

- Henry 2008 — *Henry J.* The Fragmentation of Renaissance Occultism and the Decline of Magic // *History of Science*, 46 (2008).
- Heppe 1880 — *Heppe H. (ed.)* Soldan's Geschichte der Hexenprozesse. Stuttgart, 1880.
- Hunter 2005 — *Hunter M.* New Light on the "Drummer of Tedworth": Conflicting Narratives of Witchcraft in Restoration England // *Historical Research*, 78 (2005).
- Hutchinson 118 — *Hutchinson F.* An Historical Essay concerning Witchcraft. London, 1718.
- Jobe 1981 — *Jobe T.H.* The Devil in Restoration Science: The Glanvill-Webster Witchcraft Debate // *Isis*, Vol. 72, No. 3 (1981).
- Kors and Peters 2001 — *Kors A.C. and Peters E.* Witchcraft in Europe 400–1700: A Documentary History. Philadelphia, 2001.
- Lecky 1884 — *Lecky William E.H.* History of the Rise and Influence of the Spirit of Rationalism in Europe. New York, 1884.
- Lewis 2006 — *Lewis R.* Of "Origenian Platonism": Joseph Glanvill on the Pre-existence of Souls // *Huntington Library Quarterly*, 69 (2006).
- Lipsiensis 1713 — *Lipsiensis Phileleutherus [Richard Bentley]*. Remarks upon a Late Discourse of Free-Thinking. London, 1713.
- More 1647 — *More Henry.* Philosophicall Poems. London, 1647.
- More 1659 — *More Henry.* The Immortality of the Soul. London, 1659.
- More 1662 — *More Henry.* The Immortality of the Soul in A Collection of Several Philosophical Writings. London, 1662.
- More 1682 — *More, Henry.* Annotations upon the Two Foregoing Treatises, Lux Orientalis... and the Discourse of Truth. London, 1682.
- Notestein 1911 — *Notestein W.* History of Witchcraft in England from 1558 to 1718. Washington, 1911.
- Parsons 1966 — *Parsons C.O. (ed.)* Saducismus Triumphatus. Gainesville. Florida, 1966.
- Prior 1932 — *Prior M.E.* Joseph Glanvill, Witchcraft, and Seventeenth-Century Science // *Modern Philology*, 30 (1932).
- Saler 2006 — *Saler M.* Modernity and Enchantment: A Historical Review // *The American Historical Review*, 111 (2006).
- Scot 1584 — *Scot Reginald.* The Discoverie of Witchcraft. London, 1584.
- Shaw 2006 — *Shaw J.* Miracles in Enlightenment England. New Haven and London: Yale University Press, 2006.
- Walker 1981 — *Walker D.P.* Unclean Spirits: Possession and Exorcism in France and England in the Late Sixteenth and Early Seventeenth Centuries. Philadelphia, 1981.
- Walker 1988 — *Walker D.P.* The Cessation of Miracles // *Merkel I. and Debus A.G.* Hermeticism and the Renaissance: Intellectual History and the Occult in Early Modern Europe. Washington, 1988.
- White 1905 — *White A.D.* A History of the Warfare of Science with Theology in Christendom. New York, 1905.

Sara Kuehn

The Eclipse Demons Rāhu and Ketu in Islamic Astral Sciences

The soul that has acquired true knowledge is said to shake off the body after casting off all evil ... like the moon becoming free from the mouth of Rāhu.

Chāndogya Upanisads 8.13¹

Some say that Rāhu is, forsooth, a demon's head, which, albeit severed from the trunk, yet, by virtue of having tasted of [the] nectar [of immortality], has continued alive and become a Graha (*i.e.* 'seizer,' or 'planet') ... Others declare Rāhu to have a body, consisting only of head and tail, the figure of a snake [*nāga*]. Others again tell us that the so-called son of Sinhikā is uncorporeal and opacous!

Brhatsamhitā 5.1–3²

The head of the Dragon is called *rāhu*, the tail *ketu*.

The Hindus seldom speak of the tail, they only use the head.

In general, all comets which appear on heaven are called *ketu*.

al-Bīrūnī, *Kitāb fi Taḥqīq mā li-l-Hind*³

Varāhamihira [*Brhatsamhitā* 3.7–12] says:

"The Head [*i.e.* Rāhu] has thirty-three sons called *tāmasakīlaka* ['dark shafts']. They are the different kinds of comets, there being no difference whether the head extends away from them or not. Their prognostics corresponds to their shapes, colours, sizes, and positions."

al-Bīrūnī, *Kitāb fi Taḥqīq mā li-l-Hind*⁴

¹ [Kane 1958: 569].

² [Varāhamihira 1870: 455; cf. Gail 1980: 134–135].

³ [al-Bīrūnī 1887: 234].

⁴ Idem.

The detailed treatment of Rāhu in the great compilation of the sixth-century Indian astronomer Varāhamihira (505–587 CE), known as *Brhatsamhitā*, reflects the diverse contemporary mythological conceptions of the eclipse-causing demon. The giant demon and personified eclipse is not only used as a metaphor for the shadow effect of the earth at the lunar eclipse and for the shadow effect of the moon at the solar eclipse [Gail 1980: 135]. Varāhamihira also notes thirty-three offspring called *tāmasakīlaka* [Varāhamihira 1947: 24–26] of the so-called son of Simhikā, the wife of the demon Vipracitti (*Bhagavatapurāṇa* 6.6.37), which is recorded in the important *Kitāb al-Taḥfīm li-awā'il šinā'at al-tanjīm* (“Book of Instruction in the Elements of the Art of Astrology”) written by the renowned tenth-century Muslim astronomer and cultural historian Abū 'l-Rayḥān Muḥammad ibn Aḥmad al-Bīrūnī. In like manner, the nature of the affiliated planetary deity Ketu was conceptualised. Of significance is the original meaning of the Sanskrit word *ketu* denoting “light,” “clarity”⁵, a term that is synonymous with the etymologically-related adjective *citra* of the Pahlavī *gōchihr* which Islamic astronomy applied to luminous phenomena such as meteors or comets. At the same time this appears to be an apparent contradistinction to the light-devouring function of Ketu as eclipse demon. In what follows, we will establish the material identity between Rāhu and the Persian *gōchihr* called *al-jawzahar* or *al-tinnīn* in Arabic derived from the same etymon as Rāhu’s *alter ego* Ketu and seek to uncover traces of this apparent inconsistency.

The ancient practice of astrology, the interpretation of the movement of the stars in the sky as reflecting divine powers and enabling prognostication of the future, had a deep and pervasive influence on early and medieval Islamic thought and culture⁶. The history of astrol-

ogy, which had been introduced into the Iranian world of Central Asia through Graeco-Babylonian influence, goes back to ancient times. Moreover, with the spread of Buddhism into Central Asia, Iran and China, Indian *nakṣatra* (lunar asterism) astrology was introduced⁷.

Later Parthian (250 BCE–224 CE) and Sasanian (224–651 CE) kings are recorded to have maintained a “chief of the star-gazers” (*axtarmārānsālār*) at court where a regnal horoscope would be drawn up for each king. However, only during the reign of the Sasanian King Shāpūr I (r. 241–271) was the study of Iranian astronomy and astrology known to have been encouraged. According to the *Dēnkard* (Book IV), the ninth-century compendium of the Zoroastrian religion (which epitomises orally transmitted knowledge of the priests of the time and so comprises material that reaches far back into the history of Zoroastrianism), the king is noted to have gathered the astrological writings

⁷ The *Śārdūlakarṇāvadāna*, which contains an exposition of the system of the twenty-eight *nakṣatras* or lunar mansions, was widely diffused [Gutas 1998: 240–241] and summarised in Chinese by the Parthian prince An Shih-kaio in the second century AD [*Śārdūlakarṇāvadāna of the Divyāvadāna*: 213–217]; on An Shih-kaio, see [Zürcher 1959, vol. 1: 32–34; cited after Pingree 1963: 240–241] fully translated twice in the third century AD (*Śārdūlakarṇāvadāna*, trans. [Viśvabharati 1954: xii–xiii], cited after [Pingree 1963: 240–241]). A fragment of a Sanskrit text written in about 500 AD was among the Weber manuscripts found south of Yarkand [Hoernle 1894: 1–40; cited after Pingree 1963: 241 and n. 90] fragments of fifth-century birch-bark manuscripts of the *Mahāmāyūrīvidyārājñī*, which also deals with *nakṣatra* astrology, are preserved among the Bower and Petrovski manuscripts discovered near Kashgar in 1889 [Hoernle 1893–1912, pts. 6–7: 222–240 and pl. xlix–liv; and Levi 1915: 19–138; cited after Pingree 1963: 241 and n. 91]. According to Pingree [1963: 241] the texts most probably passed through Buddhist communities in the eastern provinces of the Sasanian Empire to reach these regions; moreover, one finds the remains of this Buddhist influence in the second chapter of the Bundahishn (*Bundahishn* 2.2), where the twenty-eight *nakṣatras* are listed with Persian names [Sacred Books of the East: 11; Henning 1942: 229–248].

