**. The poles of the horizon are the zenith and the nadir. The former is the point directly over our heads; the latter the point directly under our feet.

**COLURES.]** The colures are two meridian lines which divide the globe into four quarters. They are called **COLURES**, to distinguish them from other meridians. The both pass through the poles of the world, and one of them through the equinoctial points Aries and Libra; the other through

through the solstitial points Capricorn and Cancer: The former is called the equinoctial, the latter the solstitial colure.

**TROPICS.]** The tropics are two circles drawn parallel to the equator, at the distance of  $23^{\circ} 30'$  on each side of it. These circles form the limits of the ecliptic, or the sun's declination from the equator. That which is in the northern hemisphere is called the tropic of Cancer; because it touches the ecliptic in the sign Cancer; and that in the southern hemisphere, is called the tropic of Capricorn, because it touches the ecliptic in the sign Capricorn. On the 21st of June the sun is in Cancer, and we have the longest day. On the 21st of December the sun is in Capricorn, and we have the shortest day. They are called **TROPICS**, from the Greek word *Tropo*, TO TURN, because when the sun arrives at them, he returns again to the equator.

**POLAR CIRCLES.]** The two polar circles are described round the poles of the earth, at the distance of  $23^{\circ} 30'$ . The **NORTHERN** is called the **ARCTIC CIRCLE**, from **ARCTOS**,

or the bear, a constellation situated near that place in the heavens; the **SOUTHERN**, being opposite to the former, is called the **ANTARCTIC CIRCLE**.—The polar circles bound the places where the sun sets daily. Beyond them the sun revolves without setting.

**ZONES.]** The tropics and polar circles divide the globe into five parts, called **ZONES**, or **BELTS**; viz. One torrid, two temperate, and two frigid zones.

The **TORRID ZONE**,  $47$  degrees broad, is bounded by the tropics, and divided in the middle in the equator. It is called the torrid or burning zone, because the sun, being always over some part of it, makes it extremely hot.

Each of the **TEMPERATE ZONES** is  $43$  degrees in breadth. The one which lies between the tropic of Cancer and the arctic circle, is called the north temperate zone; and the other, lying between the tropic of Capricorn and the antarctic circle, is called the south temperate zone. The mildness of the weather in these spaces, which are between the extremes of heat and cold, has acquired to them the name of **TEMPERATE ZONES**.



The two FRIGID ZONES, so called on account of the extreme cold of those regions, are included between the polar circles and the poles. Each of them is  $23^{\circ} 30'$  broad.

CLIMATES.] By a number of other circles, drawn parallel to the equator, the earth is divided into climates.

A CLIMATE is a tract of the earth's surface, included between the equator and a parallel of latitude, or between two parallels of such a breadth, as that the length of the day in the one, be half an hour longer than in the other. Within the polar circles, however, the breadth of a circle is such, that the length of a day, or the time of the sun's continuance above the horizon without setting is a month longer in one parallel, as you proceed northerly, than in the other.

Under the equator, the day is always twelve hours long. The days gradually increase in length as you advance either north or south from the equator. The space between the equator, and a parallel line drawn at the distance of  $80^{\circ} 25'$  where the days are twelve hours and a half long, is called the first climate;

and by conceiving parallels drawn in this manner, at the increase of every half hour, it will be found that there are twenty-four climates between the equator and each of the polar circles.—Forty-eight in the whole.

Under the polar circles, the longest day is twenty-four hours. The sun when at the tropics, skims the horizon without setting. As you advance from the polar circles to the poles, the sun continues above the horizon for days, weeks and months, in a constant increase until you arrive at the poles, where the sun is six months above the horizon; and the whole year may be said to consist of but one day and one night.

There are thirty climates between the equator and either pole. In the first twenty-four, between the equator and each polar circle, the period of increase for every climate, is half an hour. In the other six between the polar circles and either pole, the period of increase for each climate is a month. These climates continually decrease in breadth as you proceed from the equator as may be seen by attending to the following table.

TABLE

# ELEMENTS OF GEOGRAPHY.

15

## TABLE

Names of countries and remarkable places situated in the respective climates, north of the equator.

Within the first climate lie,

Climates.	Longest day.		Latitudes in which the respective climates begin and end.	
	h	d	m.	
1	12½	8	25	
2	13	16	25	
3	13½	23	50	
4	14	30	25	
5	14½	36	28	
6	15	41	22	
7	15½	45	29	
8	16	49	01	
9	16½	52	00	
10	17	54	27	
11	17½	56	37	
12	18	58	29	
13	18½	59	58	
14	19	61	18	
15	19½	62	25	
16	20	63	22	
17	20½	64	06	
18	21	64	49	
19	21½	65	21	
20	22	65	47	
21	22½	66	06	
22	23	66	20	
23	23½	66	28	
24	24	66	31	
25	1 month	67	21	
26	2 do.	69	48	
27	3 do.	73	37	
28	4 do.	78	30	
29	5 do.	84	05	
30	6 do.	90	0	

- 1 The Gold coast in Africa, Cayenne and Surinam in S America
- 2 Abissinia, Siam, Madras, Darien, Barbadoes.
- 3 Mecca, Bengal, Canton, Mexico, Jamaica, Gaudeloupe,
- 4 Egypt, Delhi, Canary Isles, E. Florida, Havanna.
- 5 Gibraltar, Jerusalem, Nanking, Georgia and Carolina.
- 6 Lisbon, Madrid, Asia-Minor, Virginia.
- 7 Rome, Constantinople, Caspian Sea, New-England.
- 8 Paris, Vienna, Nova-Scotia, Newfoundland, Canada.
- 9 London, Flanders, Prague, Dresden, Cracow.
- 10 Dublin, Warsaw Holland, Hanover, Labrador.
- 11 Edinburgh, Copenhagen, Moscow.
- 12 South part of Sweden, Siberia.
- 13 Orkney Isles, Stockholm.
- 14 Bergen in Norway, Petersburg in Russia.
- 15 Hudson's Straits.
- 16 South Part of West Greenland.
- 17 Drontheim in Norway.
- 18 Part of Finland in Russia.
- 19 Archangel on the White Sea, Russia.
- 20 Hecla in Iceland.
- 21 Northern Parts of Russia and Siberia.
- 22 New-North-Wales, in N. America.
- 23 Davis's Straits in ditto.
- 24 Samoiëda.
- 25 South Part of Lapland.
- 26 West Greenland.
- 27 Zembla Australis.
- 28 Zembla Borealis.
- 29 Spitsbergen, or E. Greenland.
- 30 Unknown.

C 2

The



*The different Situations of the Inhabitants of the EARTH.*

**T**HE terms used in geography to express the different situation with respect to the place where we are, are these three, i. e. the Perizæci, the Antæci, and the Antipodes.

The Perizæci are situate under the same parallel of latitude but opposite meridians, differing  $180^{\circ}$  in their longitude. It is midnight with them when it is noon with us; but the length of days, and their seasons are the same. These are found by bringing any given place to the meridian, or brazen circle, then fixing the horary index and turning the globe half round.

The Antæci are situate under the same meridian, but opposite latitudes. These have the seasons opposite to ours: it is the middle of winter with them, when it is midsummer with us; but they have the same noon-day. These are found by counting as many degrees on the opposite side of the equator, as we are on this. Their longest day is our shortest, and so *vice versa*.

The Antipodes are under opposite meridians and opposite parallels of latitude. Their seasons, days, and nights, are different. When it is summer with us, it is winter with them, when it is noon with us, it is midnight with them; and our longest day is their shortest. These are found by turning the horary index twelve

hours from the given place, or turning the globe half round, and then counting as many degrees on the opposite side of the equator as we are on this.

The inhabitants of the earth are also considered under different denominations, from their shadows falling different ways at noon-day, and are called Amphiscii, Ascii, Hæteroscii, and Periscii.

The Amphiscii inhabit the torrid zone between the tropics. They have their shadows both north and south at noon-day. When the sun is south of them, their shadows are north; and when the sun is north of them at noon-day their shadows are south. They are also called Ascii, because twice every year, the sun is vertical at noon-day, and then they have no shadows.

The Hæteroscii are those who inhabit either of the temperate zones, and have their shadows always one way at noon-day. Those in the northern temperate zone, have their shadows always north, and those in the southern temperate zone, have their shadows always south at noon-day.

The

The periscii are those who inhabit that part of the globe within the polar circles, or frigid zones. These have their shadows every way, while the sun is above their horizon, all the twenty-four hours as it is several months in the year when the sun is on that side the equator next them.

*The different Positions of the Sphere.*

**B**Y the revolution of the earth on its axis, the sun, moon, and stars seem, to a spectator on the equator, to rise perpendicularly or at right angles to the horizon; but obliquely or slant-wise to one at Dublin or any place more or less distant from the equator, except at the two poles, where they seem to move parallel to the horizon. And hence there are said to be three positions of the Sphere, viz. a RIGHT, OBLIQUE, and PARALLEL. The RIGHT SPHERE belongs to him on the equator; and the OBLIQUE, to one in either hemisphere, except at the poles where it is a parallel sphere. By rectifying the globe for the equator, the pole, or any intermediate place, and turning it around, a clear illustration of the three positions of the Sphere is easily exhibited.

**LATITUDE.]** The latitude of a place is its distance from the equator, north or south. The greatest latitude is that of the poles, which are ninety degrees distant from the equator.

The elevation of the pole above the horizon, is always equal to the latitude of the place; for to a person situated on the equator, both poles will rest in the horizon. If you travel one, two or more degrees north, the north pole will rise one, two or more degrees, and will keep pace with your distance from the equator.

**LONGITUDE.]** Every place on the surface of the earth has its meridian. The **LONGITUDE** of a place, is the distance of its meridian from some other fixed meridian, measured on the equator. Longitude is either east or west. All places east of the fixed or first meridian, are in east longitude; all west, in west longitude. On the equator, a degree of longitude; is equal to sixty geographical miles; and of course, a minute on the equator is equal to sixty miles. But as all the meridians cut the equator at right angles and approach nearer and nearer to each other, until at last they cross at the poles, it is obvious that the degrees of longitude will lessen as you go from the equator to either pole; so that in the sixtieth degree of latitude, a degree of longitude is but thirty miles, or half as long as a degree on the equator; as is evident from the following table.

## A T A B L E.

Shewing the number of miles in a degree of longitude in each parallel of latitude from the equator.

Degrees of latitude.	Miles.	60th parts of a mile.	Degrees of latitude.	Miles.	60th parts of a mile.	Degrees of latitude.	Miles.	60th parts of a mile.	Degrees of latitude.	Miles.	60th parts of a mile.
1	59	56	24	54	48	47	41	00	70	20	32
2	59	54	25	54	24	48	40	8	71	19	32
3	59	52	26	54	00	49	39	20	72	18	32
4	59	50	27	53	28	50	38	22	73	17	32
5	59	46	28	53	00	51	37	44	74	16	32
6	59	40	29	52	28	52	37	00	75	15	32
7	59	37	30	51	56	53	36	08	76	14	32
8	59	24	31	51	24	54	35	26	77	13	32
9	59	10	32	50	52	55	34	24	78	12	32
10	59	00	33	50	20	56	33	32	79	11	28
11	58	52	34	49	44	57	32	40	80	10	24
12	58	40	35	49	8	58	31	48	81	09	20
13	58	28	36	48	32	59	31	00	82	08	20
14	58	12	37	47	56	60	30	00	83	07	20
15	58	00	38	47	16	61	29	04	84	06	12
16	57	40	39	46	36	62	28	08	85	05	12
17	57	20	40	46	00	63	27	12	86	04	12
18	57	4	41	45	16	64	26	16	87	03	12
19	56	44	42	44	36	65	25	20	88	02	04
20	56	24	43	43	52	66	24	24	89	01	04
21	56	00	44	43	8	67	23	28	90	00	00
22	55	36	45	42	24	68	22	32			
23	55	12	46	41	40	69	21	32			

**THE ATMOSPHERE.]** The earth is surrounded by a thin invisible fluid, composed of a mixture of saline, sulphureous, watery, earthy, and spirituous particles, rising to the distance of between forty-five and fifty miles from the earth's surface. This fluid is called the **ATMOSPHERE**. Experiment has shewn, that this atmosphere is essential to animal and vegetable life. It is a necessary vehicle of sound; and without it few things would be visible, excepting those upon which the rays of the sun fall in a direct line between the sun and the eye: But the rays of light, falling on the particles which compose the atmosphere, are thence reflected in every direction; in this way daylight is produced, even when the whole hemisphere is covered with clouds.

