

a pyramidal form, and is known as the *Zodiacal Light*; and a host of very small asteroids, whose orbits either intersect, or very nearly approach, that of our earth, and which present us with the phenomena of aërolites and falling or shooting stars. When we consider the complication of variously-formed bodies which revolve round the Sun in orbits of such dissimilar eccentricity—although we may not be disposed, with the immortal author of the *Mécanique Céleste*, to regard the larger number of comets as nebulous stars, passing from one central system to another,* we yet can not fail to acknowledge that the planetary system, especially so called (that is, the group of heavenly bodies which, together with their satellites, revolve with but slightly eccentric orbits round the Sun), constitutes but a small portion of the whole system with respect to individual numbers, if not to mass.

It has been proposed to consider the telescopic planets, Vesta, Juno, Ceres, and Pallas, with their more closely intersecting, inclined, and eccentric orbits, as a zone of separation, or as a middle group in space; and if this view be adopted, we shall discover that the interior planetary group (consisting of Mercury, Venus, the Earth, and Mars) presents several very striking contrasts† when compared with the exterior group, comprising Jupiter, Saturn, and Uranus. The planets nearest the Sun, and consequently included in the inner group, are of more moderate size, denser, rotate more slowly and with nearly equal velocity (their periods of revolution being almost all about 24 hours), are less compressed at the poles, and, with the exception of one, are without satellites. The exterior planets, which are further removed from the Sun, are very considerably larger, have a density five times less, more than twice as great a velocity in the period of their rotation round their axes, are more compressed at the poles, and if six satellites may be ascribed to Uranus, have a quantitative preponderance in the number of their attendant moons, which is as seventeen to one.

phere of the Sun of too volatile a nature either to combine with one another or with the planets, we must suppose that they would, in circling round that luminary, present all the appearances of zodiacal light, without opposing any appreciable resistance to the different bodies composing the planetary system, either owing to their extreme rarity, or to the similarity existing between their motion and that of the planets with which they come in contact."—Laplace, *Expos. du Syst. du Monde* (ed. 5), p. 415.

* Laplace, *Exp. du Syst. du Monde*, p. 396, 414.

† Littrow, *Astronomie*, 1825, bd. xi., § 107. Mädler, *Astron.*, 1841, § 212. Laplace, *Exp. d. Syst. du Monde*, p. 210.