⁵ For the development of the meanings of *ketu*, see [Hartner 1938: 152–153; Billard 1971: 125; Gail 1980: 138].

⁶ The ‘Abbāsīd caliphs, in particular al-Manṣūr, accorded particular prominence to the study and practical application of astrology [Gutas 1998: 16, n. 7, p. 33].

“which were dispersed throughout India, the Byzantine Empire and other lands”⁸. During the last centuries of Sasanian rule the influence of the sciences of astronomy/astrology, which were often a synthesis of Indian and Hellenistic theories, was particularly pervasive. Abū ’l-Rayḥān Muḥammad ibn Aḥmad al-Bīrūnī (fl. c. 390/1000 — 440/1050) mentions Khusraw I Anūshirwān (r. 531–579) as another Sasanian ruler who encouraged Greek or Graeco-Syrian and Indian scholars in Iran [Kennedy 1956: 130]. According to a tradition reported by the great poet Abū ’l-Qāsim Firdawsī of Ṭūs (c. 329–330/940–941 — c. 411/1020 or 416/1025), author of the monumental versified epic, known as the *Shāh-nāma*, the colossal throne (*taq-i taqdis*) of his grandson, the last Sasanian king Khusraw II Parwīz (r. 590–628), was embellished with images of the seven regions as well as the seven planets and the twelve signs of the zodiac⁹. As the centre of the astrological throne the ruler represented the one who held the power to influence the stars [Herzfeld 1920: 1–24, 103–147]. As a logical consequence political crises were regarded as inevitable at acute aspects of the constellations¹⁰.

Sanskrit astrological works were popular in the Iranian world. The early Islamic astrologers included numerous Indian theories into their works, most of which must have reached them through Middle Persian, or Pahlavi texts [Pingree 1963: 242]. To this were added the direct translations from Sanskrit into Arabic during the early ‘Abbāsīd caliphate that had come to power in 132/750. It soon established itself in the new centrally planned capital of Baghdad, *Madīnat al-salām*,

(“The City of Peace”) drawn from the Qur’ānic expression *dār al-salām* (Qur’ān 6.127; 10.26) referring to Paradise. The ‘Abbāsīd period saw an unprecedented level of activity in the sciences of astronomy/astrology. Middle Persian astronomy/astrology was largely mediated through astronomers/astrologers of Iranian and Indian origin at the ‘Abbāsīd court¹¹, such as Māshā’allāh ibn Atharī (an Iranian Jew who may have converted to Islam), Abū Sahl al-Faḍl ibn Nawbakht (who had converted from Zoroastrianism to Islam), Abū Ḥafṣ ‘Umar ibn al-Farrukhān al-Ṭabarī and Kankah al-Hindī¹². These activities had a profound effect on social attitudes (Cf. [Gutas 1998: 108–110]). Indeed astronomy was viewed by scholars as the “mistress of all science” [Ullmann 1972: 277, n. 5].

The works of many early Islamic astronomers/astrologers incorporated numerous Indian astronomical/astrological theories. Islamic scholars moreover came in direct contact with Indian astronomy/astrology after the conquests of Sind and Afghanistan and through an embassy from Sind that arrived at the court of the second ‘Abbāsīd caliph al-Manṣūr (r. 136/754 — 158/775) in Baghdad circa 155/777¹³. Al-Manṣūr ordered his astronomers to translate a Sanskrit text into Arabic with the assistance of a member of the embassy who was learned in astronomy. The work came to be known in Arabic as the *Zīj al-Sindhīd al-kabīr* and is based on a text called the *Mahāsiddhānta*, whose own source is purportedly a work of the influential Brahmagupta (b. 598)¹⁴.

⁸ [Zachner 1955. Repr. ed. 1972: 8; Pingree 1963: 241; Gutas 1998: 36, see also 41].

⁹ [Mohl 1838–1878, vol. 6: 253]. Comparable imagery is reported second-hand from Theophanes through Kedrenos that in Ganzaca (Ganjak) when Heraclius captured Khusraw’s palace in 624, he saw Khusraw’s image in the domed roof of the palace, as though enthroned in heaven and surrounded by the sun, moon and stars. Texts cited in full in [Herzfeld 1920: 1–3; L’Orange 1953: 18–27, esp. pp. 19–21. Cf. also: Carter 1974: 177, n. 25].

¹⁰ On court astrologers, cf. [Christensen 1944: 396]; on horoscopes, see [Kennedy and Pingree 1971: vi; Russell 2004: 85, n. 11].

¹¹ The avid translations of Indian astronomy necessary for astrological techniques among the earliest ‘Abbāsīd caliphs and their supporters may not only have been carried out in emulation of the activities at the Chinese Tang capital Chang’an (“Eternal Peace”) to lay a solid foundation of the new-born dynasty but were part of a widespread culture of Indian learning, as recently propounded by Van Blandel [Van Blandel 2015: 257–294, esp. 286–287].

¹² On Kankah al-Hindī, see [Pingree 1970: 17].

¹³ [Pingree 1963: 242–4]. Ragep, F. Jamil, “Astronomy” [EI³, 2012].

¹⁴ Ragep, F. Jamil, “Astronomy” [EI³, 2012. Cf. Van Blandel 2015: 257–294, esp. 285–286].

One of the most important scholars who transmitted Indo-Iranian astrology is the ninth-century astrologer Abū Ma'shar Ja'far ibn Muḥammad ibn 'Umar (d. 272/886) from Balkh, known in the West as Albumasar. In his *Zīj al-bazārāt* ("The Zij of the Thousands") he combines Hindu, Sasanian and Hellenistic astronomical/astrological traditions, claiming to have used an ancient Iranian text from antediluvian times written during the reign of Ṭahmūrath (Av. Takhma Urupi), the second king of the Pīshdādian dynasty of legendary epic Iranian history¹⁵. However, as Pingree has shown, the so-called *Thousands* of the Iranians is "really an eclectic Indian system" [Pingree 1963: 244]. Ibn al-Nadīm quotes passages from the court astrologer Abū Ma'shar's *Kitāb ikhtilāf al-zījāt* ("The Book on the Variations among *zījs*"), which contain calculations determining the movement of the planets:

The people of the time of Tahmurath and the more ancient Persians called these the "cycles of the thousands"; and the wise men of India and their kings, the ancient kings of Persia, and even the ancient Chaldeans who lived in Babylon determined the mean longitudes of the seven planets by means of them, preferring them over others because of their accuracy and brevity¹⁶.

In fact, both sciences, astronomy (*'ilm al-hay'a*, the "science of the figure (of the heavens)" or *'ilm al-falak*, the "science of the spheres") and astrology (*'ilm al-nujūm*, "science of the stars"), were for a long time so close that the word *munajjim* was used to designate both as-

trologer and astronomer¹⁷. This is based on the fact that, according to the eighth- or ninth-century alchemical author Jābir ibn Ḥayyān (known to the Latins as Geber)¹⁸, one of the main representatives of earlier Arabic alchemy:

The astrologer must be a mathematician; he must have mastery of astronomy, this is a part of *'ilm al-nujūm* (the "science of the stars" or astrology). For *'ilm al-hay'a* (astronomy) is the description of the situation of the state of the sky and what it contains (*ṣūrat waḍ' al-falak wa-mā fihi*), whereas astrology is the "gift of the planets (*'atā' al-kawākib*)"¹⁹.