**WINDS.]** Wind is air put in motion; the swifter this motion, and the more dense the air, the greater will be the force of wind. If it be soft and gentle; it is called a breeze; if fresh and violent, a gale; if the gale be attended with rain and hail, it is called a storm. As the air is a fluid, its natural state is rest, which it always endeavours to keep, or recover by an universal equilibrium of all its parts. Whenever therefore, this equilibrium is destroyed by the rarefaction of the air in particular parts,

which renders it lighter in those parts than in others, there necessarily follows a motion of all the surrounding air towards these rarified parts, to restore the equilibrium; this motion is called **WIND**. The velocity of wind in a storm has been ascertained by Philosophers, and found to be about 60 miles an hour.

**TIDES.]** By **TIDE** is meant the regular ebbing and flowing of the sea twice in twenty-four hours. The cause of the tides, is the attraction of the sun and moon, but chiefly of the latter. The waters of the immense ocean, as it were, forgetful of their natural rest, rise and roll in tides, obsequious to the strong attractive power of the moon, and the weaker influence of the sun. The moon in one revolution round the earth in twenty-four hours, produces two tides; of course there are as many ebbs. These tides, necessarily following the moon's motions, flow from east to west. This constant agitation of the waters of the ocean, together with their saltness, are wisely ordained by the Creator to preserve them from putrefaction.

**CLOUDS.]** Clouds are nothing but a collection of vapours, exhaled from the earth by the attractive influence of the sun, suspended aloft in the air, and soaring on the wings of the wind. They are elevated from a quarter of a mile to a mile

mile from the earth, according to their density, and that of the air.

*The Use of the Globes.*

**I**T has been already proved, that the earth is of a spherical figure, and hence geographers have chosen an artificial globe, as the most apposite instrument or delineate on its surface the continents, islands, oceans, seas, lakes, rivers, &c. of our terraqueous world, in their natural form, order, distance, and situation. So that an artificial terrestrial globe, may be considered as this earth in miniature.

Whoever views the heavens in a clear night, will soon perceive, that the stars appear to the eye, as if they were all placed in a concave sphere. And for this reason, astronomers have thought the external surface of an artificial globe, a very proper instrument for laying down the stars in their proper position and distance from one another, and in their several magnitudes. Consequently, a celestial globe, is a lively representation of the starry heavens.

In order to form a true idea, how the convex surface of a celestial globe becomes a lively representation of the heavenly globe, you must

imagine the globe to be transparent, and yourself placed in the centre of it; for then the globe being fixed in its position, each star pointed on the surface, will be in a right-line between the eye of the observer, and its correspondent star in the heavens. Nor is this supposition so extravagant, as at first sight it may appear for the earth itself, when compared with the immense distance of the fixed stars, is nothing more than a point, and may be considered as the centre of the universe.

On the surface of the terraqueous globe, the external form of the whole earth, with its seas, oceans, &c. is delineated in a true proportion, the image of each continent, island, &c. taking up the same space on the artificial globe, in proportion to its magnitude, as the real continent, island, &c. takes up on the surface of the earth.

On the convex superficies of the celestial globe, all the stars, (at least all the remarkable ones,) that decorate the face of night are inserted in their proper places; and as the number of the fixed stars, would render it too difficult to distinguish them readily from one another, astronomers have divided them into several asterisms or constellations, each of which contains

contains a system of several stars, which are seen near each other in the heavens.

**QUADRANT OF ALTITUDE.]** The quadrant of altitude is a narrow, thin plate, of pliable brass, exactly answering to one fourth part of the meridian, and divided into 90 deg. At one end it has a notch, nut and screw, to fasten it to the meridian in the zenith. It turns upon a pivot at the bottom of the nut, and supplies the place of an infinite number of vertical or azimuth circles.

**HOOR CIRCLE.]** The hour circle is a flat ring of brass, so contrived that it may be taken off, and fixed about either poles of the globe; and when it is thus fastened to the brazen meridian, the pole becomes its center, and there is fixed at the end of the axis an index, which turns round with the globe, and points out upon the horary circle, the hour, either given or required; for on its upper surface are engraved the 24 hours of the natural day, at equal distance from one another; the XII. next the zenith representing twelve o'clock at noon, and the other below it, 12 at night; those on the east side, the morning, and those on the west side, the afternoon hours.

## PROBLEMS.

*To find the Latitude of any given place.*

Turn the globe about till the given place lies exactly under the graduated or eastern side of the brazen meridian, then will the degree of the meridian, directly over it, be the latitude required; which will be north, if the place be situated in the northern hemisphere; if in the southern, it will be south. Thus the latitude of London will be 51 deg. 32 min. N. of Barbadoes, 12 deg. 00 min. N. of the Lizard, 49 deg. 57 min. N. of St. Helena, 16 deg. 00 min. S. and of the Cape of Good Hope, 34 deg. 15 min. S.

## PROBLEM II.

*To find the Difference of Latitude between any two given Places*

Bring each of the places proposed to the brazen meridian, observing the respective degrees over each; and the number of degrees contained between those intersections will be the difference of latitude required. Thus the difference of latitude between the Lizard and Barbadoes, will be 36 deg. 57 min. between Barbadoes and St. Helena, 29 deg. 00 min. and between  
St. Helena

St. Helena and the Cape of Good Hope. 21 deg. 15 min.

### PROBLEM III.

*To find the Longitude of any given Place.*

Bring the given place to the meridian, and the degree of the equator, cut by the meridian will be the longitude required; which will be east, if the place be situated to the eastward of the first meridian, and west, if situated to the westward. Thus the longitude of the Lizard will be 5 deg. 14. min. W. the longitude of Barbadoes 59 deg. 50 min. W. of St. Helena, 5 deg. 53 min. W. and of the Cape of Good Hope, 20 deg. 07 min. E supposing London to be the first meridian.

### PROBLEM IV.

*To find the Difference of Longitude between any two given Places.*

Bring each of the given places successively to the brazen meridian, and observe where each meridian cuts the equator; count the number of degrees, &c. contained in the arch of the equator, intercepted between them, which will be the difference of longitude required. Thus

the difference of longitude between the Lizard and Barbadoes, will be 54 deg. 36 min. W. between the Lizard and St. Helena, 0 deg. 39 min. W. and between the Lizard and the Cape of Good Hope, 25 deg. 21 min. E.

### PROBLEM V.

*To find the Distance between any two given Places on the Globe.*

Lay the graduated edge of the quadrant of altitude over the two places, and the number of degrees, &c. intercepted between them, will be the distance required. Thus the distance between the Lizard and Barbadoes will be 56 deg. 16 min. and between Barbadoes and St. Helena, 59 deg. 04 min.

### PROBLEM VI.

*The Hour of the Day or Night, at any Place being given, to find the corresponding Hour, at another Place.*

Bring the given place to the brazen meridian, and set the index of the hour circle to the given hour; turn the globe about, till the place at which the hour is required lie under the same meridian;



meridian; then will the index point out the hour at the place required. Thus it will be found, that when it is twelve o'clock at London, it will be 39 min. past 11 at the Lizard, 1 min. after 8 at Barbadoes; 34 min. after 11 at St. Helena; and 7 min. after 1 at the Cape of Good Hope.

#### PROBLEM VII.

*To find the Bearing of any given Place from another*

Elevate one of the poles of the globe, untill one of the given places be in the zenith; stay the globe in that position, and lay the quadrant of altitude over the other place, and it will shew on the horizon the point of the compass the latter bears from the former.

#### PROBLEM VIII.

*To rectify the Globe to the Latitude of any Place.*

If the place be in north latitude, raise the north pole, if in south latitude, raise the south pole of the globe, untill the degree of the given latitude, reconed on the brazen meridian under the elevated globe, cuts the plane of the horizon; the same degree reconed from the equinoctial, on the upper part of the brazen meridian, will

be the zenith; and the upper part of the frame, the horizon of the place. Fix the quadrant of altitude in the zenith, and the globe will be properly rectified.

#### PROBLEM IX.

*The Day of the Month being given, to find the Sun's Place in the Ecliptic.*

Find the day of the month in the calender on the horizon; and right against it is the sign the sun is in, and the degree of that sign. Thus on the 12th of May the sun will be 22 deg. 4 min. of Taurus; on the 22d of Agust, in 29 deg. 32 min. of Leo, &c.

#### PROBLEM X.

*To tell the Declination of the Sun on any Day of the Year.*

Note. Declination of the Sun, is his variation from the Equator, either northward, or southward

Bring the suns place to the ecliptic for the given day to the brass meridian, and observe what degree of the meridian it lies under, and whether it be north or south of the equator, for that is the declination required. Thus on May the

the 21st. he has  $20^{\circ} 30'$  N. declination; but on October the 27th. he has  $12^{\circ} 30'$  S. declination.

### PROBLEM XI.

*To tell the Sun's right Ascension.*

Right ascension is the distance from Aries, (in hours of degrees on the equator, reckoned according to the order of the signs) to the brass meridian, when the sun or star is brought to the meridian.

Bring the Sun's place to the brazen meridian, and note what degree of the equator, is cut by the meridian, for that is his right ascension required. Thus on March the 21st. June the 21st. September the 22d. and December the 22st. I find by bringing the sun's place for these different days to the meridian, the equator is cut by it in (0) in (90) in (180) and in ( $270^{\circ}$ ) his right ascension required.

### PROBLEM XII.

*To find the Sun's oblique Ascension and Descension, at any time, and in any Latitude.*

Oblique Ascension is the distance from Aries, to the horizon, when the sun or stars rise.

Oblique Descension is just the reverse.

Rectify the globe, and bring the sun's place down to the eastern verge of the horizon then observe what degree the horizon cuts the equator in, for that is the oblique ascension required.

Turn the globe till the sun's place comes to, or lies level with the western verge of the horizon, and the degree of the equator cut by the horizon, is the oblique descension required.

Thus on June the 21st. his oblique ascension at London is (56) and on the same day his oblique descension is, (123.)

### PROBLEM XIII.

*The Latitude and Day of the Month given, to tell the Sun's amplitude, viz. his distance from the E. and W. points at his rising and setting; and the Points of the Compass he rises and sets upon.*

The globe being rectified, bring the sun's place to the eastern verge of the horizon, (which shews his rising,) then the degrees upon the innermost circle of the horizon, counted upon the true E. point to the place where the sun's place lies against on the horizon, shews you the sun's amplitude. Thus the sun's amplitude May the

21st. at rising is about  $34^{\circ}$  from the E. to the N. and at setting  $34^{\circ}$  from the W. to the N. and the point he rises upon is N. E. by E. and he sets N. W. by W.

## PROBLEM XIV.

*The latitude and day given to tell the sun's Azimuth; viz. his distance from the E. and W. or from the N. and S. points at any time.*

Rectify the globe in general, then turn the globe till the index points to the given hour, this being done, turn the quadrant, till it touches the sun's place for the given day, and then the quadrant will cut the horizon in the azimuth, required from the E. or W. points, or from the N. or S. points. Thus on August the 17th at nine in the morning, the sun will have about  $30^{\circ}$  azimuth from the E. to the S. or, which is the same,  $60^{\circ}$  from the S. to the E. for  $60^{\circ}$  and  $30^{\circ}$  make  $90^{\circ}$  the whole quarter from E. to S.

## PROBLEM XV.

*The latitude, day, and hour given, to tell the sun's Almicanter.*

Almicanter are circles of altitude, that run parallel to the horizon, whose poles are the ze-

nith and nadir, so that you may imagine as many circles of altitude, viz. almicanter, as you please.

## PROBLEM XVI.

*The Latitude of the Place, and the Day of the Month, or Sun's Place in the Ecliptic being given, to find the Beginning and End of the Morning and Evening Twilight.*

It has been found by observation, that the solar rays are visible, until the sun has descended 18 degrees below the horizon, when total darkness begins.

The morning twilight or day-break, commences when the sun comes within 18 degrees of the horizon, and continues until sun-rising.

Having rectified the globe to the latitude, fixed the quadrant of altitude in the zenith, and set the index of the hour circle, to 12 at noon, turn the globe about, until the point opposite to the sun's place, be 18 degrees above the western side of the horizon; then will the index point out, upon the horizon circle, the beginning of the morning twilight: and if the globe be still turned about its axis, until the same opposite point to the sun's place cut the western limb

of the horizon, the difference between the hour pointed out before, and in the present situation, will shew the duration of the twilight. If the globe be still turned about, until the point in the ecliptic, opposite to the sun, be descended 18 degrees below the eastern side of the horizon, the index will point out, on the hour circle, the end of the twilight in the evening.

Thus, upon the 12th of May, when the sun is in 22 deg. 6 min. of Taurus, the beginning at the morning twilight will be at 21 min. after 1, and the end of the evening twilight at 39 min. after 10, after it has continued 3 hours 1 min. On the 22d of August the morning twilight will begin at 39 min. after 2, and the evening twilight will end at 21 minutes after ten.

