

Greek, *PERI*, 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 eccentric, 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, until 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 of 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