Astrology, which involves calculating the position of the planets and the mathematical production of horoscopes, is often referred to as judicial astrology (*'ilm aḥkām al-hay'a*, the "science of the judgment of the stars") [Savage-Smith 2004: xxxvii]. Astrological predictions consisted not only of determining the fate of an individual (*mawālīd*, "genethliology," or horoscopic astrology) and of hemerology (*ikhtiyārāt*, "choices"), but also of the application of continuous horoscopes for determining the course of events for a country or dynasty or to answer specific questions (*masā'il*, "interrogations")²⁰.

The idea that eclipses of the Sun and the Moon were caused by the interference of an eclipse demon was widely held throughout the Eurasian continent and can be traced back to remote antiquity²¹. The fearful monster, which quenched the light of the supreme luminaries by seizing them in its jaws, was generally conceived as a giant serpent or dragon, an iconography thought to be of oriental origin²². Its func-

¹⁵ The legendary history of king Ṭahmūrath is recorded, for instance, by al-Tha'libī in his *Ta'rikh Ghurar al-siyar* (trans. and ed. [Zotenberg 1900: 7–10]) in which he describes the king's subjugation of Iblīs demonstrated by his using Iblīs as mount to perambulate the world. Cf. [Pingree 1963: 243–244; Pingree 1968: 3–4, n. 3]. The culture hero Takhma Urupi riding Angra Mainyu as his horse from one end of the earth to the other is mentioned twice in the Avesta [Yasht 15.11–2, 19.28–9].

¹⁶ *Fihrist*, Cairo, n.d.: 348–350, cited after [Pingree 1968: 3–4].

¹⁷ Fahd, "Munadjjim" [*EP*² VII, 557b].

¹⁸ On Jābir ibn Ḥayyān, see [Sezgin 1971: 132–269].

¹⁹ Ibid.

²⁰ Fahd, "Nudjūm, Aḥkām al-" [*EP*² VIII, 105b; Savage-Smith 2004: xxxvii; Saliba 1992: 56–63].

²¹ Hartner, "Al-Djawzahar or al-Djawzahr" [*EP*² II, 501b].

²² In ancient Babylon "the 28th of the month was a day of lamentations when prayers of penitence were offered, because the moon had disap-

tion was thus seen to be that of threatening and “devouring,” as well as “delivering” and protecting the great luminaries at certain irregular intervals²³.

A number of theories arose to explain the dragon’s role in the phenomena of solar and lunar eclipses and lunar waxing and waning. Khāleqī-Moṭlaq offers the following summary:

“...a dragon comes up from hell every month on the eastern side of the sky and swallows a piece of the moon’s disc every night until the night comes when no part of the moon can be seen. Then the moon-god kills the dragon from inside its belly and triumphantly re-emerges. In later times, however, the sun took over the moon’s role in the celestial combats, and it was the sun which slew the dragon and rescued the moon from the dragon’s belly twelve times every year”²⁴.

The idea that these phenomena were caused by a body whose head and tail intercept the Sun’s and the Moon’s light was probably related to the emergence of definite ideas as to the nature of the orbits of the Sun and the Moon and their opposite points of intersection between the Moon’s orbit and the ecliptic [Khareghat 1914: 129]. The classical theory of the dragon myth seems to have been modified in accordance with developments in astrological doctrine at least from late Arsacid and Sasanian times onwards. Sasanian astrologers received from India the notion of Rahū, a celestial serpent whose head (*siras*) and tail (*ketu*)

peared from view and was to remain hidden for a few days in the power of the dragon” [Green 1992: 29; Hartner 1938: 132, n. 24]. The “Chaldeans” considered the dragon to have been created even before the constellations and the planets, and guarding over the universe with its head towards the sunrise and its tail to the sunset [MacKenzie 1964: 525, and Idem, “Gōzihr”: *EIr*].

²³ [Hartner 1938: 131]. See also the Babylonian Talmudic tract *Avodah Zarah* (“Mishna on Idolatry,” VIII a) in which the dragon is portrayed as devouring the sun. Cf. [Epstein, 1997: 76].

²⁴ Khāleqī-Moṭlaq, “Aẓdahā II. In Persian Literature” [*EIr*].

cause eclipses²⁵. In Pahlavī Rahū was referred to as Gōchihr, his head *sar*, and his tail *dumb*; in Arabic, the latter were respectively called *ra’s* and *dhanab* [Pingree 2006: 240].

The serpent-dragon accrued a range of negative aspects following changes brought about by the rise of Zoroastrian cosmological dualism according to which the contents of the world were made and arranged by two primordial entities, the one good, causing light and life, and the other bad, causing darkness and death. Astrology offered support for Zoroastrian apocalyptic ideas according to which the planetary bodies were regarded as evil; the “good” luminaries, the Sun and the Moon, were removed from the category of the seven planets whose intrusion brought injustice into the world²⁶. Consequently the Sun and

²⁵ For an analysis of the origin of the concept of Rāhu, see [De Mallmann 1962: 81; Markel 1995: 55–64; Pingree 2006: 240]. In the second-millennium-BCE Rgveda (5.40.5, 6, 8, 9) Rāhu is known as a demonic being, *Svar-bhānu-*, said to have pierced the Sun with darkness [Griffith 1892. Repr. ed. 1963, vol. 2: 501–502]. In post-Vedic mythology *Svar-bhānu* is equated and used as synonymous term for the eclipse-causing demon *Rāhu-*; it is interesting to note that as a heavenly body *Svar-bhānu-* (perhaps meaning “who has the effulgence of the sun” or “who is affected by the effulgence of the sun”) is larger than the sun and moon and revolves in its orbit beneath both luminaries (*Mahābhārata* 4.13.40–42). Advanced knowledge of periodical solar and lunar eclipses led to the belief in two demonic beings, the red *Rāhu-* and the black *Ketu-*. See [Scherer 1953: 100–101]. Representations of Rāhu in a narrative context begin to appear in Indian art slightly earlier than his iconic portrayal as a member of the planetary deities; one of the earliest known portrayals of Rāhu being in a relief of the “Churning of the Ocean” carved over the facade of the doorway of cave temple number nineteen at Udayagiri in the Vidisha district of Madhya Pradesh, which probably dates from c. 430 to 450. The planet is shown as a large horrific head with bulging eyes with a fierce, demonic expression turned to the right, his hands probably cupped together with palms facing upward in the gesture of scooping the elixir of immortality (on the legend, see the discussion below) [Williams 1982: 87, pl. 117].

²⁶ [Khareghat 1914: 129]. Brunner, “Astronomy and Astrology in the Sasanian Period, s.v. Astrology and Astronomy in Iran” [*EIr*: 862–868].

the Moon were substituted by two “demonic” opponents, the head and tail of the dragon (Pahl. *gōchihr* which stems from the Avestan *gao chithra*, “having the seed of cattle,” i.e., parent of the cattle (or, “the ox”), or rather “having the *sperma bovis*,” that is regarded to be concentrated in the lunar sphere or even the moon herself, from where it acts as a fecundator of terrestrial regions” [Hartner 1938: 153], which is generally being used in the Avesta as epithet of the moon [Zaehner 1955. Repr. ed. 1972: 164, n. E; MacKenzie 1964: 515, n. 26])²⁷. According to the *Bundabishn* (“Book of Primal Creation”), a Pahlavī commentary on an Avestan text, Gōchihr is portrayed in “the middle of the sky, like a serpent; its head in Gemini (*dō-pabikar*) and its tail in Centaurus (*nēmasp*), so that between its head and tail there were six constellations in all directions”²⁸. It states that:

...when Gōchihr, the serpent in the heavenly sphere, will fall from the summit of the Moon to the earth, and the earth will suffer pain like unto the pain a sheep feels when the wolf rends out its wool²⁹.