#### PROBLEM XVII.

*The Latitude of the Place, and the Day of the Month being given, to find at what time the Sun will rise and set, and the length of the Day and Night.*

Having rectified the globe bring the sun's place to the meridian, and set the index of the hour circle, to twelve at noon, turn about the globe until the sun's place in the ecliptic, coincides with the eastern side of the horizon, and the index will point out on the hour circle the

time of the sun's rising; and the globe being turned about, untill the sun's place arrives at the western side of the horizon, the index will shew the time of the sun's setting. The latter being double will show the length of the day, and the double of the former, the length of the night.

Thus on the 12th of May, the sun will rise 22 min. after 4, and set 38 min. after 7. The first doubled, viz. 8 hours, 44 min. will be the length of the night; and the double of the former, namely 15 hours, 16 min. will be the length of the day.

#### PROBLEM XVIII.

*To find the number of Days the Sun constantly shines at any Place, within the Arctic Circle, at what Time it begins, and at what Time it ends; as also the Time of his Continuance below the Horizon, at the opposite Season of the Year, or the Length of the longest Night, and at what Time it begins and ends.*

Having elevated the north pole of the globe, according to the latitude of the given place, turn the globe about, until some point in the first quarter of the ecliptic intersects the meridian in the northern point of the horizon, which will be the

the sun's place in the ecliptic, when the longest days begin; and right against it, in the calendar on the horizon, is the day of the month when this will happen.

If the globe be turned about, until some point in the second quarter of the ecliptic, intersects the meridian in the same point of the horizon, it will shew the sun's, place when the longest day ends; consequently, the day of the month is easily found. Thus have we solved the first part of the problem.

Turn about the globe until some point in the third quarter of the ecliptic intersects the meridian, in the southern point of the meridian; and this will be the sun's place when the longest night begins. And by turning about the globe, until some point in the fourth quarter, or quarter of the ecliptic, intersects the meridian in the same point of the horizon, it will be the sun's place when the longest night ends.

Thus at the North Cape, in 71 deg. 38 min. N. the sun will not set; but transit the meridian in the northern part of the horizon; on the 12th of May; and from the time continue above the horizon until the 31st of July following; or during the interval of 80 natural days: after

which he will continue to rise and set until the 15th of November following, when he will but just touch the horizon in the most southern point, and will not ascend, but continue below the horizon, until the 27th of January; or, 73 natural days.

### PROBLEM XIX.

*The Latitude of the Place, the Day of the Month, and the Sun's Altitude being given, to find the Hour of the Day.*

Rectify the globe to the latitude, screw the quadrant of altitude in the zenith, bring the sun's place to the brazen meridian, and set the hour index to 12 at noon; turn the globe about, until the sun's place cuts the given altitude on the quadrant, either in the eastern or western semi-circle, according as the observation was made, either in the fore, or afternoon; then will the index show the hour of the day required.

Thus, in the latitude of 51 deg. 31 min. on the 12th of May, when the sun has 40 deg. of altitude, in the eastern semi-circle, or in the forenoon, it will be found, that the observation was made at 48 min. after 8 in the morning. On the 22d of August, when he has 35 deg. in the western semi-circle, it will be 8 min. after

3 in the afternoon. On the 13th of November, when he has 12 deg. of altitude in the eastern semi-circle, it will be 46 min. after 9 in the morning. And on the 12th of February, at 20 deg. of altitude in the western semi-circle, it will be found 24 min. after 2.

### PROBLEM XX.

*Given the Day of the Month, and Hour of the Day, to find, 1. In what Places of the Earth, the Sun is then rising. 2. In what Places of the Earth he is then setting. 3. In what Places of the Earth he is then upon the Meridian. 4. In what Places it is then Midnight. 5. In what Places the Twilight is then just visible. 6. In what Places the Twilight is then ending. 7. What Zone of the Earth enjoys at that Time nothing but Twilight. 8. What is then the Altitude of the Sun in any Part of the illuminated Hemisphere. 9. And what is his Depression at the same Time, in any Part of the obscure Hemisphere of the Earth.*

Find, in the calendar, on the horizon, the sun's place in the ecliptic, and also his declination for the given time; elevate the north pole of the globe, if the sun have north declination, but the south pole, if the declination be south, until the arch of the meridian, intercepted be-

tween the pole and the horizon, be equal to the declination of the sun at that time: set the index to the given hour, and turn the globe about until the index points to 12 at noon. Then will 1. The sun be vertical to that point on the earth whose zenith coincides with the sun's declination; and consequently, that luminary will be in the nadir, to the opposite point in the lower hemisphere. 2. All those places which are in the western semi-circle of the horizon, will have the sun rising. 3. The inhabitants of those places of the earth, situated in the eastern semi-circle, will see the sun setting. 4. It will be noon to all those people that live under the upper-semi-circle of the meridian: and. 5. It will be midnight to those who live under the opposite, or lower semi-circle of the meridian. 6. The morning twilight is just begining in those places, which are depressed 18 deg. below the western semi-circle of the horizon: and. 7. In all those places that are depressed 18 deg. below the eastern semi-circle of the horizon, the evening twilight is ending, and total darkness coming on. 8. In all that zone of the earth, intercepted between that circle, and another drawn 18 deg. below, but parallel to it, will be wholly in the twilight: 9. If the quadrant of altitude be fixed in that point where the sun is vertical, and laid

over



over any place, the arch contained between the place and the horizon, will show the height of the sun at that place. 10. If the same arch of the quadrant be continued so as to pass over any place in the obscure hemisphere, the portion of it, intercepted between the place and the horizon, will show the depression of the sun in that place.

### PROBLEM XXI.

*To find the Latitude and Longitude of a fixed Star.*

In order to have a right idea of this problem, which belongs to the celestial globe, it is necessary to observe, that the latitude of a star in the heavens, and the latitude of a place on the earth is very different. The latitude of any place, is its difference to the north, or south of the equator, or equinoctial; but the latitude of a star is its nearest distance to the ecliptic; so that a star may be to the northward of the equinoctial, and yet be in south latitude.

The longitude, also, in the heavens, and on the earth, is different. For, as the latitude of a star is reckoned from the ecliptic, so the longitude is reckoned on the circle, beginning at the

first point of Aries, where the ecliptic cuts the equinoctial. These particulars being promised, the problem may be solved in the following manner:

Elevate the north pole of the globe (if the star be in north latitude, but the south if in the southern hemisphere) 66 deg. 29 min. the complement of the greatest obliquity of the ecliptic, above the horizon. Turn the globe about, till the solstitial colure lies under the brazen meridian, and fix the quadrant of altitude directly over the pole of the ecliptic; or, where the solstitial and equinoctial colures intersect each other. Then bring the quadrant of altitude over the center of the star, and the degree of the quadrant will show its latitude; which will be either north, or south according as the north or south poles of the globe are elevated: the point of the ecliptic, cut by the quadrant of altitude, will be the star's place in the ecliptic: and the arch of that circle intercepted between the fiducial edge of the quadrant of altitude, and the first point of Aries, will shew the longitude of the same star.

Thus, Aldebaran, or the southern eye of the bull, will be found in 7 deg. 34 min. of Gemini,



ni, having 5 deg. 30 min. of south latitude: the head of Castor, or the northern Twin, in 17 deg. 2 min. of Cancer, having 10 deg. 4 min. north latitude: the bright foot of Orion, called Regel, in 13 deg. 37 min. of Gemini, with 31 deg. 10 min. south latitude; and Sirius, or the great Dog Star, in 10 deg. 56 min. of Cancer, and in 59 deg. 32 min. south latitude.

#### PROBLEM XXII.

*To find the right Ascension and Declination of any fixed Star.*

The right ascension of a star, is the arch of the equinoctial, intercepted between the first point of Aries, and the meridian passing through the center of the star; it is therefore the same with the longitude upon the earth, and the quantity of it would be the same, provided the first meridian passed through the point where the first point of Aries cuts the equinoctial. The declination of a star, is the distance of the

star, to the northward, or southward, of the equinoctial, and consequently is the same with the latitude on the earth; and as they both begin from the same line, both the quantity and denomination are the same. The right ascension and declination of any star on the celestial globe, must be found by the same method already used, for finding the longitude and latitude of places on the terrestrial globe; that is, by bringing the given star, whose right ascension and declination is required, to the brazen meridian; for the degree of the equinoctial, cut by it, will be the right ascension; and the degree on the brazen meridian, perpendicular to the centre of the star, will be its declination, and which will be either north or south, as the star is situated to the northward, or southward, of the equinoctial.

Thus, the right ascension and declination of the following stars, will be found as in the annexed table.

Aldebaran;

	Right As.	Declin.
	D. M.	D. M.
Aldebaran; or, the Bull's Eye	65 0	16 0 N.
Capella; or, the Goat	74 15	45 44 N.
Regel; or, Orion's Foot	75 30	8 33 S.
Sirius; or, the Great Dog	98 15	6 22 S.
Procyon; or, the Little Dog	110 30	5 22 N.
Castor; or the Northern Twin	109 0	32 20 N.
Pollux; or, the Southern Twin	112 0	8 42 N.
Alphard; or, Hydra's Heart	138 30	7 26 S.
Regulus; or, the Lion's Heart	148 45	13 12 N.
Azimech; or, the Virgin's Spike	197 30	9 50 S.
Ariadne; or the Northern Crown	231 15	27 35 N.
Antares; or the Scorpion's Heart	343 15	25 50 S.
Lyra; or, the Harp.	277 0	38 30 N.

## P R O B L E M XXIII.

*The Day of the Month, or the Sun's Place in the Ecliptic being given, to find the Time of any Star's passing the Meridian.*

Bring the sun's place in the ecliptic, to the meridian, and set the index of the hour circle to twelve at noon; then turn the globe about till the star itself arrives, under the brazen meridian, and the index will point out on the hour circle, the time when the star will transit the meridian.

Thus, upon the 4th of September, the star Aldebaran will pass the meridian at 28 min. after 11. On the 14th of the same month, Regel, or

the bright foot of Orion, will transit the meridian at 37 min. after 5 in the morning; and on the 5th of January, Sirius, or the great Dog Star, will appear in the meridian at 29 min. after 11.

## P R O B L E M XXIV.

*The Latitude of the Place, and the Day of the Month, or the Sun's Place in the Ecliptic being given, to find the Time of a Star's rising and setting.*

Rectify the globe to the latitude, being the sun's place in the ecliptic to the meridian, and set the index of the hour circle to 12 at noon; then turn the globe about till the given star just begins to ascend on the eastern side of the horizon;

zon, and the index will point out the time of the star's rising: and if the globe be still turned about, till the same star arrives at the western side of the horizon, the index will point out the hour of the star's setting.

Thus, at London, on the 4th of September, Aldebaran will rise about 4 min. after 10 at night, and set at 53 min. after 12 at noon, the next day. On the 12th of January, Castor will rise at 9 min. after 2 in the afternoon, and set at 14. min. after 10 the next morning. On the 13th of September, Regel will rise at 21. min. after 12 at noon, and set 54. min. after 10 in the next morning. And on the 5th of January, Sirius will rise at 55. min. after 6 in the evening, and set at 2 min. after 4 the next morning.

#### PROBLEM XXV.

*Given the Latitude of the Place, the Day of the Month, or the Sun's Place in the Ecliptic, and the Height, or Altitude, of any known Star, to find the Hour of the Night.*

Rectify the globe to the latitude, bring the sun's place to the meridian; set the index of the hour circle at 12 at noon, and fix the quadrant

of altitude in the zenith. Then turn the globe till the star cuts the quadrant in the given altitude; then will the index shew the hour of the night.

Thus, at London, the star Aldebaran, on the 4th of September, will have 15 deg. 40 min. after 11 at night. Castor, on the 12th of January, will have 60 deg. of altitude, in the evening. Regel, or the bright foot of Orion, will have 24 deg. 45 min. of altitude in the western semi-circle, at 35 min. after 7 in the morning, on the 14th of September. And, on the 5th of January, Sirius, or the great Dog Star, will have 15 deg. 30 min. of altitude in the eastern semi-circle, at 8 min. after 9 in the evening.

#### PROBLEM XXVI.

*The Latitude of the Place, the Day of the Month, of the Sun's Place in the Ecliptic, and the hour of the Night, being, given to find what Stars are then rising and setting, what Star's are culminating, or passing the Meridian, and the Altitude of any Star above the Horizon.*

Rectify

Rectify the globe to the latitude, bring the sun's place to the meridian; set the index of the hour circle to 12 at noon, fix the quadrant of altitude in the zenith, and turn the globe about till the index point out the given hour. Then,

1. All those stars that appear just emerging above the eastern side of the horizon, are rising.

2. All those stars that appear in the western limb of the horizon, are setting.

3. All those stars that lie under the brazen meridian, are culminating. And.

4. If the quadrant of altitude be laid over the centre of any star, the degree cut by the star in the quadrant will give the altitude of, the Star at that time.

