

In this Map the Sun is represented in the centre in a state of rest; and around him at various distances are represented the planets or fixed stars—the former revolving around him from west to east, or in the direction of the arrows,—the latter occupying the spaces in every direction beyond the largest planetary circle. The white circles represent the *orbits*, or *paths*, in which the planets move around the sun. On the right is seen a *comet* plunging into the system around the sun, and then departing. It is distinguished from the other bodies belonging to the solar system by its form, its orbit and its trains of light.

There are two kinds of planets—*primary* and *secondary*—the former revolving around the sun only as their centre of motion, like our earth—the latter revolving around a primary planet also, like our moon.

The planets are also called *inferior* and *exterior*; the inferior, or interior, being those (Mercury and Venus) which are closer to the sun than the earth—the exterior, or superior, being those which are farther from the sun than the earth, as Mars, Jupiter, &c.

The *primary* planets are nineteen in number; of which eleven are called *asteroids*, or star-like planets, and are situated between the orbits of Mars and Jupiter.

On the above map *Mercury* may be seen close to the sun, and a little below him—yet in reality distant from him 37 millions of miles. *Venus* is west, a little above the sun, on the left—distant from him 69 millions of miles. The third is the *Earth*—at a distance from the sun of 95 millions. The fourth *Mars*—145 millions. Then follow the eleven small planets called *asteroids*, but too close together to be individually identified. *Jupiter* is the large planet below the sun, with four moons, and distant from him 495 millions of miles. *Saturn* is shown

above the sun, with his *rings* and eight moons—distant from the sun 900 millions. *Herschel* is far on the left in the outer circle, with his six moons, and at a distance from the sun of 1,800 millions. Lastly, *Neptune*, the planet lately discovered by the calculations of the French Astronomer LE VERRIER, is not shown on the map, for want of room. He may be imagined more than 1,000 millions of miles beyond the orbit of *Herschel*, or 2,850 millions of miles distant from the sun. Beyond these planets, in the immensity of space, are situated the fixed stars, or *sidereal heavens*—supposed by theologians to be the *third heavens* of the Sacred Writings.

Now according to the *Copernican Theory*, these planets all move around the sun, as their centre of motion; and so conclusive is the evidence of the theory, that eclipses of the sun and moon are calculated upon it, and astronomers are able to predict their commencement, duration, &c., to a minute, hundreds of years before they occur.

The distances of these planets from the sun are not easily conceived; but some conception or faint impression of it may be found from the following calculations:—Imagine the construction of a Railroad from the sun to Neptune, with a station for refreshments and supplies at each of the other planets; and imagine the rail cars to travel at the rate of 30 miles an hour, day and night; the time table of the rail train on such a journey would be as follows:—From the sun to

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| Mercury, | 152 years. |
| Venus, | 264 “ |
| Earth, | 361 “ |
| Mars, | 554 “ |
| Jupiter, | 1,884 “ |
| Saturn, | 3,493 “ |
| Herschel, | 6,933 “ |
| Neptune, | 10,650 “ |