This description finds a parallel in the story of the Indian Rāhu whose severed head, “like a mountaintop, fell roaring down to the ground, so that the earth was shaken as by an earthquake”³⁰.

In contradistinction to the original meaning of *gao chithra*, the light and fecundity attribute of the Moon, the dragon’s head (*gōchihr sar*) and tail (*gōchihr dumb*) came to represent the demon of eclipses that intercepts the light of the luminaries, the personified dark principle and direct antagonist of the luminaries³¹. This led to the concept

of a polarity of good and evil throughout the cosmos; the eclipse demon being referred to as Dark Sun (*mīhr ī tamīg*) and Dark Moon (*māh ī tamīg*), “dark” meaning “obscured,” and “eclipsed”³² alluding to the mythological representation of the eclipses, attributed to two black astral bodies known as Ketu and Rāhu in India. Thus, according to the *Bundabishn*, the serpent-like (*mār homānāg*) Gōchihr and Mūshparīg, with tail (*dumbōmand*) and wings (*parrwar*), are said to be the evil opponents of the stellar constellations and are therefore bound to the Sun’s path to restrain their capacity to cause harm³³. The Sasanian conceptualisation appears to be a reflection of the Indian, for, as Pingree points out, the *Sūryasiddhānta*, written between the tenth and eleventh century CE, explains “the anomalies in planetary motion by the activities of demons stationed at the sun, the apogees, and the nodes, who pull the planets along by chords of wind”³⁴. The expulsion of evil from the sky is manifested by the plunging to earth of Gōchihr³⁵, who sets the earth on fire and whose permanent body will only be destroyed by resurrection³⁶.

In the history of ancient Indian astronomy throughout the pre-Siddhāntic period, only the imaginary invisible planet Rāhu (the *grabaha*, “seizer”) was held “responsible” for causing eclipses by de-

³² *Bundabishn* 5.4: 49.13–15 and the late ninth-century catechism *Shkand-gumānīg wizār* (“Doubt Dispelling Exposition”) 4.46, cited after Brunner, “Astronomy and Astrology in the Sasanian Period” [*EIr*].

³³ “[The sun’s opponent, the “tailed Mūsh Parīg”] is tied to the sun’s chariot but occasionally becomes loose and does great harm”; *Bundabishn* 5.4, 5 A.6–7: 50.6–7, 53.1–5, and *Shkand-gumānīg wizār* 4.46, cited after Brunner, “Astronomy and Astrology in the Sasanian Period” [*EIr*]. Cf. [Zaehner 1955. Repr. ed. 1972: 164, n. E. MacKenzie 1964: 513, 516; Hartner 1938: 151].

³⁴ Based on the plausible supposition that either an earlier version of the *Sūryasiddhānta* or a very similar text must have been translated into Pahlavi, perhaps under Khosraw I [Pingree 1963: 242].

³⁵ *Bundabishn* 34.17: 225.1–3, cited after Brunner, “Astronomy and Astrology in the Sasanian Period” [*EIr*].

³⁶ *Bundabishn* 30.31, cited after [Khareghat 1914: 128].

²⁷ *Bundabishn* 5, A. 5: 52.12–53.1, cited after Brunner, “Astronomy and Astrology in the Sasanian Period” [*EIr*: 862–868]. Cf.: Hartner, “Al-Djawzahar” [*EF*² II: 501b].

²⁸ *Bundabishn* 52.12 [Zaehner 1955. Repr. ed. 1972: 164, n. E, 416–7]. Cf.: Skjarvo, “Aždahā I” [*EIr*]. Also [MacKenzie 1964: 515, 525].

²⁹ *Bundabishn* 30.18, trans. [Zaehner 1956: 148].

³⁰ [Zimmer 1936: 138, trans. Hartner 1938: 153].

³¹ [Hartner 1938: 153; cf.: Duchesne-Guillemin, 1990: 17–9].

vouring the Sun and the Moon [Santoro 2006: 547]. Ketu (the tail of the dragon), also understood as a planet that generates comets with its fiery tail, is first mentioned in the late Vedic-period text, the *Atharvaveda* (19.9.8–10)³⁷. Both Rāhu and Ketu appear in the great epic *Mahābhārata* (1.5.15–7), in which the demon Rāhu allied with the celestial gods in the struggle against the world serpent, Ananta. After the victorious event, he assumed a disguise and thus succeeded in drinking from the most beneficial of substances, the *amṛta* (literally “non-dying”; Av. *haoma*, Vedic Skt. *soma*)³⁸ containing the miraculous herb of immortality. But the Sun and the Moon having detected his deception denounced him to the gods, whereupon Vishnu swiftly threw his wheel-like weapon (*sudarśanacakra*) and severed Rāhu’s head. However, the drink had already produced its effect so that his head and tail both survive, immortalised, as individual invisible planets and intransigent enemies of the luminous heavenly bodies. As a consequence, the Sun and the Moon are periodically — in symbolic terms — “swallowed” or “disappear in” the vengeful monster that thus causes solar and lunar eclipses. Then, the Sun or the Moon passes through the opening at the neck, ending the eclipse³⁹.

In the later, “scientific” phase, when Indian notions were transmitted to the Central Asian and Iranian world, the two parts of the eclipse monster are identified with the nodes of the moon’s path which play a crucial role in the eclipses⁴⁰. At the beginning of celestial motion the head, Rāhu, that is to say the ascending node of the Moon’s orbit upon the ecliptic, was in Gemini and Ketu, the tail of the bisected monster, in other words the descending lunar node, was in Sagittarius (*al-qaws*,

literally “bow”), often represented as an armed centaur⁴¹. The 180° extent of the dragon reflects the fact that the nodes occupy diametrically opposite points of the ecliptic. Hence the dragon’s body is conceived as arched across the sky⁴².

The demon Rāhu is well-known not only in the Brahmanic tradition, but also in Buddhism (cf. [Santoro 2006: 547]). In the Buddhist *Jātaka* stories of the previous births of Gautama Buddha, which were familiar throughout the Central Asian region, repeated reference is made to the Moon gripped between Rāhu’s jaws, or being liberated from the latter [Idem]. Thus, in the *Gandhāra-Jātaka*, the king of Gandhāra chose to become an ascetic after observing a lunar eclipse, explaining that:

Taking the moon’s orb seized by Rāhu as my theme I forsook
my great kingdom and took the religious life

because

There is the moon’s pure orb become dark by trouble from outside;
now this kingdom is a trouble to me: I will take the religious life
so that the kingdom does not make me dark as Rāhu does the
moon’s orb [Cowell 1895. Repr. ed. 2000: 222–223].

In the *Buddhacarita* Siddhārtha’s son is called Rāhula “with the face of Rāhu’s adversary”⁴³. It is of note that in some Pali texts the

⁴¹ Brunner, “Astronomy and Astrology in the Sasanian Period” [*EIr*, II: 867]. The dragonhead projecting from the centaur’s tail represents the descending node’s exaltation in Sagittarius; however, although the latter is the dragon’s “tail” (*dhanab*) and not its “head” (*ra’s*), and hence the representation of the “head” is an iconographic inconsistency, it has come to symbolise the astrological association [Hartner 1973–74: 110].

⁴² *Bundabishn* 5.4: 49.13–15, cited after Brunner, “Astronomy and Astrology in the Sasanian Period” [*EIr*: 867].

⁴³ [Johnston 1936. Repr. ed. 2004: 29. Cf.: Santoro 2006: 547]. The concept is evoked in yet another line: “Deliver Rahula from grief for his parent as the full moon from eclipse by Rāhu”. See [Johnston 1936. Repr. ed. 2004: 129].

³⁷ [Griffith 1895–96; repr. ed. 1968, vol. 2: p. 269]. See [Scherer 1953: 101–103], for further names of Rāhu and Ketu, see esp. [Idem: 102–5. Cf. Markel 1995: 56, 65; Santoro 2006: 547].