By this problem all the principal fixed stars may easily be known. For, as the globe thus rectified represents the face of the heavens as it then appears, the student, by remarking any bright star, its place in the heavens, and the positions of stars that surround it, will easily find its correspondent on the globe, and consequently learn its name, and the constellation to which it belongs.

## PROBLEM XXVII.

*To determine all those Places upon the earth, where an Eclipse of the Moon, or of any of the Satellites of Jupiter, will be visible.*

### 1. For an Eclipse of the Moon

Find the declination of the sun at that time when the phenomenon will happen, and elevate the pole of the globe which is most remote from the Sun, till its height is equal to the sun's declination.

Convert the time of the beginning of the eclipse from noon, into degrees and minutes, and if the hour given be between noon and midnight, subtract it from the longitude of the given place to which it is computed; but if it happen between midnight and the succeeding noon, add it to the longitude of the given place, and bring the point into the equinoctial opposite to this on the brazen meridian. Then will a line, drawn by the eastern edge of the horizon, pass through all those places where the eclipse of the moon begins at her setting; and if the duration of the eclipse, reduced into degrees, be subtracted from the degree of the equator then under the meridian, and the globe turned about

about till the degree of the equator come to the meridian, a line, drawn by the western edge of the horizon, will pass through all those places where the eclipse will end at the rising of the moon; and consequently in all the tract of the earth's superficies, included between these two lines, the eclipse will be visible.

2. *For an Eclipse of one of the Satellites of Jupiter.*

Having found the place upon the earth where the sun will be vertical at the time of the eclipse, elevate the globe that is nearest to the sun, till its height be equal to the declination of the sun at that time, and bring the place over which the sun is vertical under the meridian; then if Jupiter be in consequence of the sun, that is, behind that luminary, a line drawn on the globe, along the eastern side of the horizon, will pass through all those places where the sun is setting at the time of the eclipse. But if Jupiter be in antecedence of the sun, that is before the sun, draw the line along the western side of the horizon, and it will shew all those places, where the sun is then rising.

If Jupiter be in consequence of the sun, add the difference between the right ascension of the sun, and Jupiter, to the longitude of the place where the sun is then vertical, and bring that degree of the equator under the meridian, and

elevate the north pole (if Jupiter be on the north side of the equator, but if on the south side, the south pole) till it is equal to the declination of Jupiter; in this position of the globe, draw a line along the eastern side of the horizon, and the space comprehended between this line and the line that determined the place where the sun was setting, will comprehend all those places upon the earth where Jupiter will be visible, from the setting of the sun, to the setting of that planet.

But if Jupiter be in antecedence of the sun, subtract the difference between the right ascension of the sun, and that of Jupiter, for the longitude of the sun is vertical at that time of the eclipse; and bring the degree of the equator, answering to the remainder under the meridian, and the globe being elevated as before, draw a line by the western limb of the horizon, and the space contained between this line, and the line of the sun's rising before drawn, will comprehend all those places on the earth where the eclipse is visible.

Having in the foregoing pages, given a view of the heavens and the earth, which every where display amazing instances of creating power and wisdom, we shall conclude this part of the work in the words of Milton.

" These are the glorious works, Parent of good,

" Almighty, thine this universal frame,

" Thyself how wondrous fair: thyself how wondrous then!"

GEOGRAPHY.

## G E O G R A P H Y.

**G**EOGRAPHY is a science by which we attain the knowledge of the Terraqueous Globe, on which we live, the situation of its empires, kingdoms, provinces, towns, &c.

The land is divided into two great continents, viz. the Eastern and Western Continent; (besides islands.)

The waters are divided into three extensive oceans, (besides lesser seas,) viz. the Atlantic, the Pacific, and the Indian Ocean.

The Eastern Continent is subdivided into three parts, viz. Europe, on the North West; Asia, on the North East; and Africa, on the South.

The Western Continent consists of America only; divided into North and South America, joined by the isthmus of Darien, about 60 miles broad.

The Atlantic, or Western Ocean, divides the Eastern and Western Continents.

The Pacific Ocean divides America from Asia.

The Indian Ocean lies between the East Indies and Africa.

Seas are parts of branches of these, and usually receive their names from the countries they border upon.

**TERMS RELATING TO LAND, ARE,**  
A Continent, Terra-Firma, or Main-Land,  
—A large space of land comprehending many countries; as Europe, &c.

B Peninsula,—A part of land almost surrounded with water; as Arabia, the Morea, &c.

An Isthmus,—That neck of the land which joins the peninsula to the continent, as the isthmus of Suez, which joins Africa to Asia.

A Promontory,—A high part of land stretching itself out into the sea, the extremity of which is called a Cape, or Head-land, as the Cape of Good-Hope.

An island,—A portion of land encompassed with water on all sides, as Great-Britain.

A Coast or Shore,—Is that part of a country which borders on the sea.

Mountains,



**Mountains.**—Are rising parts of land above the adjacent country.

**TERMS WHICH RELATE TO THE WATER, ARE,**

**An Ocean.**—A large extent of Water which is differently denominated according to the different parts of the world it is in; as the Atlantic, the Indian Ocean.

**A Sea.**—A part of the ocean which washes some shores; as the Medeterranean, the Archipelago, or Grecian Sea.

**A Strait.**—A narrow passage, having land on both sides of it; as the Strait of Gibraltar.

**A Channel.**—An arm of the sea which is between two countries:

**A Harbour.**—A station for ships to lie secure from storms:

**A Gulph.**—A portion of the sea which runs up into some land; as the gulph of Mexico, California, &c.

**A Bay.**—A part of the sea which is nearly half surrounded by the land, as the bay of Biscay.

**A Road.**—A place in the sea where is a good anchorage for ships:

**A Lake.**—A collection of water surrounded with land.

**MAPS.]** A map is a plain figure representing the surface of the earth, or a part of it according to the laws of perspective. On the map of any tract of country, are delineated its mountains, rivers, lakes, towns, &c. in their proper magnitude and situations. The top of a map is always north; the bottom south, the right side east, and the left side west. From the top to the bottom are drawn meridians, or lines of longitude; and from side to side the parallels of latitudes.

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## GENERAL IDEA

### OF EUROPE.

**ALTHOUGH** Europe is far, the least extensive of the four grand divisions of the Earth, it has certainly attained a much greater degree of celebrity than the three others, as it is the most populous, and that its inhabitants have more knowledge and industry. It is situated between 10 degrees west, and 63 degrees east longitude, from the meridian of London, and

and between 36 and 72 degrees of north latitude.

## BOUNDED,

On the { North, by the Frozen Ocean, or Icy Sea.  
South, by the Mediterranean Sea, which divides it from Africa.  
East, by Asia.  
West, by the Atlantic Ocean, which separates it from America.

Europe contains several countries and states differently governed, some are monarchical, others republican and some mixed.

A monarchical government is when the supreme authority, is lodged in the hands of a single man, as in Spain, Portugal; and when a Government is so disposed that the supreme power is above the laws it is called absolute or despotic.

A Republic is when the Sovereign authority is lodged in the hands of several chosen to govern the rest; as in Venice, Holland and Switzerland.

In some Republics, such as Venice, the nobles and principal men, are vested with the supreme power; in others, as Geneva, it is in the hands of the people in general.

Respecting the different denominations, the first is called an Aristocratic government, and the latter Democratic.

A mixed government is when the authority of the Sovereign is limited by the laws, or by the assembly of the States, as in England, Germany &c.

E

A TABLE,

## ELEMENTS OF GEOGRAPHY.

## A T A B L E.

Shewing the chief States of EUROPE, with their position in respect to the middle of the Continent. The names of their capital Cities, Religion of the State, and the Climate they stand in.

*Note.* E stands for Empire, K. for Kingdom, R. for Republic, and S. for States.

COUNTRIES NAMES.	POSITION.	RELIGION.	CHIEF CITIES.	CLIMATES.
K. Ireland	W.	Protestants and Catholics.	Dublin	9
K. Great-Britain.	W.	Prot. & Catho.	London	9
Including { England { Scotland { and { Wales.	W.		Edinburgh.	
R. Holland, } <i>Neth</i>	W.	Protestants.	Amsterdam.	9
Flanders. }	W.	Catholics.	Brussels.	9
R. France.	W.	Catholics.	Paris.	9
K. Spain	S. W.	Catholics.	Madrid.	6
K. Portugal.	S. W.	Catholics.	Lisbor.	6
R. Switzerland.	Mid.	Prot. & Cat.	Bern.	8
S. Italy.	S.	Catholics.	Rome.	7
<i>Containing Naples, Popedom, Piedmont, Montserrat, Milan, Parma, Modena, Mantua, Venice, Genoa, Tuscany, &amp;c.</i>				
K. Poland.	Mid.	Catholics.	Warsaw.	9
K. Hungary.	E.	Catholics.	Presburg.	9
Including { Hungary proper, { Transilvania, { Scлавonia, { Croatia. }				
K. Denmark.	N. W.	Protestants.	Copenhagen.	10
K. Norway.	N. W.	Protestants.	Bergen.	11
K. Sweden.	N.	Protestants.	Stockholm.	11
E. Russia, or Muscovy.	N. E.	Greek Church.	Petersburg.	11
			E. Turkey	

COUNTRIES NAMES.	POSITION.	RELIGION.	CHIEF CITIES.	CLIMATES.
E. TURKEY.	S. W.	{ Mahometans, Christians, and Jews. }	Constantinople.	7
E. GERMANY, or the Mid. Holy Roman Empire.		Prot. & Cat.	Vienna.	8
K. BOHEMIA. Mid. including { Bohemia proper, Silesia, Moravia		Catholics	Prague.	9
K. PRUSSIA N. W.		Protestants	Berlin	9

## ISLANDS IN EUROPE,

*Exclusive of the British Islands, Europe contains the following principal ISLANDS.*

*In the Northern Ocean.**Islands**Subject to*

**G**reenland, famous for  
its *Whale Fishery*,  
Iceland.

Denmark.

The Faro Isles, about 24 in number, are also  
subject to Denmark.

*In the Baltic.*

Zeland, on which Copen-  
hagen, the capital of  
Denmark stands.  
Langland,  
Bornholm &c.

Denmark.

*In the Irish Sea**Islands.**Subject to*

Man, Anglesea, and the  
Western Isles.

Great-Britain.

*In the British Channel.*

Wight,

Great-Britain.

*In the Channel near France.*

Guernsey,  
Jersey.

Great-Britain.

E 2

Bellisle,

<i>Islands.</i>	<i>Subject to</i>
Bellisle, near the coast of Brittany, Oleron, antiently Ulterior, In the Bay of Biscay.	France.

*In the Adriatic, or Gulph of Venice.*

Corfu, Caphalonia Zant, Lucadia	Venice.
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*In the Mediterranean.*

Ivica, antiently, Ebusus, Ma- jorca, Minorca. Corsica. Sardinia.	Spain. France. K. of Sardinia.
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Sicily	near Naples, also called Sicily, from whence the King is stiled the king of the two Sicilies, the chief city is Palermo, antiently Syracuse. North lat. 37—30 E. long 15—10.	King of Naples.
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Malta, formerly called Melita	Knts. of Malta.
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*In the Levant and Archipelago, antiently the Ionian, or Egean Sea.*

Candia, antiently Crete. In the centre of this Island Mount Ida is situated so famous in history.	Turky.
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<i>Islands.</i>	<i>Subject to</i>
Rhodes, famous for having been the residence of the knights of Jerusalem, now knights of Malta, untill the Turks took it.	

Negropont, the ancient Euboea, on the east coast of Achaia, or Livadia.

Lemnos, now Stalimene, lies at the entrance of the Hellespont or Dardanelles.

Tenedos, near the Dardanelles, famous in antiquity by the Siege of Troy, which might have been seen from thence

Scyros, north east of Negropont, is inhabited by Greeks.

Scio, west of Smyrna. It is said Homer was born here, and the inhabitants shew a little square house which they call Homer's school.

Samos, south of Scio, and opposite to Ephesus, on the coast of the Lesser Asia. This island gave birth to Pythagoras, and is supposed to have been the native country of Juno.

Patmos, here St. John is supposed to have written his revelations.

Delos

*Islands.*

Delos one of the most celebrated of all the Grecian Islands, being the birth place of Apollo and Diana, the magnificent ruins of whose temples are still visible.

