

ward the North and South Poles, the Meridian is marked with a cypher over the Equator thus (o), and on each side with 10, 20, 30, 40, &c. to 90, which ends in the Equator.

The use of the Brazen Meridian is to shew the latitude of places, and their difference of latitude, either north or south from the Equator: for the latitude of a place is the same as the elevation of the Pole above the Horizon. That is, whatever figures, or number, the Horizon cuts the Meridian in, so many degrees is the Pole elevated, which is the latitude.

#### 4. Of the HORIZON.

The Horizon is that great circle which divides the Heavens and Earth into two equal parts, one called the Upper, and the other the Lower Hemisphere. There are two sorts, the one called the Sensible, or Natural, the other the Rational, or Mathematical Horizon.

The Sensible Horizon is that which divides the visible part of the Heavens from the invisible; as is that great circle which we see all around us, (standing upon any hill, or at sea) and seems as it the Heavens and the Earth coincided or joined together.

The Rational, or Real Horizon, is that which passes through the center of the Earth, and divides it (as was said before) into the Upper and Lower Hemisphere.

☞ This Rational Horizon is represented by that broad wooden circle, lying with its face upward, having two notches cut in it, one on the north and the other in the south part, in which the Brazen Meridian is slipped or moved up and down with pleasure: the Poles of the Horizon are the Zenith and Nadir.

There are four circles on the face of the wooden Horizon, viz.

1. The inner circle, or that circle at the inward edge of the Globe, is divided into twelve equal Parts, or Signs, answering to the twelve Signs in the Ecliptic, with their names likewise prefixed to them: as to this Sign ♈ is wrote Aries, ♉ is wrote Taurus, and so of the rest.

*Note.* Aries ♈ is in the east, Libra ♎ in the west, Cancer ♋ in the north, and Capricorn ♐ in the south point of the Horizon.

2. Next to these Signs is a Calendar of Months, according to the Julian account, or Old Stile, (used in England till the year 1752) so that the inward circle being divided into degrees, answers the days of the month; for right against the day is the degree of each Sign the sun enters in on any day; or, *vice versa*, right against the Sign or Degree, is the day of the month answering thereto.

3. Next to this is another Calendar, according to the Gregorian account, (done by pope Gregory XIII. in the year 1582) called the New Stile, which is eleven days sooner, or before the Old Stile, as may be seen by the position of the Calendars; the tenth of March, in the first or Old Calendar, being right against the twenty-first in the New, or Gregorian Calendar. This New Stile is now used by us in England, as well as in foreign nations, pursuant to an Act of Parliament in 1751.

*Lastly*, On the outward verge of the Horizon is the circle of the Winds, or Rhumbs, viz. the Mariner's Compass, being 32 in number (beginning at the north): each Point, or Rhumb, contains 11½ degrees; for 32 multiplied by 11½ make 360.

The use of the Horizon is to shew the Rising and Setting of the Sun, Length of Day and Night; also the Rising and Setting of the Stars in any latitude; together with the Azimuth, Amplitude, Almucantar, &c. of the Sun or any Star, and the point they rise or set upon, &c.

#### 5. Of the C O L U R E S.

The Colures are two great circles, cutting the Equator at right angles, and pass through the Pole of the World.

The Solstitial Colure is that great circle which passes through Cancer and Capricorn, shewing Winter and Summer.

The Equinoctial Colures pass through Aries and Libra, and shew the Spring and Autumn.

#### *Of the lesser Circles of the SPHERE, commonly called parallel Circles.*

All such circles as do not divide or cut the Globe into two equal parts, but cut off any segment or part less than the half, are lesser circles: thus all circles on either side of the Equator, which run parallel with the Equator, are lesser circles, and less than each other as they approach the Poles: such are the Tropics of Cancer and Capricorn, and all such circles.

#### 1. Of the T R O P I C S.

At the sign Cancer, on the north part of the Globe, you will find a circle drawn with a double line from thence round the Globe, parallel to the Equator, which is called the North Tropic, or Tropic of Cancer, being 23½ degrees from the Equator northward, shewing the Sun's greatest northern declination: and at the sign Capricorn, you will find the same sort of circle, which is called the Southern Tropic, being also 23½ degrees from the Equator, and shews the Sun's greatest southern declension, or variation from the Equinoctial.