³⁸ For a brief resume on the discussion of the etymology of the term *amṛta*, see [Long 1976: 181–182, n. 22. Cf. Janda 2010: 29, 55].

³⁹ [Hartner 1938: 131], and “Al-Djawzahar or al-Djawzahr” [*EI*² II, 501b].

⁴⁰ Cf. [Hartner 1938: 131] and Hartner, “Al-Djawzahar or al-Djawzahr” [*EI*² II, 501b].

demon Rāhu is said not to devour the Sun and the Moon, “but merely to caress them with his hand”⁴⁴. In the well-known story of the so-called *Candrasūtra* (Pali *Candimā-sutta*, “Discourse on the Moon”) the Buddha reprimands Rāhu and directs him to release the Moon at once which Rāhu does because he realises that otherwise his head will be split into seven pieces [Strong 1992: 156]. The Buddha thus delivers the Moon (that is the god dwelling in the Moon), who had appealed to him for refuge, from Rāhu’s clutches [Waldschmidt 1970: 179–183]. The contextual and conceptual metamorphoses of the motif thus attest to a mechanism of continuity of these essential thought systems which governed the Central Asian world and beyond.

Yet even when the scientific causes were clear, the mythological interpretation of the phenomenon survives. This syncretism was referred to by Willy Hartner: “We might suppose that clear insight into the physical causes of eclipses could have thrown mythological tradition into the background. But this has not been the case. What we observe is that mythological and astronomical elements contract an intimate fusion. The nodes of the moon’s orbit are simply identified with the eclipse monster itself: with the Hindus, Rāhu becomes the ascending, Ketu the descending node; with Persians and Arabs, the head and tail of the Djawzahr play the same role” [Hartner 1938: 131].

In Islamic astronomy the Persian *gōchīhr* which was called *al-jawzahar* or *al-tinnīn* (also *aždahā* “the giant dragon”), was sometimes represented as a bi-partite or double-headed dragon. It is the circumpolar constellation Draco, “represented as a very long serpent with many convolutions; it is coiled around the north pole of the ecliptic” [al-Bīrūnī 1934: 71], sometimes metaphorically applied to the Milky Way⁴⁵. The *Viṣṇudharmottara Purāṇa* (III.67) describes how the first sacred waist band or girdle (*ayyaṅga* closely related to the Iranian *aiwiyaonghen* that is worn by every devout Zoroastrian) was presented

to the sun god by the king of serpents, Vāsuki, and represented the starry band of the Milky Way [Carter 1981: 80, n. 27].

Together with the acculturation of astronomical knowledge, astrological iconography emerged in the form of visual conceptualisations that were regularly featured in medieval imagery. These were emblematically transferred onto architectural sculpture as well as portable objects, in particular metalwork and ceramics. Astrological considerations also had a profound bearing on the artistic conventions of the iconography of the serpent-dragon. Its representation in medieval Islamic astrology has been addressed in a number of studies, foremost among which remains Hartner’s study demonstrating the influence of the conceptualisation of the two “lunar nodes” (*al-uqdatāni*) on Islamic artisans⁴⁶.

As seen in sources that pre-date the Islamic period, the crucial aspect of *al-jawzahar* is that it consists of two unfixed nodes of the Moon’s orbit rotating around the ecliptic or “points at which (the) two [great] circles of the sphere intersect”⁴⁷, in other words the two points where the course of the Moon crosses the plane of the ecliptic from south to north: the “head of the dragon” (*ra’s al-tinnīn*) is formed by the ascending node of the Moon’s orbit, and, correspondingly, the “tail of the dragon” (*dhanab al-tinnīn*) by the descending node (cf. [Kharaghat 1914: 126–128; MacKenzie 1964: 515]). This associates it with both solar and lunar eclipses; the latter were attributed to the occurrence of a conjunction, or opposition, of the Sun and Moon (New Moon or Full Moon, respectively) in or near the lunar nodes.

The significance accorded to the eclipse is reflected in the bipartite “dragon” who was seen as temporarily “devouring” the Sun and the Moon at certain irregular intervals, and then “delivering” them — since the two planets always appear to emerge unscathed from their temporary eclipse by the “dragon.” This non-Ptolemaic concept played

⁴⁴ Malalasekera, G.P., *Dictionary of Pāli Proper Names*, 2 vols., 1938. Repr. ed. 1974, vol. 2: 735–737, cited after [Strong 1992: 156].

⁴⁵ [MacKenzie 1964: 521–522, n. 53, 525]. Cf. *The Mystical and Visionary Treatises of Subhawardī*, trans. [Thackston 1982: 113, n. 42].

⁴⁶ [Hartner 1938], and “Al-Djawzahar or al-Djawzahr” [*EI*² II, 501b. Cf.: Öney 1969: 193–216; Otto-Dorn 1978–79: 125–36; Azarpay 1978: 363–374].

⁴⁷ Definition of *al-jawzahar* in Abū ‘Abd Allāh Muḥammad al-Khwārizmī’s *Mafātīḥ al-‘Ulūm*, cited after [Hartner 1938: 120].

a prominent role in astrological associations whereby the two nodes were treated as though they were real celestial bodies, in other words extra, albeit invisible “planets,” or fictitious nodes [Beck 2004: 161, n. 29]. They were conceived as an eighth and a ninth planet, the only difference between them and the original seven planets being that contrary to the others their movement was westwards or “retrograde,” rather than eastwards [Ibid: 161].

The Ghaznavid and Ghūrid campaigns into India resulted not only in the acquisition of extensive booty, but also brought scholars, craftsmen and a variety of artisans into the capital, Ghazna, who transmitted in turn their own indigenous iconographies, so contributing perhaps to the diffusion of the iconography of *al-jawzahar*. The great Khwārazmian scholar Abū Rayḥān Muḥammad ibn Aḥmad al-Bīrūnī, known as “the Master” (*al-Ustādh*), who devoted more than half of his extensive writings to astronomy and astrology, had accompanied sultān Maḥmūd ibn Sebuktigin (r. 389/999 — 421/1030), possibly as official astrologer, on several of his military campaigns to Northwest India⁴⁸. Here he got acquainted with Sanskrit and various dialects as well as a wealth of knowledge on early eleventh-century life in India which he elaborates in his *Kitāb Taʾrīkh al-Hind* (“Description of India”), completed upon his return to Ghazna in 421/1030 shortly after the death of Maḥmūd⁴⁹.

In his *Kitāb al-Taḥḥīm li-awāʾil ṣināʾat al-tanjīm* (“Book of Instruction in the Elements of the Art of Astrology”), which he had written the previous year, al-Bīrūnī refers to the two fictitious nodes, the eighth and a ninth planet, as knot (*ʿuqda*) and point of crossing (*majāz*) [al-Bīrūnī 1934: 91–92]. In spite of his statement that “they are not real planets,” the same author does however record the position of the *raʾs al-tinnīn* and the *dhanab al-tinnīn* in the various astrological tables included in his texts [Ibid: 255, 258]. Much earlier, in the work *On the Great Conjunctions*, or the *Aḥkām Tahāwīl Sinī al-Mawālid*,

⁴⁸ Boilot, “al-Bīrūnī (Bērūnī), Abū ʿl Rayḥān Muḥammad b. Aḥmad” [*EF* I, 1136a].

⁴⁹ Ibid.

the astrologer Abū Maʿshar (d. 272/886) had already referred to the points of exaltation for the nodes of the Moon which for the dragon’s head is in Gemini 3°, and for the tail in Sagittarius 3°⁵⁰.

The “node of the Moon’s orbit” however is an integral part of the iconography of the eclipse monster, portrayed as loop or twisted knot, sometimes visualised as a pretzel- or heart-shaped knot. This is reflected in the symbolism of the personification of comets, Ketu, visualised on the *navagraha* reliefs representing “the nine seizers” that represent the nine Indian planetary deities of Vedic astrology, similarly illustrated with a human torso and a serpentine tail terminating in a knot⁵¹. The earliest surviving representation of Rāhu and Ketu in India is carved on a *navagraha* lintel from Uttar Pradesh, dating from c. 600 or slightly later, in which Ketu is represented as a half-ophidian figure sitting on his coiled serpentine tail beside the cephalic Rāhu (fig. 1)⁵².