Cerigo, said to be the native place of Venus and Helen.

Mytelene, antiently Lesbos, is situated north of Scio.

Cyprus, in the Levant, near the coast of Syria and Natolia, is famous for a temple built to the honour of Venus.

Sapienza, south east of the Morea.

Isola del Compace, the ancient Itaca, famous for being the kingdom of Ulysses.

*SEAS in Europe.*

The Baltic, Near Sweden.

The British, or English Channel,—Between England and France.

St. George's Channel, and the Irish Sea,—Between England and Ireland.

The Archipelago or Grecian Sea,—South of Turkey.

*Subject to*

Turkey.

The Euxine, or Black Sea,—South east of Hungary, between Europe and Asia.

The White Sea,—North of Russia.

The Sea of Azoph,—Near the south east part of Europe, between it and Asia.

The Dardanelles,—A strait joining the Archipelago to the Sea of Marmora.

The Mediterranean Sea,—(Called the great Sea in the Old Testament,) between the south of Europe and Africa. The entrance to it is through the Strait of Gibraltar. The east part is called the Levant.

*RIVERS.*

The Rhine, Elbe and Danube,—In Germany.

The Rhone and Seine.—In France.

The Tagus,—In Portugal.

The Po, and Tiber,—In Italy.

The Don, or Tanais,—Between Europe and Asia.

*STRAITS.*

Gibraltar,—Between Spain and Africa.

Dover,—Between England and France.

The



The Sound,—A passage into the Baltic.

Strait of Constantinople, or Bosphorus,—  
Joining the Sea of Marmora to the Black Sea.

Strait of Caffa,—Joining the Black Sea to  
the Sea of Asoph.

Hellespont, or Dardanelles,—Between Europe  
and Asia, about 2 miles over, where Xerxes  
King of Persia laid a floating bridge for his  
army to march from Asia to Europe.

#### GULPHS OR BAYS.

Bay of Biscay,—West of France.

Mediterranean,—South of Europe.

Baltic Sea,—On the Coasts of Sweden, Den-  
mark, Germany and Prussia.

Gulphs of Finland and Bothnia, in Sweden.

#### PENINSULAS.

Italy is a large Peninsula.

Jutland,—North of Germany.

Morea, or Peloponessus, in the Mediterra-  
nean.

Crimea, or Crim Tartary, in the Black Sea.

#### CAPES.

Lizard, Land's-End,—S. W. of England.

Naze,—S. of Norway.

Holyhead,—West of England.

Ortega, Finistere,—N. W. of Spain.

Clear,—S. of Ireland.

Trafalgar,—S. of Spain.

St. Vincent,—S. of Portugal.

North Cape,—In Lapland.

#### MOUNTAINS.

Pyrenees,—Between France and Spain.

Alps,—Separate Italy from France and Ger-  
many.

Carpathin Mountains,—between Poland and  
Hungary.

Appenine Mountains,—In Italy.

Mount Calpe,—Now called the Hill of Gi-  
braltar, opposite to Mount Abyla, in Africa  
antiently called the Pillars of Hercules,

#### VOLCANOES.

OR, BURNING MOUNTAINS.

Etana,—In Sicily.

Vesuvius,—In Naples.

Hecla,—In Iceland.

## IRELAND.

It is situated between 5 and 11 degrees west longitude, and between 51 and 56 degrees north latitude.

It is bounded on the north, by the Deucaledonian Sea; on the south by the Virginian Sea; on the east, by the Irish Sea; and on the west, by the Atlantic Ocean.

It is divided into four Provinces, and 32 Counties.

PROVINCES.	CITIES.	COUNTIES.
N. ULSTER.	DERRY	9
E. LEINSTER,	DUBLIN,	12
S. MUNSTER,	CORK, LIMERICK,	6
W. CONNAUGHT.	GALWAY.	5
		<hr/> 32

## ULSTER, 9

COUNTRIES	TOWNS.
N. DERRY,	DERRY, Coleraine,
E. {	CARRICKFERGUS,
	Antrim, Belfast.
DOWN.	DOWNPATRICK,
	Newry,

## COUNTRIES.

S. ARMAGH,  
MONAGHAN,  
CAVAN,  
W. FERMANAGH,  
DONNEGAL,  
M. TYRONE.

## TOWNS.

ARMAGH, Charlemont,  
MONAGHAN, Clones,  
CAVAN,  
ENNISKILLEN  
DONNEGAL,  
OMAGH Strabane,  
Clogher.

## LEINSTER, 12.

## COUNTIES.

N. LONGFORD  
E. MEATH,  
Lowth,

## TOWNS.

LONGFORD,  
TRIM, Kells, Navan,  
DUNDALK, DROG-  
HEDA, Carlingford.  
DUBLIN, north Part  
called Fingal.

WICKLOW  
WEXFORD,  
S. KILKENNY  
W. Q's COUNTY,

WICKLOW,  
WEXFORD,  
KILKENNY, Castlecomer.  
MARYBOROUGH,  
Mountmelick,

K's COUNTY,  
W. MEATH,  
M. KILDARE,  
CARLOW.

PHILIPSTOWN,  
MULLINGAR,  
NASS, ATHY, Kildare,  
CARLOW,

MUN.

## MUNSTER 6.

COUNTIES.	TOWNS.
N. CLARE.	ENNIS.
E. TIPPERARY.	CLONMELL, Cashell, Carrick-on Suir.
S. WATERFORD.	WATERFORD, Dungarven,
CORK.	CORK, Kinsale, Mal- low.
W. KERRY.	TRALEE, Dingle.
Limerick.	LIMERICK.

## CONNAUGHT, 6.

COUNTIES.	TOWNS.
N. SLIGO.	SLIGO.
LEITRIM.	CARRICK-on-Shannon, Leitrim.
E. ROSCOMMON.	Roscommon, Athlone.
S. GALWAY.	GALWAY, Tuam, Aughrim, Clonfert.
W. MAYO.	BALLINROBE, Castle- bar.

The principal LAKES in Ireland are:

LOUGH LANE, or the Lake of Killarney,  
in the county of Kerry.

LOUGH NEAGH 20 miles long, and 15  
broad; it borders on the counties of Armagh,  
Tyrone, Londonderry, Antrim, and Down.

LOUGH ERN, in the county of Fermanagh.

LOUGH FOYLE, a lake, or arm of the Sea,  
three miles from the city of Londonderry.

## RIVERS.

The SHANNON, which runs into the Atlan-  
tic Ocean, on the western coast.

The BOYNE, which runs into the Irish Sea  
at Drogheda.

The BANN, divides the counties of Antrim  
and Londonderry, and runs into the North sea.

The BARROW,  
The NORE,  
The SUIR, } Meet at Waterford heaven.

The LIFFEY, falls into the Irish Channel, at  
the Bay of Dublin.

There are many Bays, Heavens, Harbours,  
and Creeks in Ireland, which every where in-  
dent the coast, and forms its chief glory: being  
the best fitted in Europe for foreign commerce,  
the

the most considerable are, *Carrickfergus, Carrlingford, Dundalk, Dublin, Waterford, Cork, Kinsale, Clandore, Dingle, Shannon-Mouth, Galway, Sligo, and Lough Foyle.*

### MOUNTAINS.

WICKLOW, in the county of Wicklow.

MOURNE and ISEACH, in the the county of Down.

SLIEU-DENARD, also in the county of Down, 1056 yards in perpendicular height.

### GOVERNMENT.

IRELAND is governed by a Viceroy under the King of the United Kingdom of Great Britain, and the Imperial Parliament.

METROPOLIS.] Dublin.

UNIVERSITY.] Dublin.

RELIGION.] the PROTESTANT and ROMAN CATHOLIC.

### ENGLAND,

So called from the Angles, a people of Cimbric Chersonesus, who, invited over by the Britons to assist them against the Scots and Picts, made themselves master of the whole country, and obliged the old inhabitants to retire to that part which is now called Wales.

ENGLAND is situated between 2 degrees east, and 6 degrees 20 minutes west longitude; and between 59 and 56 degrees north latitude.

It is of a triangular figure: bounded on the north by Scotland, on the south, by the English Channel; which divides it from France; on the east, by the German Sea; and on the west, by the Irish Channel.

There are 36 Shires round the coast of England and Wales, beginning at the river Humber, and ending at the same. 16 inland Shires 52 Shires in all.

*These*

*These 7 SHIRES following are in the North.*

SHIRES.	TOWNS.
N. E. { Yorkshire,	York on the river Ouse
{ Durham,	Durham, R. Were,
{ Northumberland,	Newcastle, upon Tine.
N. W. { Cumberland,	Carlisle, R. Eden,
{ Westmorland,,	Whitehaven.
{ Lancashire,	Kendal, R. Ken,
{ Cheshire,	Lancaster, R. Lune,
	Chester, R. Dee.

*4 SHIRES west of England. and south of the Bristol Channel, viz.*

SHIRES	TOWNS
Cornwall.	Falmouth, <i>Scilly Isles</i> ,
Devonshire,	Launceston, R. Kersey,
Somersetshire,	Plymouth, Exeter, on
	the R. Ex.
Dorsetshire.	Bath, <i>Bristol</i> —(part
	in Gloucestershire)
	Dorchester.

*6 SHIRES south of England and of the Thames, viz*

SHIRE S	TOWNS.
Wiltshire,	Salisbury, R. Avon,
Berkshire,	Reading, on R. Thames
	and Kennet, Wind-
	sor, Eaton,

Hampshire,

Sussex,  
Sutry,

Kent.

Winchester, on R.  
Itching—Southamp-  
ton, Portsmouth,  
Chichester,  
Guildford, R. Wey,  
Southwark, King-  
ston,  
Canterbury, Rochester  
Chatham, Green-  
wich, Woolwich,  
Gravesend, Tun-  
bridge, Deal, Dover.

*7 SHIRES east, viz.*

SHIRES.	TOWNS.
Essex,	Colchester, R. Coln—
Suffolk,	Harwich,
	Ipswich, R. Ipswich,
	Newmarket, part in
	Cambridgeshire,
Norfolk,	Norwich, R. Yare,
Lincoln,	Lincoln, R. Witham—
	Stampford,
Cambridge,	Cambridge, upon Cam,
	Ely.
Hertford,	Hertford. R. Lea—St.
	Alban's Barnet,
Middlesex,	LONDON, R. Thames
	Westminster Ken-
	sington, Hampton
	Court, Breenford,
	Highgate.

*8 Inland*

8 Inland SHIRES *West viz.*

SHIRES.	TOWNS.
Derbyshire,	Derby, Chesterfield,
Staffordshire,	Litchfield,
Warwick,	Coventry, Birmingham,
Worcester,	Upton,
Shropshire,	Shrewsbury, Ludlow,
Hereford,	Hereford,
Monmouth,	Monmouth,
Gloucester.	Bristol, <i>-part in Somersetshire.</i>

8 Inland SHIRES. *East viz.*

SHIRES.	TOWNS.
Oxford,	Woodstock, Blenheim,
Buckingham,	Aylesbury,
Bedford,	Dunstable,
Huntington,	St. Ives,
Northampton,	Peterborough,
Rutland,	Oakham,
Leicester,	Leicester.
Nottingham.	Nottingham.

## RIVERS.

The THAMES, rises in Gloucestershire continues its course to London, and proceeds to the Sea.

The SEVERN falls into the Bristol Channel.

The HUMBER, formed by the Trent, Ouse, Derwent, and several other Streams, divides Yorkshire from Lincolnshire.

RELIGION.] Protestant and Roman Catholic.  
GOVERNMENT.] Mixed consisting of a King, Lords, and Commons.

METROPOLIS ] London.

UNIVERSITIES.] Oxford and Cambridge.

TITLE of the KING.] King of the United Kingdom of Great Britain and Ireland, Defender of the Faith ; Duke of Brunswick and Lunenburg ; Elector of Hanover ; and Arch-treasurer of the Holy Roman Empire.

ELDEST SON.] Prince of Wales.

## WALES.

HATH Twelve Counties, *viz.*

6 North, *viz.*

COUNTIES                      TOWNS.

Flintshire,	Flint, St. Asaph,
Denbigh,	
Carnarvon	Bangor,
Anglesea, (Isle)	Beaumaris, Holyhead,
20 miles long, and	
16 broad.	
Merioneth,	
Montgomery	

6 South



6 South, but north of the Bristol Channel viz.

COUNTIES.	TOWNS.
Cardigan,	Aberistwith,
Pembroke,	St. David's, Milford-heaven,
Carmarthen,	Cardiff, Swansea.
Glamorgan,	
Brecknock,	
Radnor.	

### SCOTLAND.

SCOTLAND is situated between 1 and 6 degrees west longitude; and between 54 and 60 degrees north latitude.

