

small planets. In the comparative contemplation of these subjects, it is consistent with the nature of this work to bestow especial attention upon the selection of the numerical relations, which, at the period in which these pages appear, are considered to be the most accurate, *i. e.*, the results of the most recent and reliable investigations.

a. PRINCIPAL PLANETS.

1. *Number and Epoch of Discovery.*—Of the seven cosmical bodies which, from the most remote antiquity, have been distinguished by their constantly *varying* relative position toward each other from those which apparently maintain the same positions and distances—the scintillating stars of the region of fixed stars [orbis inerrans]—there are only five which appear *star-like*, “quinque *stellæ* errantes;” they are Mercury, Venus, Mars, Jupiter, and Saturn. The Sun and the Moon remained almost separated from the others, since they form large disks, and also on account of the greater importance attached to them in accordance with religious myths.* Thus, according to Diodorus (ii., 30), the Chaldeans were acquainted with only five planets. Plato also says distinctly in the *Timæus*, where he only once mentions the planets, “Round the Earth, fixed in the center of the Cosmos, move the Moon, the Sun, and *five other stars*, which have received the name of *planets*; the whole, therefore, in seven revolutions.”† In the old Pythagorean representation of the celestial system, according to Philolaus, the five planets were mentioned in a similar manner among the ten deified bodies which revolve round the central fire (the focus of the universe, *ἑστία*) “immediately beneath the region of fixed stars;”‡ these were succeeded by the Sun, Moon, Earth, and the *ἀντίχθων* (the anti-Earth). Even Ptolemy always speaks of only five planets. The enumeration of the planets in systems of seven, as Julius Firmicus distributed them among the decani,§ as they are represented in the zodiacal circle of Bi-

* Gesenius, in the *Hallischen Litteratur-Zeitung*, 1822, Nos. 101 and 102 (Supplement, p. 801–812). Among the Chaldeans, the Sun and Moon were held to be the two principal deities; the five planets merely represented genii.

† Plato, in the *Timæus*, p. 38, Steph.; Davis’s translation, ed. Bohn, p. 342.

‡ Böckh, *De Platonico systemate Cælestium globorum et de vera indole astronomiæ Philolaicæ*, p. xvii., and the same in *Philolaus*, 1819, p. 99.

§ Jul. Firmicus Maternus, *Astron.*, libri viii. (ed. Pruckner, Basil 1551), lib. ii., cap. 4, of the time of Constantine the Great.