

examination we shall see that whilst certain general characteristics belong to the two great divisions of the primary planets, yet when these are examined in detail there is by no means an uniform agreement amongst them individually.

The eight primary planets composing the Solar System are divided into two groups of four each, separated by the space which comprises the orbits of the Asteroid planets. The four interior planets, viz : Mercury, Venus, the Earth, and Mars have greater densities than the exterior Planets, are of less size, and with one exception are unprovided with moons. They rotate on their axes in rather more than double the time of the exterior planets—they move round the sun with far greater velocity. Their year varies from about three months, the year of Mercury, to a year and eleven months, the year of Mars, (in round numbers), and their day is about twenty-four hours long.

The four exterior planets, viz., Jupiter, Saturn, Uranus, and Neptune have less densities than the interior ones ; but their size is vastly greater. They move round the sun much slower—their year varies from nearly twelve years, which is the length of the year in Jupiter, to one hundred and sixty-four years, which is the length of the year in Neptune ; their day, as far as has been ascertained, is about ten hours long. Thus we see that increased velocity of axial rotation, and, consequently, increased centrifugal force, with its corresponding diminished force of gravity at the surface, is a characteristic of the four superior planets.

But these greater bodies have also increased means for compensating the reduced amount of light they receive from the sun, for they are all provided with moons in greater or lesser numbers ; Jupiter has four moons ; Saturn has eight, and several rings ; Uranus four, and Neptune but one. There are many other differences existing between these two groups which I have not time to dwell upon.

But with regard to the differences in density, size, &c., amongst the particular bodies of these two great divisions of the Solar System—although Mercury, the nearest to the sun, is the densest body of the Solar System, yet Mars, which is outside the Earth, is denser than Venus which stands next to Mercury in proximity to the Sun, and Neptune which is the “outsider” of the system is denser than either Uranus or Saturn—Saturn being the lightest body in the System.

Again, the Earth has a moon, but Mars, which is outside the Earth, has none. Venus was long supposed by Cassini, Short, and other astronomers to have a moon, but the fine telescopes of our time have failed to discover it, and, therefore, Venus must be deemed moonless.