Bounded on the north, by the Deucaledonian Sea; on the south, by the river Tweed, Treviot Hills, and the river Esk, which divides it from England; on the east, by the German Sea; and on the west, by the Atlantic Ocean.

It is divided into 33 Counties, or Shires: 18 of which are in the south, and 15 to the north of the Firth of Forth

18 SHIRES south of the Firth of Forth.

SHIRES.	TOWNS.
Edinburgh,	EDINBURGH N. lat. 56° W. long. 3°

### SHIRES.

### TOWNS.

Haddington,	Dunbar,
Merse, <i>anciently</i> Berwick.	Duns,
Roxborough,	Jedburgh,
Selkirk,	Selkirk,
Peeples,	Peeples,
Lanerk,	Glasgow,
Dumfries,	Dumfries,
Wigtown,	Wigtown,
Kirkcudbright,	Kirkcudbright,
Air,	Air,
Dumbarton,	Dumbarton,
Bute,	Rothsay,
Caithness,	Caithness,
Renfrew,	Renfrew,
Stirling,	Stirling,
Linlithgow,	Linlithgow, Queensferry
Argyle,	Argyle.

15 SHIRES north of the Firth of Forth.

### SHIRES.

### TOWNS.

Perth.	Perth,
Kinross and Clackmanan,	Culross, Kinross, Clackmanan,
Fife,	St. Andrews
Forfar	Montrose,
Kincardin,	Kincardin,
Aberdeen,	Old Aberdeen,
Bamf,	Bamf,
Elgin,	Elgin.
	Naime,

## SHIRES.

Nairne and Cromartie,  
Inverness,  
Ross,  
Southernland,  
Orkney,

## TOWNS.

Inverness,  
Taine,  
Strathy,  
Scalloway.

## ISLANDS on the coast of SCOTLAND.

THE ORKNEYS, or ORCADES,—on the north.

THE SHETLAND ISLES,—On the north east.

SKY, LEWIS, and other Islands,—On the north west.

## MOUNTAINS in SCOTLAND.

The GRAMPIAN MOUNTAINS,—In the middle.

The FAEVIOT, or CHEVIOT,—In the south.

## The Chief RIVERS in SCOTLAND.

The FORTH, the TAY, the SPEY, the DEE, and the CLYDE.

RELIGION.] Protestant of the Calvinistic Persuasion, and Roman Catholic.

GOVERNMENT.] United to England.

METROPOLIS.] Edinburgh.

UNIVERSITIES.] Edinburgh, Glasgow, St. Andrew's, Aberdeen.

## NETHERLANDS.

The Netherlands are divided into three parts viz. The Seven United Provinces, generally called Holland on the North, the Austrian and French Netherlands on the South.

The Seven United Provinces, are situated between 2 and 7 degrees east longitude, and 51 and 54 degrees north latitude.

## BOUNDARY.

On the north and west, by part of the German Ocean, on the east by Germany, and on the south by Flanders. The people are called Dutch, and are remarkable for their great attention to trade.

The Dutch Netherlands contain,

Provinces.	Chief Towns.
Holland,	AMSTERDAM,
Friezland,	Zutphen,
Groningen,	Groningen,
Overissel,	Deventer,
Utrecht,	Utrecht,
Zeland,	Middleburgh,
Guelderland,	Nimeguen,
Texel, and other Islands.	

F

Beside

Besides which the Dutch posses a part of Brabant, Flanders, and Limburg.

GOVERNMENT.] Republican. The President of the States is called Stâdtholder.

TITLE.] The States of *Holland*, are stiled Noble and Most Mighty Lords, the *States* of the *Provinces*, Noble and Mighty Lords, and the *States-General*, High and Mighty Lords, or the Lords the States General of the United Netherlands, or, their High Mightinesses. The *Stadtholder* has the following Titles; Hereditary Stadtholder. Captain General and Admiral of the Seven United Provinces.

UNIVERSITIES.] Louvain, Douay, St. Omer.

#### AUSTRIAN NETHERLANDS,

Subject to the Emperor of Germany, or to the House of Austria, of which he is head.

##### BOUNDED,

On the North by the Dutch Netherlands; on the East by Germany, on the South by the French Netherlands; and on the West by French Flanders, and the British, or German Ocean.

##### Provinces.

##### Chief Towns.

Brabant, ( <i>part</i> )	Brussels,
Antwerp,	Antwerp,
Mechlin or Malines,	Mechlin,
Limburg, ( <i>part</i> )	Limburg,
Luxemburg, ( <i>part</i> )	Luxemburg,
Namur,	Namur,
Hainault, ( <i>part</i> )	Mons,
Flanders, ( <i>part</i> )	Ghent.

#### FRENCH NETHERLANDS.

##### BOUNDED,

On the N. by the Austrian Netherlands, and part of Germany; on the S. by France; on the E. by part of the Austrian Netherlands and France; and on the W. by Picardy and the German Ocean.

##### Provinces.

##### Chief Towns.

Hainault,	Valenciennes,
Cambreses,	Cambray,
Artois,	Arras,
Flanders, ( <i>part</i> )	Lisle,
Luxemburg, ( <i>part</i> )	Thionville.

#### FRANCE.

## FRANCE.

GAUL was anciently divided into *Gallia Cisalpina*, and *Transalpina*; and from the dress of the inhabitants into *Tagata*, or those who wore long garments, and *Braccata et Comata*, or who wore breeches and their hair.

It is situated between  $5^{\circ}$  west, and  $8^{\circ}$  east longitude, and between  $42$  and  $51^{\circ}$  north latitude.

## BOUNDED,

On the { North by the English Channel and the Netherlands.  
South, by the Mediterranean and the Pyrenean Mountains.  
East, by Germany, Switzerland and Italy.  
West, by the Bay of Biscay.

Chief City, Paris, situated on the river Seine, north latitude,  $48^{\circ}$ — $50^{\circ}$  east longitude  $2^{\circ}$ — $25^{\circ}$ .

GOVERNMENT.] Republican.

UNIVERSITIES.] Paris, Lyons, Montpellier, &c.

## SPAIN.

Formerly called IBERIA.

Situated between  $10^{\circ}$  west and  $3^{\circ}$  east longitude, and between  $36$  and  $44^{\circ}$  north latitude.

## BOUNDED,

On the { N. by the Bay of Biscay, and the Pyrenean Mountains.  
S. by the Strait of Gibraltar.  
E. by the Mediterranean Sea.  
W. by Portugal, and the Atlantic Ocean.

Chief City, Madrid, ennobled by the residence of its Kings.

The greatest City for commerce in Spain is Seville, formerly Hispalis, whence the whole kingdom was called Hispania or Spain.

Corduba in Bætica now called Andalusia, the old seat of the Saracen kings.

GOVERNMENT.] Absolute Monarchy.

TITLE.] King of all the Spains, &c. Catholic Majesty.

ELDEST SON Prince of Asturias.

UNIVERSITIES.] Salamanca, Compostello.

F 2 PORTUGAL

PORTUGAL.  
*Anciently* LUSITANIA.

BOUNDED.

On the { N. and E. by Spain.  
S. and W. by the Atlantic Ocean, it  
is the most westerly kingdom on  
the continent of Europe.

Chief City, Lisbon, a great and famous emporium.

UNIVERSITIES.] Lisbon and Coimbra.

The *Government* is like that of Spain.

They have an Inquisition.

SWITZERLAND.

BOUNDED.

On the { N. by Alsace in France, and Swabia  
in Germany.  
S. by Italy.  
E. by the Lake of Constance.  
W. by France.

Chief City, Bern.

Switzerland is a free Republic, divided into thirteen free communities which are called Cantons.

ITALY.

BOUNDED.

On the { N. by the Alps, and Switzerland dividing it from Germany.  
S. by the Mediterranean.  
E. by the Gulph of Venice or Adriatic sea.  
W. by the Mediterranean, and the river Var, which divides it from France.

Italy contains the following States, viz.

<i>States.</i>		<i>Chief Towns.</i>
To the king of Sardinia, an absolute prince.	Piedmont,	Turin,
	Savoy,	Chambery,
	Montserrat,	Casal,
	Alessandrine,	Alessandria,
	Oneglia,	Oneglia,
To the king of Naples.	Sardinia Isle,	Cagliari,
To the emperor, who is absolute.	Naples,	Naples,
	Sicily Isles,	Palermo.
	Milan	Milan
	Mantua	Mantua,
	Mirandola,	Mirandola.
{ The Pope's dominions, or estate of the church }		ROME.

*States.*



	States.	Chief Towns.
To their respective publics	Tuscany,	Florence
	Massa,	Massa,
	Parma,	Parma,
	Modena,	Modena,
	Piombino,	Piombino,
Republics	Monaco.	Monaco,
To the re- public of Venice.	Lucca,	Lucca,
	St. Marino,	St. Marino,
Venice.	Genoa,	Genoa,
	Venice,	Venice,
	Istra, ( <i>part</i> )	Capo d'Istra,
	Dalmatia. ( <i>par.</i> )	Vara.

POLAND.

Including LITHUANIA.

Anciently called SARMATIA.

POLAND, by the Natives is called, Polska;  
from the word Pole, which signifies a plain.

BOUNDED,

On the	N. by Muscovy, Livonia and the Baltic Sea.
	S. by Hungary, Turkey and little Tartary.
	E. by Muscovy.
	W. by Germany.

Chief City, Warsaw N. lat. 52. 15. E. long.

21. 5.

GOVERNMENT.] Elective Monarchy.

TITLE] King of Poland; Great Duke of Lithuania, Duke of Russia, Prussia, &c.

UNIVERSITIES.] Cracow, Wilna, &c.

HUNGARY, OR PANNONIA.

Belonging to the House of AUSTRIA.

BOUNDED,

On the	N. by Poland
	S. by Croatia, Slavonia and Servia.
	E. by Transilvania and Wallachia.
	W. by Austria and Moravia.

Chief Cities, Buda or Osen,—Lower Hungary. Presburg, of Upper Hungary, where the crown of the kingdom is kept, both situated on the river Danube.

GOVERNMENT.] Limited Monarchy, now united to the House of Austria.

UNIVERSITY.] Buda.

F 3

TRANSYL-



## TRANSYLVANIA.

Subject to the House of AUSTRIA.

## BOUNDED,

On the { N. by the Carpathian Mountains  
which divide it from Poland.  
S. and E. by the Irongate Mountains  
which divide it from Moldavia and  
Wallachia.  
W. by Hungary.

Chief City, Cibinium or Hermanstadt.

WALLACHIA was anciently divided into great and little; the greater is now called Moldavia, the lesser Wallachia. The whole country comprising a part of Upper Hungary was anciently called Daica.

## SCLAVONIA.

Subject to the House of AUSTRIA.

## BOUNDED,

On the { N. by the river Drave.  
S. by the Save.  
E. by the Danube.  
W. by Stiria in Austria.

Chief City, Posega.

## CROATIA.

Subject to the House of AUSTRIA.

## BOUNDED,

On the { N. by the river Sava, which divides  
it from Sclavonia  
S. by Morlachia  
E. by Bosnia  
W. by the Duchy of Carniola.

Chief City, Carlsstadt.

## HUNGARIAN DALMATIA,

Lies N. of the Adriatic Sea, being but small, the rest of Dalmatia belongs to the Turks, and Venitians.

## MORLACHIA,

Subject to VENICE.

## BOUNDED,

On the { N. by Carniola, and Croatia.  
S. by Dalmatia.  
E. by Bosnia.  
W. by the Gulph of Venice.

Chief City, Zeng.

## DENMARK,

**D E N M A R K.**

Part of the ancient Scandinavia, which comprehended Sweden, Denmark and Norway.

**BOUNDED,**

On the { N. by the Categate Scaggerac Sea.  
S. by Germany.  
E. by the Categate and the straight of the Sound.  
W. by the German Ocean.

Chief City, Copenhagen.

GOVERNMENT.] Absolute Monarchy.

TITLE.] King of Denmark and Norway, of the Goths and Vandals, &c.

ELDEST SON.] Prince Royal.

UNIVERSITIES.] Copenhagen, Kiel, (in Germany.)

**N O R W A Y.****BOUNDED,**

On the { N. and W. by the Northern Ocean.  
S. by the Categate.  
E. by the Dofrine Mountains which divide it from Sweden.

Chief City, Bergen.

GOVERNMENT.] Viceroy under the King of Denmark.

**SWEDEN,** BOUNDED on the N. by Danish or Norwegian Lapland. S. by the Baltic Sea E. by Russia or Muscovy. W. by Norway.

Chief City, Stockholm

GOVERNMENT.] Absolute Monarchy.

TITLE.] King of Sweden, the Goths and Vandals, Great Prince of Finland, &c.