Individual depictions of *jawzahar* — Draco as eighth planet next to the seven traditional planets, comprising the Sun, the Moon, Saturn, Jupiter, Mars, Venus and Mercury⁵³, often portray a cross-legged

⁵⁰ [Hartner 1938: 133, n. 30] refers to *De magnis coniunctionibus*, the Latin version translated by Johannes Hispalensis, printed at Augsburg in 1489 (repr. ed. Venice, 1515), which contains a chapter dealing with the planetary influence of the nodes as a figure of the “dragon” with its head and tail twisted around two nodes, reproduced in [Ibid, fig. 10]. Cf. al-Bīrūnī’s references in his *Kitāb al-Taḥḥīm* [al-Bīrūnī 1934: 358].

⁵¹ Ketu’s serpent tail is alluded to in the *Agnipurāṇa*; see [De Mallmann 1962: 86].

⁵² The earliest western Indian representation is found on a fragmentary lintel from Alwar district in Rajasthan, which probably dates from c. 600 to 650 [Markel 1995, fig. 29]; Government Museum, Alwar). For later depictions, see also [Hartner 1938: 134, 138, figs. 6–8]. For a discussion of the *navagraha* reliefs, see [Pingree 1964–5: 249–267; Markel 1995: 19–68 and 129–176].

⁵³ [Hartner 1938: 114–138]. In later mediaeval Indian literature both nodes, Rāhu, or *raʾs al-tinnīn*, and Ketu, or *dhanab al-tinnīn*, were attributed the same importance as the original planetary heptad, hence there were a total of nine planets [Hartner 1938: 133, also 151].



Fig. 1
 Nine planetary deities including Rāhu and Ketu. Relief carving, Uttar Pradesh. c. 600 or slightly later. Red sandstone. Height 11.4 cm, length 76.2 cm. Collection of Paul F. Walter; on loan to the Los Angeles County Museum of Art, inv. no. L.93.14.24. [Markel 1995: fig. 21]

figure holding a serpent-dragon in each hand. The figure is shown to hold either a pair of upright serpent-dragons, their bodies forming a loop⁵⁴, or vertical staffs (figs. 2–5); both, the coiling bodies or the allegorical staffs, ending in confronted dragonheads with gaping snouts. It is significant that representations of the planet *jawzahar* thereby make use of the emblematic portrayal



Fig. 2
 The planet *jawzahar*. Detail from the “Vaso Vescovali,” lidded bowl, possibly Herat. c. 1200. Copper alloy, silver inlay. Height 21.5 cm. London, British Museum, inv. no. ME OA 1950.7–25.1. [Hartner 1973–74: fig. 17.6 (detail of drawing; after Lanci, M., *Trattato delle simboliche rappresentanze arabiche I–III*, Paris, 1845–46, pl. III)]

⁵⁴ For instance, on a late twelfth — or early thirteenth-century copper alloy inkwell, inlaid with silver from Western Central Asia/Eastern Iranian world [Пугаченкова, Ремпель 1982: fig. 196, fig. 197, line drawing], or on a thirteenth-century silver-inlaid copper alloy candlestick from Mesopotamia [Baer 1983: 256, fig. 208].



Fig. 3
 “A ruler on a dragon-throne”. Detail from the Bobrinski bucket, possibly Herat. Muarram 559/ December 1163. By Muḥammad ibn ‘Abd al-Wāid and Mas’ūd ibn Amad. Copper alloy, inlay in silver, copper and niello. Height to rim 18.5 cm, diameter 22 cm. St. Petersburg, State Hermitage Museum, inv. no. JR-2268. Photograph by courtesy of the State Hermitage Museum, St. Petersburg



Fig. 4
 “A ruler on a dragon-throne”. Detail on the base of an inkwell, Western Central Asia. Late twelfth or early thirteenth century. Copper alloy, silver inlay. Formerly in the Minassian Collection, present owner unknown. [Baer 1981: fig. 3A, and 1983, p. 261: fig. 212a]



Fig. 5
 “A ruler on a dragon-throne”. Detail on the base of an inkwell, Western Central Asia. Late twelfth or early thirteenth century. Copper alloy, silver inlay. Location unknown. [Пугаченкова, Ремпель 1982: fig. 196]

of the cosmic ruler, framed by dragon-headed staffs, ubiquitously employed on visual art from the mid-eleventh to early thirteenth century and associated with the ancient concept of the “Master of the Dragons.” The choice of this cosmic symbolism underlines the prominence accorded to *jawzahar* which gives an indication of the magnitude of the potential effects the planet could have on the course of human events. The conception of the central figure as dragon-tamer thereby perhaps reflects the apparent necessity to harness the forces.

In the Irano-Turkish territories, the eclipse pseudo-planet (*al-jawzahar*) is often shown at the point of exaltation of its head or tail in Gemini, as for instance on a silver- and copper-inlaid brass ewer from Herat, formerly in the Nuhad Es-Said Collection, now in the National Museum of Qatar (fig. 6). In Islamic tradition, the planetary eclipse in Sagittarius is generally rendered as a centaur taking aim with a bow at its long dragon-headed tail and shooting an arrow into the dragon’s mouth. On the Qatar ewer the sign is accordingly portrayed as the protome of a winged quadruped dragon with tongue protruding from the gaping mouth rising from the looped tail (fig. 7).

A sculptural example of the planetary eclipse in Sagittarius is depicted among eight astrological reliefs carved onto the pillars of the Tigris bridge, near the city of Jazīrat ibn ‘Umar (present-day Cizre), Anatolia. Among the reliefs is the upright knotted protome of a dragon with gaping mouth and curled-up snout tip, oriented towards the figure of a centaur shooting with a bow and arrow into its mouth (fig. 8). The bridge was commissioned by the *wazīr* of Mosul, Jamāl al-Dīn Muḥammad al-Iṣfahānī. The *wazīr*’s imprisonment in 558/1163 provides a *terminus ante quem* for the construction of the bridge and its astrological relief sculptures⁵⁵. As pointed out by Hartner, the

Fig. 6
Sign of the zodiac featuring the eclipse pseudo-planet (*al-jawzahar*) at the points of exaltation of its head or tail in Gemini.
Detail from the body of a ewer, possibly Herat. Late twelfth or early thirteenth century. Copper alloy, inlay in silver, copper and probably niello. Height 44.5 cm. Formerly in the Nuhad Es-Said Collection, now in the National Museum of Qatar in Doha. Photograph by courtesy of James Allan



Fig. 7
Sign of the zodiac featuring the planetary eclipse in Sagittarius shown as dragon-tailed centaur. Detail from the body of a ewer, possibly Herat. Late twelfth or early thirteenth century. Copper alloy, inlay in silver, copper and probably niello. Height 44.5 cm. Formerly in the Nuhad Es-Said Collection, now in the National Museum of Qatar in Doha. Photograph by courtesy of James Allan

⁵⁵ [Meinecke, 1996: 60]. On the reliefs of Jazīrat ibn ‘Umar, see [Preusser, 1911, pl. 40; Hartner 1938: 134, fig. 2 (photograph at bottom left), and Hartner 1973–74: 108, 110; Gierlichs, 1996, pl. 47.4]. A comparable figure is represented as centaur-archer shooting an arrow backwards at the dragon head emerging from its tail on the coinage of the Artuqid ruler of Mardin, Nāṣir al-Dīn Artuq Arslan ibn Il Ghāzī (599/1203 — 637/1239) [Roxburgh 2004: 398, cat. no. 86; Şentürk and Topraktepe 2009: 102;



Fig. 8
Relief carving of the planetary eclipse in Sagittarius with upright knotted protome of a dragon oriented towards the figure of a centaur shooting with a bow and arrow into its mouth.
Pillars of the Tigris Bridge, commissioned by the *wazīr* of Mosul, Jamāl al-Dīn Muḥammad al-Ifahānī.
Near the city of Jazīrat ibn ‘Umar (present-day Cizre), Anatolia.
[Gierlichs 1996, pl. 47.4]

reliefs are one of the earliest-known sculptural examples “in which the Islamic artist obviously grants the same rights to one or both of these pseudo-planets as to the seven real ones, while in India this had been the rule centuries before” [Hartner 1938: 132].

