



ZODIAC

ZODIAC, a circle, oblique with respect to the equator, represented on the celestial sphere and divided into twelve equal parts, conventionally of 30° each (Pahlavi *dw'cdh'n dwāzdahān* “the twelve ones;” Sogd. Man. *'(n)xrwzn*/Buddh. *'nyrwzn*; Mod. Pers. *menṭaqato'l-boruj*, lit. “the region of the Zodiacal signs;”; Gk. *Dōdekatēmória*, etc. [see below]). These more or less correspond to the twelve “zodiacal” constellations, called in Greek *Zōdia*, from which comes the name “Zodiac” (see also *zōdiakós kúklos* “the zodiacal circle”). We can distinguish (van der Waerden, 1952-53, p. 216) between a *zodiacal belt* some 12° in width, where the sun, the moon, and the five planets known in antiquity move, and the *ecliptic*, i.e., a line in the middle of the zodiacal belt (the place where lunar and solar eclipses occur) corresponding to the sun’s orbit.

The origin and development of the idea of a zodiacal circle have been much debated, but now there is a general consensus that a kind of zodiacal belt must have been defined by Babylonian astronomers as early as 700 BCE. In this period the “path” supposed to have been followed by the planets, the sun, and the moon was divided into 15 constellations. An earlier proto-zodiac with 18 or 17 ecliptical constellations, named “the path of the Moon,” was also known (Florisoone, 1950, pp. 257-59; 1951, pp. 168-69; van der Waerden, 1968, pp. 77-78; Rochberg-Halton, 1984, pp. 121-25; Hunger and Pingree, 1989, pp. 144-45; 1999, p. 71). The standard scheme of the 12 constellations was clearly introduced in about the 5th century and developed during the Seleucid period. The Greek elaboration of the Zodiac no doubt followed, with small changes in



the mythological representation of a few constellations, the Babylonian pattern (see Cumont, 1969; van der Waerden, 1952-53; Florisone, 1950; 1951; Pettinato, 1998, pp. 96-99, 123-26). Although no Old Persian or Avestan source directly refers to the concept of the Zodiac, it is not farfetched to suppose that, at least in western Iran, where the Babylonian schools of astronomy were very active and progressing in their own mathematical techniques during the Achaemenid domination, the idea of the Zodiac was already developed in its basic model, probably in connection with some calendrical problems (such as intercalations of a month and eventual modifications and/or reforms of the calendar; see [CALENDARS](#); see also Panaino, 2002). It is in fact highly improbable that only the Greeks and the Indians should have been able to take advantage of the results of the Mesopotamian astronomical notions, while the Iranians remained completely inactive in this field; the introduction of at least two calendrical reforms under the Achaemenids confirms direct knowledge of astronomical data which must have been mastered also by the Persian rulers. (Likewise, the attribution of divine names to the planets, based on an earlier Babylonian pattern, surely happened before the demonization of those entities occurred) Thus, the history of the Iranian calendars, as well as the pattern lying behind the basic Mazdean scheme of the great cosmic (and mythological) period of 12,000 years (see [COSMOGONY AND COSMOLOGY](#)), presuppose a certain crude (but early, because it is indirectly assumed also by Xanthos of Miletus; cf. Gnoli, 2000, pp. 43-94) acquaintance with the simple scheme of the 12 Zodiacal constellations, which were originally linked with the 12 months of the year (Panaino, 1998a, pp. 163-65); the astrological power (*chronochratoria*) exerted by the 12 signs over the 12 millennia of the cosmic year was probably introduced later with the basic corpus of the Hellenistic astrology.

According to the spherical model assumed in Sasanian Iran under the impact of Greek and Indian astral sciences, the inferior sphere was called the *spihr ī gumēzišnīg* “sphere of mixture;” it comprised the twelve constellations (Pahl. *12-axtarān*) which were subjected to the “mixture” with the demoniac and evil forces (planets, falling stars, comets, etc.); this sphere, of course, included the Zodiacal belt (see *Ir. Bd.*, II, 8-9; cf. Henning, 1942, pp. 232-33, 240; Belardi, 1977, pp. 125-26) with its 12 constellations (Gignoux, 1988); here a most important battle between astral demons and divine star beings takes place, according to the Pahlavi sources. In the framework of the fight between stars and planetary demons, the Zodiacal constellation were considered as *bayān*, in its early meaning of “givers” of a good lot in opposition to the planets, who are “bandits” (*gēg*) and robbers of the human fortune (cf. also New Pers.

dahandagān “the [12 constellations] as givers”; Zaehner, 1972, pp. 417, n. r, 477; Panaino, 2005). According to the Mazdakite tradition, as reported by Šahrastāni (1986, pp. 663-66), the seven ministers of the heavens turn and move among the twelve spiritual beings, which can be nothing but the 12 zodiacal signs (cf. Sundermann, 1993, p. 316). This tradition is distinctive in that the planets do not belong to the demoniac army, as is the case in the Zoroastrian orthodox pattern.