ELDEST SON.] Prince Royal.

UNIVERSITIES.] Upsal, Abo, Sweden.

**L A P L A N D.**

This country, extends so far as it is known, from the North Cape 71. 30. N. lat. to the White Sea under the Arctic Circle. It is divided into three Parts, viz.

Chief Towns.

Danish, or N. Lapland,

Wardhus.

Swedish

	Chief Towns.
Swedish or South Lapland,	Tornea.
Russian, or East Lapland,	Kola.

**RUSSIA**, BOUNDED on the N. by the Frozen Ocean, and the White Sea. S. by Turkey in Europe. E. by Siberia, or Asiatic Russia. W. by Sweden, Baltic Sea and Poland.

Chief City, Petersburg, built by Peter the Great on Piles; and is one of the largest and finest in Europe, seated on the river Neva, which flows from the Lake of Ladoga, into the Gulph of Finland.

GOVERNMENT.] Absolute Monarchy.

TITLE ] Emperor of all the Russias, Sovereign Prince of Muscovy; Czar of Siberia, &c. Chief and protector of the Greek Church.

ELDEST SON.] Great Duke of Russia.

UNIVERSITIES.] Moscow, Petersburg.

**TURKEY** in EUROPE, is situated between 37 and 40° East long. and between 36 and 49°

N. lat. BOUNDED on the N. by Russia, Poland and Sclavonia. S. by the Mediterranean. E. by Circassia, Black Sea, Propontis, Hellespont and Archipelago. W. by the Mediterranean.

Chief City, Constantinople, called the Porte, by way of Eminence, seated on the European side of the Bosphorus, now called the Canal, on Strait of Constantinople.

	Provinces.	Chief Towns.
N. of the Black Sea	{ Little Tartary.	Precep.
	{ Crimea, belongs to Russia.	Caffa.
	{ Budziac Tartary.	Oczakow.
N. of the Danube	{ Besiarabia,	Bender.
	{ Moldavia,	Jassi.
	{ Wallachia.	Tergovisco.
S. of the Danube.	{ Bulgaria,	Sophia.
	{ Servia,	Belgrade.
	{ Bosnia,	Bosna Serago.
	{ Croatia, (part)	Vihitz.
On the Bosphorus and Hellespont.	{ Romania, formerly Thrace.	CONSTANTINOPLE.

**GREECE,**

*Provinces.*  
Macedonia,

Janna, formerly Thessaly,  
Livadia, formerly Achaia,

Epirus or Lower Albania,  
Albania,  
Dalmatia,

{ Cornithia,

{ Argos,  
Sparta,  
Olympia,

{ Arcadia,  
Elis,

GOVERNMENT ] Absolute Monarchy.  
TITLE.] Grand Signior, a God on Earth;  
Shadow of God; Brother to the Sun and  
Moon; Disposer of all earthly Crowns.

GERMANY, BOUNDED on the N. by the  
German Ocean, Denmark and the Baltic Sea.

## GREECE, Containing,

*Chief Towns.*

Salonichi, formerly Thessalonica famous in the remotest Antiquity for the Courage of its Men, and Goodness of its Horses, and for St. Paul's Epistles to the Christian Churches from thence.

Phillippi, noted for St. Paul's Epistle from Rome, to the Christian Church in that City.

Janna,

Athens, Thebes, N. lat. 38—2. E. lon. 24—5.

Delphos, at the foot of Mount Parnassus, where the Temple of Chimæra, [Apollo stood

Durazzo,

Hersogovina,

Corinth, a famous City of ancient Greece, remarkable for its strength, riches and splendour, and for two Epistles from St. Paul to the Christian Church.

Argos.

Misitira, formerly Lacedemon.

Longinico, formerly Olympia, famous for the Olympic Games, and the Temple of Jupiter Olympus.

Modon.

Elis, or Belvidere.

S by Switzerland and the Alps, which divide it from Italy. E by Poland and Hungary. W. by the Netherlands and France.

Germany contains nine Circles, viz.

*Circles.*

Upper Saxony }  
Lower Saxony } N.  
Westphalia }

*Chief Towns.*

Stettin, Dresden.  
Hamburgh.  
Munster. Up-

*Circles.*

Upper Rhine, }  
Lower Rhine, } M  
Franconia.

Austria, }  
Bavaria, }  
Saxonia, }

*Chief Towns.*

Casel,  
Heidelberg,  
Nuremberg.

VIENNA, E.  
lon 16—20.  
N lat 48—20.  
Munich,  
Ulm.

Besides these, Germany contains,

*Countries.*

K. of Bohemia,

D. of Silesia,  
Marq. of Moravia

*Chief Towns.*

Prague, famous for  
its noble Bridge of  
18 arches, about  
600 yards in  
length, built over  
the river Muldaw,  
a branch of the  
Elbe.

Breslaw,  
Olmütz.

RELIGION.] the Catholic Religion prevails  
in the Dominions of the Emperor, &c. *Lutheranism*  
and *Calvinism* in some other territories.

GOVERNMENT.] There are about three  
hundred smaller Sovereignities, which con-  
federated from the Empire, the Head of which  
is elective.

TITLE.] Emperor of Germany; King of  
the Romans; Titulary Duke of Lorraine and  
Bar.

ELDEST SON.] Arch-duke of Austria.

BOHEMIA including SILESIA and MO-  
RAVIA, BOUNDED on the N. by Saxony  
and Brandenburg. S. by Austria, Bavaria.  
E. by Poland, Hungary. W. by the Palatinate  
of Bavaria.

GOVERNMENT.] The greatest part of Sile-  
sia is annexed to the Prussian Dominions; the  
rest of Bohemia principally belongs to the  
House of Austria.

UNIVERSITIES.] Prague, Olmutz, Breslaw.

PRUSSIA formerly DUCAL PRUSSIA,  
the name of Prussia is probably derived from  
the



the Borussi, the ancient inhabitants of the Country, BOUNDED on the N. by Somogitia, a province of Poland E. by Lithuania. S. by Poland proper, and the Palatinate of Masovia. W. by Polish Prussia, and the Baltic Sea.

Chief City, Koningsburg, on the river Pregal. The King chiefly resides at Berlin the Capital of Brandenburg in Upper Saxony.

GOVERNMENT.] Absolute Monarchy.

TITLE.] King of Prussia, Margrave and Elector of Brandenburg; Chamberlain of the Empire; Duke of Cleves, Magdeburg, Pomerania and Guelderland.

ELDEST SON.] Prince Royal.

UNIVERSITY.] Koningsburg.

## ASIA

ASIA is situated between 25 and 180 degrees of east longitude, and between the Equator and 80 degrees of north latitude. It is about 4740 miles in length, from the Dardanel on the west, to the eastern shore of Tartary; and about 4830 miles in breadth, from the most southern part of Malacca, to the most northern cape of Nova Zembla.

Bounded on the North by the Frozen Ocean; on the East, by the Pacific Ocean; which separates it from America; on the south, by the Indian Ocean; and on the west, by Europe the Mediterranean, and the Red Sea, which separates it from Africa.

*Counties.*



## Countries.

N. Circassian  
 Astracan  
 Siberia  
 Russian, or Mus- } Tartary.  
       covite  
 Chinese or Eastern

E. China.

INDIA east of, or beyond the Ganges,  
containing,

Cochin China,

S. E. Tonquin,

Siam,

Malacca, &c.

INDIA west of, or within the Ganges,  
called the Mogol's Empire; or Indostan,  
containing,

S. W. Malabar,

Coromandel,

Bengal, &c.

## Cities.

Terki,  
Astracan,  
Toboliski, N. lat. 57—30 E. long. 63—10.

Chynian.

Peking, Nanking, Kanton.

SIAM. Pegu.

Thoonoa.

Cachao.

Siam, E. long. 100—55. N. lat. 14. 18.

Malacca.

Agra, Delly, Lahor.

Surat, Bombay, Goa, Callicut.

Fort St. George, or Madrass, Fort St. David,  
Engl. Pondicherry, Fr.  
Calcutta, Hugely, on the Ganges.

Arabia

Countries.

ARABIA is divided into three parts, viz.  
—Arabia Petra, or the Rocky, on the  
confines of Palestine and Egypt N. W.

—Arabia Deserta, of the Desert, from  
which came the original Saracens, is  
in the middle.

—Arabia Felix, or the Happy, so  
called from its fertile soil, is the S.  
E. part of this vast region.

SYRIA, *Comprehending* PALESTINE.

*In the Scripture called* CANAAN.

JUDEA,  
or the HOLY LAND,  
including GALILEE.

PHENICIA, famous for giving birth  
to the first navigators.

ASSYRIA, or CURDISTAN,

Cities.

Suez.

Medina is 200 miles N. W. of Mecca, celebrated  
for being the burial place of Mahomet.

Mecca is the capital of all Arabia, and the place  
of Mahomet's nativity.

Aleppo, Antioch, Palmyra, Tyre, Sidon.

Jerusalem, Bethlehem, Nazareth, Jerico, or the  
city of Palm-trees.

Samaria, anciently Schemron, the Seat of the  
Kings of Israel.

Damascus, anciently the capital of Syria.

Nineveh and Betlis.

EYRACCA

Turkey in Asia, W.

David,

Arabia

*Countries.*

EYRACCA, ARABIC OR CHALDEA,

DIARBEC, OR MESOPOTAMIA,

GEORGIA, including Mengrelia, anciently Colchis, the country from which Jason is said to have brought the Golden Fleece into Europe.

ARMENIA, now called Turcomania.

NATOLIA, formerly called.

ASIA MINOR.

PERSIA

WESTERN, OR INDEPENDENT TARTARY, comprehending

Mid  
USBEK. — —

BOCHARA,

TIBET, — —

*Cities.*

Bassora, Bagdat, — Babylon or Babel supposed to have been the seat of Paradise.

Diarbec, — Mousul opposite to the place where the ancient Nineveh stood.

Erzerum.

Bursa, Ephesus, Smyrna, one of the seven Churches to which St. John wrote.

Troy, anciently Ilium, near the Egean Sea now the Archipelago, rendered famous by Homer and Virgil, for the 10 years siege it sustained from the Greeks.

Ispahan.

Samarcand, the seat of the great Tamerlane.

Bochara,

Lasa.

GOVERNMENT.

GOVERNMENT ~~is~~ through all Asia, scarcely in any other form than that of despotic Monarchy. The principal Sovereignities are those of Russia, Turkey, Persia, China, and Indostan, or the Mogul's Empire. The Mahometan Religion is professed in Turkey, Arabia, and great part of Tartary, which are of the sect of *Omar*; and in Persia, and part of India, which incline to the sect of *Ali*. The Inhabitants of the other parts of Asia, are chiefly Pagans and Idolaters.

## GREAT TARTARY,

Anciently SCYTHIA.

TARTARY taken in its fullest extent is Bounded on the N. by the Frozen Ocean, antiently the Scythian Sea; on the E. by the Pacific Ocean; on the S. by China, India, Persia, and the Caspian Sea; and on the W. by Muscovy, and the Caspian Sea.—Great Tartary is divided into four great parts, viz: 1. Siberia, or Russian Tartary. 2. Independent, or Western Tartary. 3. Chinese or Eastern Tartary. 4. Tibet, or Tangut.

## SIBERIA, OR RUSSIAN TARTARY.

Subject to Russia, is BOUNDED on the N. by the Northern or Frozen Ocean; on the E. by the Pacific Ocean; on the S. by Chinese Tartary, Independent Tartary, and the Caspian Sea; and on the W. by Russia or Muscovy, in Europe.

## WESTERN, OR INDEPENDENT TARTARY,

Containing Great Bochara, Little Bochara, the Country of the Calmucks to the N. and Usbeks to the S. BOUNDED on the N. by Siberia; on the E. by Chinese or Eastern Tartary, on the S. by great and little Tibet, India and Persia; and on the W. by part of Persia, and the Caspian Sea.

G 2

CHINESE



### CHINESE, or EASTERN TARTARY,

Is separated from China, by a wall of amazing extent; it is BOUNDED on the N. by Siberia; on the E. by the Pacific Ocean, which divides it from N. America; on the S. by the Gulph and Peninsula of Corea, by China and Tibet; and on the W. by Western Tartary.

RELIGION.] Christian, Mahometan and Pagan.

TIBET is BOUNDED on the N. by Eastern and Western Tartary; on the E. by China; and on the S. and W. by India.

### A R A B I A.

Is BOUNDED on the N. by Turkey; on the E. by the Gulphs of Bassora and Ormus, which

separate it from Persia; on the S. by the Indian Ocean; and on the W. by the Red Sea.

RELIGION.] Mahometan and Pagan.