Similarly, depictions of *al-jawzahar* menacing the Sun and the Moon, or their respective zodiacal animals, the lion and the crab, became

Hauptmann von Gladiss and von Folsach 2006: 107–108, figs. 15, 16]. The same emblem also figures on the coinage of the ‘Abbasid caliph al-Nāṣir (577/1181 — 620/1223) [Hauptmann von Gladiss and von Folsach 2006: 107, cat. no. 15].

Fig. 9
Sign of the zodiac featuring the planetary eclipse (*al-jawzahar*) threatening the Sun in Leo.
Detail from the body of a ewer, possibly Herat. Late twelfth or early thirteenth century.
Copper alloy, inlay in silver, copper and probably niello.
Height 44.5 cm.
Formerly in the Nuḥad Es-Said Collection, now in the National Museum of Qatar in Doha.
Photograph by courtesy of James Allan



Fig. 10
Sign of the zodiac featuring the planetary eclipse (*al-jawzahar*) threatening the Moon in Cancer
Detail from the body of a ewer, possibly Herat. Late twelfth or early thirteenth century.
Copper alloy, inlay in silver, copper and probably niello.
Height 44.5 cm.
Formerly in the Nuḥad Es-Said Collection, now in the National Museum of Qatar in Doha.
Photograph by courtesy of James Allan

prevalent in the decorative programmes of objects, as evidenced in the depictions on the same ewer (figs. 9, 10). The importance of the eclipse pseudo-planet is such that most of the roundels on this ewer show the signs of the zodiac and planets inhabited with monster heads with long floppy ears growing from scrolling tendrils that Hartner has identified with “the dragon progeny threatening the luminaries or, vicariously, their *domicilia* and *exaltations*” [Hartner 1959: 237–239, and Hartner 1973–74: 112, 118]. However, he has qualified the astrological interpretation suggesting that “in all probability, various elements — astronomical, astrological and mythological — were here fused in one” [Hartner 1973–74: 112–113]. Hence the astrological veracity of such details was less important than their exemplary significance.

From about the twelfth century symbolic personifications of Sol and Luna, often shown together with the dragon motif, were widely applied to portable objects, especially on metalwork, from Western Central Asia, especially the greater Khurasan region. By virtue of its very characteristic as an eclipse dragon *al-jawzahar* was directly linked to the Sun and the Moon. The two luminaries are among the representations of the eight planets (the pseudo-planet *jawzahar* is here represented as eighth “planet”) on the lid of a covered copper alloy bowl, known as Vaso Vescovali, made in the Khurāsān region at about 1200 (cf. [Hartner 1973–74: 119. Ward, 1993: 79]). A three-faced Sun, akin to the one featured on the Qatar ewer (fig. 9), surmounts a winged figure that sits on a pointed support and holds up the luminary’s “dais”, and, in turn, is symmetrically flanked by two confronted attendants behind whom long-eared *jawzahar*-like heads grow out of curling foliage which curves around their waists (fig. 11). The Moon consists of a human figure holding up with its four arms a large crescent that frames the entire upper body, while squatting on a “dais” supported by quadruped protomes, probably horses. The addorsed attendants are related to those of the Sun but are clad in more angular attire with the *jawzahar*-like heads growing out of their waists (fig. 12 a and b). Significantly, as Hartner has observed, “the scene has no menacing character” [Hartner 1973–74: 119].

Fig. 11
Sign of the zodiac featuring the Sun.
Detail from the “Vaso Vescovali,” lidded bowl, possibly Herat. c. 1200. Copper alloy, silver inlay. Height 21.5 cm. London, British Museum, inv. no. ME OA 1950.7–25.1. [Hartner 1973–74: fig. 17.1 and 17.2 (detail of drawing; after Lanci, M., *Trattato delle simboliche rappresentanze arabiche* I–III, Paris, 1845–46, pl. III)]



Fig. 12 a and b
Sign of the zodiac featuring the Moon.
Detail from the “Vaso Vescovali,” lidded bowl, possibly Herat. c. 1200. Copper alloy, silver inlay. Height 21.5 cm. London, British Museum, inv. no. ME OA 1950.7–25.1. [Hartner 1973–74: fig. 17.1 and 17.2 (detail of drawing; after Lanci, M., *Trattato delle simboliche rappresentanze arabiche* I–III, Paris, 1845–46, pl. III)]

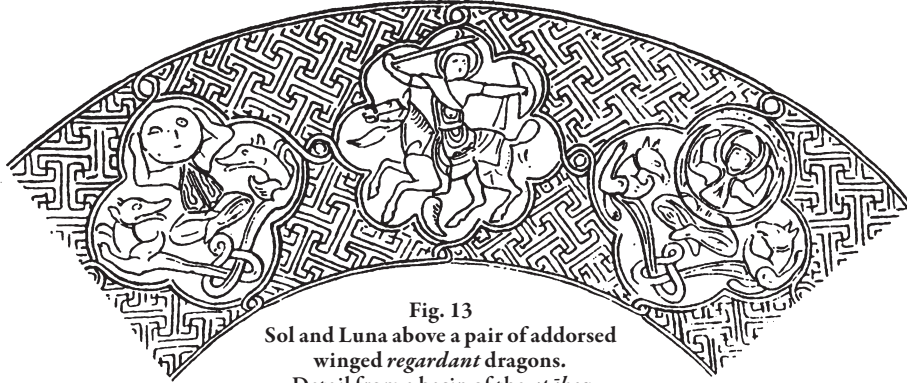


Fig. 13
Sol and Luna above a pair of addorsed
winged *regardant* dragons.
Detail from a basin of the *atābeg*
Badr al-Dīn Lu'lu', Mosul.
618/1222–657/1259. Copper alloy, silver
inlay. Munich, Bayerische Staatsbibliothek.
[Saxl 1912, p. 164: fig. 10 (line drawing)]

The personifications of the Sun and the Moon are also featured above a pair of addorsed knotted dragons, serving here as support for the luminaries, as part of a decorative programme on a large copper alloy basin inlaid with silver of the thirteenth-century *atābak* Badr al-Dīn Lu'lu' (r. 618/1222 — 657/1259) of Mosul (fig. 13)⁵⁶. The depictions reveal an interest in the translating of entities beyond the domain of humankind, such as the two luminaries, into human guise [Pancaroglu 2000: 197]. The selective visualisation of the Sun and the Moon and the menace posed to them in the form of solar and lunar eclipses, ascribed to *al-jawzahar*, is related to the daily relevance afforded to the two luminaries in human affairs and existence [Eadem: 204].

While the dragon is mainly associated with the eclipses and, hence, the “devouring of light,” its positive aspect as giver of light and, consequently, as protector of light is often more difficult to gauge although references are found in Iranian poetry. The metaphorical aspect of the dragon is evoked in a passage of the fables and anecdotes of

⁵⁶ Cf. [Saxl 1912: 164 and fig. 10; Sarre and van Berchem 1907: 22, 27, figs. 1, 13].

the early thirteenth-century *Marzubān-nāma* (“Tales of Marzubān”) recorded by Sa'd al-Dīn Warāwīnī in 607–622/1210–1225, who presented his collection to Abu 'l-Qāsim Rabīb al-Dīn, the vizier to the Ildenizid/Eldiguzid *atābeg* of Azerbaijan (Ādharbyjān), Özbek ibn Muḥammad, with the allegorical allusion:

...at dawn, when the black serpent of night cast the Sun's disc out of the mouth of the East⁵⁷,

hence implying a double-headed dragon delivering the luminary and the creation of light.