The standard name of the Zodiac in Pahlavi was *dwazdahān* (dw’cdh’n) “the twelve ones” (Nyberg, 1974, p. 69; MacKenzie, 1971, p. 29), but there is also the denomination *12-axtarān* (see Nyberg, 1974, p. 39); in Modern Persian the standard denomination is *mentaqato’l-boruj* “the region of the Zodiacal signs” (“Zodiacal sign” being the Arabic loanword *borj*, pl. *boruj*, meaning also “tower” and “month of the solar calendar”), but also *borj-e āsmān* “the Zodiac,” *borjhā-ye* (or *boruj-e*) *davāzdahgāna* “the twelve signs” (Tajik *burj-iduvozdah*), *davāzdah borj-e falak* “the twelve signs of the heaven” (Tajik *duvozdah burj-i falak*); in Kurdish we find *birc* and *birce feleke*.

As far as we know, a well-developed knowledge of mathematical and spherical astronomy was mastered in Iran only in the Sasanian period (224-651 CE), although we may imagine a certain astronomical activity earlier, in the Arsacid period, but mostly mastered in non-Iranian languages. During the Sasanian period the traditional astral lore (mostly of Avestan origin) and the local background culture were greatly enhanced, thanks to Greek, Egyptian, and also Indian astronomical and astrological doctrines (see Pingree, 1963a; 1973; 1987; 1993; 1997, pp. 39-50; Henning, 1942; MacKenzie, 1964; Brunner, 1987; Panaino, 1998a with additional bibliography; Raffaelli, 2001). The Zodiac is well attested in the Pahlavi texts and the names of the Zodiacal constellations listed, e.g., in *Ir.Bd.*, II, 1-2 (Henning, 1943, pp. 230-31), basically follow the Greek forms (see [TABLE 1](#))

The initial point of the Zodiac (and then of the year) was already fixed at 0° Aries (see Brunner, 1987, p. 866). The essential importance of the Zodiac was fully recognized in Sasanian astrology, as patently shown from the “world horoscope” (*zāyč ī gēhān*) of *Ir. Bd.* V and in the birth horoscope of Gayōmart in *Ir. Bd.* VI F, which was very similar to the Indian horoscope of the *mahāpuruṣa* (attested in the *Yavanajātaka* of Spujidhvaja; see Pingree, 1973, p. 123; cf. MacKenzie, 1964 and Raffaelli, 2001). In this very *thema mundi* the planets and the luminaries (sun and moon) are placed in their own exaltations with the exception of Mercury. This text also confirms a remarkable



knowledge of the Greek astrological system of the 12 “houses” (or “places”; cf. Pahl. *gyāg* and Gr. *dōdekátōpos*). Probably we can also see in *Šahristānīhā ī Ērān* 24 (Markwart, 1931, p. 14) a reference to the so-called *oktṓtopos* (i.e., the “eight place” of the *genitura*—the *thema* or birth horoscope—as in Manilius and Firmicus): *mārīg ī... haštom bahrag* “the decrees (lit. “words”) of the... eighth part” (MacKenzie, 1964, p. 524; cf. Bouché-Leclercq, 1899, p. 276-80).

The astral diagram was arranged with a subdivision of the Zodiac into 12 houses, starting from the rising point (i.e., the “true” horoscope), corresponding to the first house, while the second house was placed 30 degrees under the horizon, and so on. These 12 houses are mentioned in *Ir. Bd.* V and VI F (see MacKenzie, 1964, p. 526; for the interpretation of IV, *pidištān* or, perhaps better, its emendation to *+pidarān*, see Raffaelli, 2001, p. 89); their sequence is presented in [TABLE 2](#).

The most important of these places were the four called Gk. *kéntra* (Pahl. *mēx*), Lat. *cardines*: (1) the “horoscope” (in the strict sense) or ascendant, in the first house; (2) the *Imum caeli* or nadir, in the fourth house; (3) the *Occidens* or descendant in the seventh house; and (4) the *Medium caeli* or zenith in the tenth house. Four other places were considered “favorable,” because they were in trigone aspect (places V and IX) and sextile aspect (III and IX) with the horoscope. The remaining four were “negative” (places II, VI, VIII, XII; see Bouché-Leclercq, 1899, p. 281).

In general, the system of the 12 houses does not correspond to the 12 Zodiacal signs, because the first place (Lat. *cuspis*) starts from the actual horoscope. However, in the (two) “World horoscopes” of the *Bundahišn* (see *Bundahišn*, following an Indian astrological tradition; and these correspond to the daëvic representation of the lunar nodes (i.e., the places where eclipses occur). The Dragon’s name has been generally interpreted in Pahlavi as *Gōzihr* (gwcylh; Ar. *Jawzah(a)r*; see in bibliog. the works by Hartner), which should derive from the standard epithet of the Moon in Avestan (*gaociθra-* “holding the seed of cattle”). However, such a semantic shift remains questionable; the name could be explained otherwise as **gaw-čīhr* (gwcylh) from **gav-* “daëvic hand” + **ciθra-* “form” (i.e., **²gaociθra-* or **gāuciθra-*; cf. Bartholomae 1895-1901, cap. 288, par. 33, p. 157; Morgenstierne, 1927, p. 89, s.v. *waryōwai* “palm of the hand, sole of the foot” < **fragava-ka-*), thus “having the form of a devilish hand.” The model of the Dragon seems to follow the image of Rāhu, the Indian black planet, normally represented with two enormous hands (see Panaino, 2006). Reference to this demon is found in the Mid. Pers. Manichean fragment



M556, where the head and the tail are referred to as two dragons (*azdahāg*; see Boyce, 1975, p. 60; Hutter, 1992, p. 10).