GOVERNMENT.] Part of it belongs to the Turkish Dominions, the rest of it is under various independant Sovereigns, who are styled Xeriffs and Imans.

PERSIA, antiently including Hyrcania, Parthia, Media, &c. is BOUNDED on the N. by the Caspian Sea, which divides it from Russia. On the N. W. by the Mountains of Ararat, which divide it from Circassian Tartary. On the N. E. by Usbec Tartary. On the E. by India. On the S. by the Gulphs of Persia and Ormus; and on the W. by Arabia and Turkey.

RELIGION.] Mahometan, of the sect of All.

GOVERNMENT.] Absolute Monarchy.

TITLE.] Sophi, Sultan, or Cham. He whom the Universe obeys.

ISLANDS.

## I S L A N D S.

## Islands.

## Trade with, or belong to

In the Eastern Ocean.	The Japanese Isles,	—	—	—	Dutch.
	The Ladrões,	—	—	—	Spain.
	Formosa,	—	—	—	China.
	The Philippines,	—	—	—	Spain.
	The Moluccas, or Clove Isles,	—	—	—	Dutch.
	The Banda, or Nutmeg Isles,	—	—	—	Dutch.
	Amboyna,	Surrounding the Molucca and Banda Isles.			Dutch.
	Célebes,				
	Gilolo, &c.				
	Sunda Islands.		Boracoe	—	All Nations.
			Sumatra,	—	Eng. and Dutch.
			Java, &c.	—	Dutch.
	The Andaman, and Nicobar Isle,		—	—	All Nations.
	Ceylon,	—	—	—	Dutch.
	The Maldives,	—	—	—	All Nations.
	Bombay,	—	—	—	English.

Cyprus, in the Levant,

Rhodes, in the Mediterranean.

Turks.

## L A K E S.

CASPIAN SEA,—North of Persia.

ARAL,—East of the Caspian Sea.

LAKE BAIKAL,—In Siberia, near Chinese Tartary.

## S T R A I T S.

BABELMANDEL,—between Africa and Arabia.

ORMUS,—At the entrance of the Persian Gulph.

MALACA,—Between Malacca and Sumatra.

SUNDA,—Between the Isles of Sumatra and Java.

ENDEAVOUR STRAITS,—Between New Holland and New Guinea.



## ELEMENTS OF GEOGRAPHY.

## RIVERS.

TIGRIS, EUPHRATES,—In Turkey in Asia.

OB, and VOLGA,—In Tartary.

INDUS and GANGES,—In India.

## GULPHS and BAYS.

BAY, or GULPH of BENGAL.—Between the two Peninsulas of India.

RED SEA, or ARABIAN GULPH,—Between Africa and Arabia.

PERSIAN GULPH,—Between Persia and Arabia.

## MOUNTAINS.

OLYMPUS,—In Turkey.

ARRARAT.—In Turkey; the Ark settled here.

LEBANON, } In Turkey.  
HERMON, }

MOUNT TARUS,—Runs through Asia.

SINAI and HOREB,—In Arabia Petrea.

## AFRICA.

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 divides it from Asia; on the South by the Southern Ocean, and on the West by the great Atlantic Ocean, which separates it from America.

States.

	States.			
States of Barbary.	Morocco,	—	—	—
	Fez,	—	—	—
	Algiers,	—	—	—
	Tunis,	—	—	—
	Tripoli,	—	—	—
	Barca:	—	—	—

	Chief Cities.
Morocco,	
Fez,	
Algiers,	
Tunis,	
Tripoli,	
Tolomata,	

## E G Y P T

IN HOLY WRIT, MIZRAIM DIVIDED INTO

LOWER EGYPT, N.

AND

UPPER EGYPT, S.

Biledulgired,

Zaara,

Negroland,

Grand Cairo, Alexandria, 12 miles W. of the Delta, (so called from its resemblance to a Greek letter of that name, being formed by the extreme branches of the Nile) now almost in ruins—Tahis, the Zoan of Scripture and residence of Pharoah, situate E. of the Delta

Said, or Thebes, E. of the Nile, now in ruins, formerly famous for its hundred gates. N. lat. 27—25. E. long. 34. and 8°—20' E. of Thebes in Greece

Memphis, W. of the Nile opposite to Babylon, famous for its Pyramids.

Dara,

Tegessa,

Medinga,

Guinea

Guinea,

Up. Eth. { Nubia,  
Abyssinia,  
Abex.

The middle Parts called LOWER ETHIOPIA,  
are very little known to the Europeans.

Low. Guinea { Loango,  
Congo,  
Angola,  
Benguela,  
Mataman.

Ajan,

Zanguebar,

Monemugi,

Sofala,

Cassaria, or Hottentots,

Benin,

Nubia,  
Gondar,  
Dancalia.

St. Salvador.

Cape of Good Hope.

## I S L A N D S.

*Islands.*

Babelmandel, at the entrance of the Red Sea.

Zocotra, in the Indian Ocean.

The Comoro Isles, in the Indian Ocean.

*Trade with, or belongs to.*

All Nations.

All Nations.

All Nations.

Madagascar.

Madagascar, in the Indian Ocean		
Mauritius, } In the Indian Ocean	—	
Bourbon, }		
St. Helena, in the Atlantic Ocean.		
Ascension, in ditto.	—	—
St. Matthew, in ditto.		
St. Thomas, in ditto	—	—
Cape Verd Islands, ditto.		
Goree, in ditto	—	—
Canaries, in ditto.		
Madeiras, in ditto.	—	—
The Azores, or Western Isles, lie nearly at an equal distance from Europe, Africa, and America.		

We are little acquainted with the interior parts of this vast Peninsula, which on account of excessive heat, have generally been considered as desert and uninhabited. The regions along the sea coast, however, are described as remarkably fertile.

With respect to RELIGION, it is said, that *Mohometanism* is embraced along the coasts of

All Nations.

French.

English.

Uninhabited.

Uninhabited.

Portuguese.

Portuguese.

French.

Spanish.

Portuguese.

Portuguese.

the Red Sea, and the Mediterranean. The People of Abyssinia profess *Christianity*. *Paganism* prevails in the other part of Africa.

As to the Forms of GOVERNMENT in this part of the Globe, we can speak with little certainty. The States of Barbary are governed by Deys, nominally subject to the Turks. Egypt also belongs to the same jurisdiction under the command of Bashaw or Viceroy.

RIVERS.



## RIVERS.

The **NIGER**—Falls into the Atlantic, at Senegal it increases and decreases as the Nile fertilizes the country, which it overflows every year from the 15th of June to the 17th of September.

The **GAMBIA** and **SENEGAL**—Are Branches of the Niger.

The **NILE**—Divides Egypt into two parts, and discharges itself into the Mediterranean: its inundation is caused by the periodical rains which fall every year between the tropics, and more particularly at its source in Abyssina, which is full of mountains. This river abounds with fish, and also Crocodiles which are very large and dangerous.

## CAPES.

*The most noted Capes, or Promontories, are:*

**CAPE DE VERD**—South-west of Goree.

**PALMA**—On the Coast of Guinea.

**GOOD-HOPE**—South. And,

**SPARTEL**—At the Entrance of the Strait of Gibraltar.

## MOUNTAINS.

**ATLAS**,—Extends from the Western Ocean to Egypt, and had its name from a King of

Mauritania, a lover of Astronomy, who is represented by the Poets as bearing the Heavens on his shoulders.

**MOON**—Extend themselves between Abyssinia and Monomotapa.

**SIERRA LEONE**, or Mountains of the Lions,—Divide Nigritia from Guinea; stiled by the Antients, the Mountains of God, on account of their being subject to thunder and lightning.

The **PIKE** of **TENERIFFE**—is three miles high in form of a sugar-loaf, situated on one of the Canary Isles of the same name, near the coast.

## A M E R I C A.

**A M E R I C A** extends from the 80th degree north, to the 56th degree south latitude; and where its breadth is known, from the 35th to the 136th degree of west longitude from London.

Bounded on the N. by the Northern Ocean; on the E. by the Atlantic Ocean, which divides it from Europe; on the S. by the Southern Ocean; and on the W. by the Pacific, or Great South Sea, which separates it from Asia.

Thirteen United States, lying along the 54th Coast, from N. E. to S. W. all forming one great republic.

Great Britain.

# ELEMENTS OF GEOGRAPHY.

71

It is composed of two great Continents, one on the N. the other upon the S. which are joined by the Isthmus of Panama, or Darien, about 60 miles broad. Panama is the treasury of the gold and silver of Peru, from thence carried by land to Porto-Belló, in the Gulph of Mexico, thence by sea to the Havannah, and thence to Spain.

All the Isles lying to the East, between North and South America, are called the West Indies.

## NAMES of STATES and COLONIES.

### Chief Towns.

Thirteen United States, lying along the Sea Coast, from N. E. to S. W. all forming one great republic.

New Hampshire,  
Massachusetts,  
Rhode-Island,  
Connecticut,  
New-York,  
New-Jersey,  
Pennsylvania,

New England

Portsmouth.  
Boston.  
New-Port.  
New-Heaven.  
New York.  
Trenton.  
Philadelphia.

Delaware,

S. of Pennsylvania and W. of Maryland.

Dover.

Maryland,  
Virginia, —  
North-Carolina,  
South-Corolina, —  
Georgia.

Anapolis.  
Richmond.  
Edenton.  
Charleston.  
Augusta.

Vermont, —  
Western Territory,  
Kentucky, —

Bennington.  
Adelphi.  
Lexington.

Great Britain.

Canada, including the  
Province of Quebec.  
Nova-Scotia.

Quebec, Mon-  
treal.  
Halifax.

Spain. { E. and W. Floridas, Augustine. Pensacola.  
Louisiana, New-Orleans.  
New-Mexico, St. Fe.  
Old-Mexico, Mexico  
California. St. Juan.

### ISLANDS in the Gulph of St. Lawrence.

#### Islands.

#### Chief Towns.

To Eng.

Newfoundland,  
Cape Breton,  
St. John's.

Placentia.  
Lousbourg.  
Charlotte Town.

### In the Atlantic.

To Eng.

The Bermuda Isles.  
The Bahama Isles.

St. George.  
Nassau.

### WEST INDIA ISLES.

#### Islands.

#### Belong to

Jamaica,  
Barbadoes,  
St. Christopher's,  
Antigua  
Nevis, and  
Montserrat,  
Barbuda,  
Anguilla,

England.  
England.  
England.  
England.  
England.  
England.  
England.  
England.

Dominica



Dominica,	England.
St. Vincent,	England.
Granada,	England.
Tobago,	England.
Cuba,	Spain.
Hispaniola,	Spain & France.
Porto Rica,	Spain.
Trinidad,	Spain.
Margaritta,	Spain.
Martinico,	France.
Guadaloupe,	France.
St. Lucia,	France.
St Bartholomew,	} France.
Deseada,	
Margalante,	} Dutch.
St. Eustatia,	
Curassou,	Dutch.
St. Thomas,	Denmark.
St. Croix,	Denmark.

## SOUTH AMERICA.

<i>Countries.</i>	<i>Chief Cities.</i>
<b>T</b> ERRA-FIRMA,	Panama,
Guinea,	Surinam.
Brasil,	Sayenne.
Paraguay, or Laplata,	St. Sebastian.
Patagonia, or Magellanica,	Buenos Ayres
Terra-Fuego.	
Chili,	Lima.
Peru,	St Jago.
Amazonia, a very large country, but little known to the Europeans.	
Cape Horn, South of the Island of Terra-del-Fuego	

## INLAND SEAS in North America, called the LAKES of CANADA.

There are many Lakes in Canada, but the largest known to the Europeans are, LAKE SUPERIOR, which communicates with—LAKE HURON, as that likewise does with—LAKE MICHIGAN, or Illenois, and—LAKE ERIE, or Oswego, north of which is—LAKE ONTARIO.

Between Erie and Ontario is a stupendous Cataract, called the Falls of Niagara: when the Water comes to the perpendicular Fall, which is 146 Feet, it is often heard at the distance of 30 miles.

## RIVERS in North America.

St LAWRENCE—Divides Canada from Nova Scotia, and empties itself into the Ocean near Newfoundland. MISSISSIPPI—Runs from North to South, and falls into the Gulph of Mexico. OHIO—Falls into the Mississippi, and has its source between the Allegany Mountains and Lake Erie.

## RIVERS in South America.

AMAZONS—Which rises in Peru, and falls into the Ocean between Niagara and Guiana. RIO DE LA PLATA—Rises in the heart of the Country, and discharges itself into the Sea with such vehemence as to make its taste fresh many Leagues from Land. ORONOKO—Falls into the North Sea almost opposite to the Island of Trinidad.



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