

idea of the relation of the planets and fixed stars to the *sun's course*, the division of the ecliptic into twelve equal parts (Dodecatomeria), originated with the ancient Chaldeans, and very probably came to the Greeks, at the beginning of the fifth, or even in the sixth century before our era, direct from Chaldea, and not from the Valley of the Nile.\* The Greeks merely separated from the constellations named in their primitive sphere those which were nearest to the ecliptic, and could be used as signs of the zodiac. If the Greeks had borrowed from another nation any thing more than the idea and number of the divisions (Dodecatomeria) of a zodiac—if they had borrowed the zodiac itself, with its signs—they would not at first have contented themselves with only eleven constellations. The Scorpion would not have been divided into two groups; nor would zodiacal constellations have been introduced (some of which, like Taurus, Leo, Pisces, and Virgo, extend over a space of  $35^{\circ}$  to  $48^{\circ}$ , while others, as Cancer, Aries, and Capricornus, occupy only from  $19^{\circ}$  to  $23^{\circ}$ ), which are inconveniently grouped to the north and south of the ecliptic, either at great distances from each other, or, like Taurus and Aries, Aquarius and Capricornus, so closely crowded together as almost to encroach on each other. These circumstances prove that catasterisms previously formed were converted into signs of the zodiac.

The sign of Libra, according to Letronne's conjecture, was introduced at the time of, and perhaps by, Hipparchus. It is never mentioned by Eudoxus, Archimedes, Autolycus, or even by Hipparchus in the few fragments of his writings which have been transmitted to us (excepting indeed in one

\* Letronne, *Orig. du Zod.*, p. 25; and *Analyse Crit. des Représ. Zod.*, 1846, p. 15. Ideler and Lepsius also consider it probable "that the knowledge of the Chaldean zodiac, as well in reference to its divisions as to the names of the latter, had reached the Greeks in the seventh century before our era, although the adoption of the separate signs of the zodiac in Greek astronomical literature was gradual and of a subsequent date." (Lepsius, *Chronologie der Ägypter*, 1849, s. 65 and 124.) Ideler is inclined to believe that the Orientals had names, but not constellations for the Dodecatomeria, and Lepsius regards it as a natural assumption "that the Greeks, at the period when their sphere was for the most part unfilled, should have added to their own the Chaldean constellations, from which the twelve divisions were named." But are we not led on this supposition to inquire why the Greeks had at first only eleven signs instead of introducing all the twelve belonging to the Chaldean Dodecatomeria? If they introduced the twelve signs, they are hardly likely to have removed one in order to replace it at a subsequent period.