References, not only to astral bodies but more specifically to astrological concepts strictly connected with the standard image of the Zodiac, are well attested also in Manichean sources (Stegemann, 1997); in particular a detailed description of the Manichean representation of the celestial vault is given by the Sogdian manuscript M 178 (ed. Henning, 1948, pp. 310-16; see also Panaino, 1997b). We know that individual horoscopy was practiced as confirmed from the Manichean fragment M 543 (cf. Salemann, 1908, p. 28; Boyce, 1975, p. 149, text cqa), where it is stated that Mani was “born under a sign of good auspice” (*cy z'd hy pd prwj 'xtr*). The knowledge of so-called catholic (or universal) astrology is confirmed thanks to a Manichean Parthian fragment (ed. Kudara, Yoshida, and Sundermann, 1997: photo vol., pl. 124, text vol., p. 232; signature no. 11079; cf. Panaino, 1997b, p. 256, n. 36); here the regions of the known world correspond to the signs of the Zodiac according to a general pattern comparable to that attested in the *Tetrabiblos* of Ptolemy, 2.3.3-5 (ed. Robbins, 1940, pp. 128-29). The correspondence between human body and the cosmos (*melothesia*) was greatly developed in the Coptic *Kephalaia* (chap. LXX; ed. Polotsky and Böhlig, 1940, pp. 169-75; Gardner, 1995, pp. 179-84); in it are found two *melothesia*e (Schmidt, 1940, p. 174, ll. 1-ss), in which the order of description is close to that followed by Indian and Classical astrologers (cf. Pingree, 1978, II, pp. 193-203).

In the Manichean cosmology also the stars were considered as demoniac beings, and for this reason the Zodiac too was regarded negatively; but a residual positive evaluation of these constellations seems to survive in the image of the Twelve Virgins of Light and in various other divine groups of 12, such as the 12 buckets of the noria “wheel” in the Column of Light, and the 12 Eons placed behind God the Father of Greatness; these probably have absorbed the role of the Zodiac (Panaino, 1997b). This also seems to be the case for the magic, twelve-faced “Lens” (*mjy*), on which see Henning (1948, pp. 315-16), set up on the ten Firmaments by the Lord of the Seven Climes and the Mother of the Righteous, where the Son of God sits as watcher, according to the Sogdian fragment M 178 (Henning, 1948, p. 312). Each Firmament has twelve Gates, which, according to Henning (1948, p. 311), appear not to be connected with the twelve constellations; but it is clear that their number evokes another kind of prototypical Zodiac. According to the same manuscript (Henning, 1948, p. 315), below the ten Firmaments were fashioned a rolling



wheel and the Zodiac (in Sogdian: Man. *ʿ(n)xrwzn*/Buddh. *ʿnyrwzn*; see Gharib, 2004, pp. 40, 47, 82). Within the Zodiac the demons of Darkness were fettered; here we find also a reference to the negative role of the planets and of the twelve Zodiacal constellations. In the same Zodiac, which in the Pahlavi sources represents a mixed place, that is, a place of battle, the demons are imprisoned, and they wove together roots, veins, and links, which can be compared with many other kinds of astral bonds attested in a number of Manichean, Zoroastrian, and also Mandaean sources (see Panaino, 1998a).

In the Buddhist Sogdian text of Paris (P. 3, vv. 147 ff.; see Benveniste, 1940, p. 66; Henning, 1946, p. 727), an Indian representation of the heavens is attested with additional references to various astronomical and astrological subdivisions: here the “houses” (*ynʿk*) of the twelve constellations (*12 ʿnyr*) are said to have been painted in a magical building by a Shaman, above the image of Mount Sumeru (*smʿyr yrw*); in addition, the text refers to the 28 “lunar mansions” (*28 ʿnyrt*), the twelve (eleven in the ms.) “great and terrible Hours” (*mzʿyγw wzpywnʿyth zmnth*), and the other Zodiacal stars. The mention of Mount Sumeru is well known in Indian Buddhist astral texts (as well as that of Mount Meru in Hindu sources) and refers to a spherical image of the celestial vault, where the peak of the cosmic mountain is connected with Dhruva or the Pole Star (see Kirfel, 1920, pp. 182-85; Neugebauer and Pingree, 1971, p. 83; Pingree, 1981, pp. 12-13; Panaino, 1995-96, pp. 195-98).

For a description of the Zodiac in Islamic times, see Pingree, 1987 (s.v. [ASTROLOGY](#)).

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