Reminiscences of ancient cosmogonical notions may be gauged from Armenian lore recorded by the Armenian historian Moses of Chorene (Movsēs Khorenatsi) in his *Patmut' iwn Hayoc'* (“History of the Armenians”)⁵⁸, relating to the Median king Astyages, the Armenian arch-enemy referred to as Azhi Dahāka/Azhdahāk, the dragon in man-shape (or the human in dragon-shape)⁵⁹ of the Sasanian epics, the archetype of evil misrule, whose first wife, Anoysh, was called the “mother of the dragons” [Mahé 1995: 183]. Her name, Anoysh, however literally signifies “immortal, luminous, perfumed”⁶⁰. Moreover, her association with the monstrous dragon, to whom she gives numerous offspring, recalls certain cosmogonies in which one of the two primordial entities is “infinite light, serene and joyous” and the other “a frightening and dark obscurity, coiled up in twisting spirals akin to those of a serpent”⁶¹. In this context it is interesting to recall that

⁵⁷ Trans. [Levy 1959: 51].

⁵⁸ The *Patmut' iwn Hayoc'* is ostensibly written in the fifth century but probably dated to the mid-eighth century in its present form.

⁵⁹ Cf. [Schwartz 1980: 123–124]. As has been suggested, the mythological character of Azhdahāk may well be older than the Zoroastrian texts that first recorded his name, since figures of anthropomorphised dragons already appear in Bronze Age Central Asia. See [Kuehn 2009: 43–47].

⁶⁰ Acaryan, H., *Hayeren armatakan bararan* (“Dictionnaire étymologique arménien”), vol. 1: 206 b (in Armenian), cited by [Mahé 1995: 183].

⁶¹ *Poimandres*, trans. and ed. [Nock and Festugière 1946: 7 and 12, n. 9].

in a parallel and related manner the original meaning of the Sanskrit word *ketu* — in apparent contradistinction to the light-devouring function of Ketu as eclipse demon — is “light,” “clarity” (synonymous with the etymologically-related adjective *citra* of the Pahlavī *gōchihhr*) [Hartner 1938: 152–153].

List of abbreviations

- El² *The Encyclopaedia of Islam*, 2nd edition, 11 vols. Leiden, 1960–2005 (*Extract from The Encyclopaedia of Islam CD-ROM v.-1.0*).
 El³ *The Encyclopaedia of Islam*, 3rd edition. Leiden, 2012 (*Brill Online Reference Works*).
 Elr *Encyclopaedia Iranica Online*: <http://www.iranica.com/newsite/> Accessed March 2016.

Bibliography

- Пугаченкова, Ремпель 1982 — Пугаченкова Г.А., Ремпель А.И. Очерки искусства Средней Азии. М., 1982.
 Allen 1982 — Allen J.W. *Islamic Metalwork: The Nuhad Es-Said Collection*. London: Sotheby, 1982. Repr. ed. 1999.
 Aśvagoṣa — Aśvagoṣa’s *Buddhacarita* or Acts of the Buddha: Complete Sanskrit Text with English Translation. Cantos I to XIV Translated from the Original Sanskrit Supplemented by the Tibetan Version Together with an Introduction and Notes, trans. E.H. Johnston. Lahore, 1936. Repr. ed. Delhi: Motilal Banarsidass, 2004.
 Atharvaveda — *The Hymns of the Atharvaveda* / Trans. R.T.H. Griffith, 2 vols. London, 1895–96. Reprint ed., Chowkhamba Sanskrit Series 66, Varanasi: Chowkhamba Sanskrit Series Office, 1968.
 Azarpay 1978 — Azarpay G. The Eclipse Dragon on an Arabic Frontispiece Miniature // *Journal of American Oriental Society*, 88, 4, 1978.
 Baer 1983 — Baer E. *Metalwork in Medieval Islamic Art*. Albany: State University of New York Press, 1983.
 Beck 2004 — Beck R. Beck on Mithraism: Collected Works with New Essays. Ashgate Contemporary Thinkers on Religion: Collected Works. Aldershot, Hants: Ashgate, 2004.
 Billard 1972 — Billard R. *L’astronomie indienne. Investigation des textes sanskrits et des données numériques*. Publications de l’École Française d’Extrême-Orient 83. Paris: Ecole française d’Extrême-Orient, 1972.

- al-Bīrūnī 1887 — *al-Bīrūnī, Abū ’l-Reyhān Muḥammad ibn Aḥmad*. Kitāb fi Taḥqīq mā li-l-Hind min maqūla maqbūla fi-l-’aql aw mardhūla / Trans. and ed. E.C. Sachau, *Alberuni’s India: An Account of the Religion, Philosophy, Literature, Chronology, Astronomy, Customs, Laws and Astrology of India about A.D. 1030*. London: Trubner, 1887. Repr. ed. Cambridge: Cambridge University Press 2012.
 al-Bīrūnī 1934 — *al-Bīrūnī, Abū ’l-Reyhān Muḥammad ibn Aḥmad* Kitāb al-Taḥīm li-Awā’i l-Šinā’at al-Tanjīm / Trans. and ed. R.R. Wright, *The Book of Instruction in the Elements of the Art of Astrology*. Repr. ed. from British Museum Ms. Or. 8349, London: Luzac & Co, 1934.
 Carter 1974 — Carter M.L. *Royal Fesal Themes in Sasanian Silverwork and their Central Asian Parallels // Acta Iranica, Commemoration Cyrus*. Vol. 1, Hommage Universel, Tehran, Liege and Leiden, 1974.
 Christensen 1944 — Christensen A. *L’Iran sous les Sassanides*. Copenhagen: E. Munksgaard, 1944.
 Cowell 1895 — Cowell E.B. *The Jātaka; or, Stories of the Buddha’s Former Births*. Cambridge: Cambridge University Press, 1895. Repr. ed. Delhi: Book Faith India: Distributed by Pilgrims Book House, 2000.
 Duchesne-Guillemin 1990 — Duchesne-Guillemin J. The Dragon and the Lunar Nodes // *Bulletin of the Asia Institute*, 4, 1990.
 Epstein 1997 — Epstein M.M. *Dreams of Subversion in Medieval Jewish Art and Literature*. University Park, PA: Pennsylvania State University Press, 1997.
 Gail 1980 — Gail A.J. Planets and Pseudoplanets in Indian Literature and Art with Special Reference to Nepal // *East and West* 30, 1/4, 1980.
 Gierlichs 1996 — Gierlichs J. *Mittelalterliche Tierreliefs in Anatolien und Mesopotamien: Untersuchungen zur figürlichen Baudekoration der Seldschuken, Artuqidien und ihrer Nachfolger bis ins 15. Jahrhundert*. Istanbulischer Forschungen 42, Tübingen: E. Wasmuth, 1996.
 Green 1992 — Green T.M. *The City of the Moon God: Religious Traditions of Harran*. Leiden: Brill, 1992.
 Gutas 1998 — Gutas D. *Greek Thought, Arabic Culture: the Graeco-Arabic Translation Movement in Baghdad and Early Society (2nd–4th/8th–10th Centuries)*. London and New York: Routledge, 1998.
 Hartner 1938 — Hartner W. Pseudoplanetary Nodes of the Moon’s Orbit in Hindu and Islamic Iconographies // *Ars Islamica* 5, 2, 1938.
 Hartner 1959 — Hartner W. Zur astrologischen Symbolik des “Wade Cup” // *Aus der Welt der islamischen Kunst. Festschrift für Ernst Kühnel zum 75. Geburtstag am 26. 10. 1957*, ed. R. Ettinghausen, Berlin: Gebr. Mann, 1959.
 Hartner 1973–74 — Hartner W. The Vaso Vescovali in the British Museum // *Kunst des Orients* 9, 1/2, 1973–74.
 Hauptmann von Gladiss and von Folsach 2006 — Hauptmann von Gladiss, Almut, and von Folsach, Kjeld (eds). *Die Dschazira: Kulturlandschaft zwis-*

- chen Euphrat und Tigris. Berlin: Museum für Islamische Kunst, Staatliche Museen zu Berlin, 2006.
- Henning 1942 — *Henning W.B.* An Astronomical Chapter of the Bundahishn // Journal of the Royal Asiatic Society of Great Britain & Ireland (New Series), 74, 3–4, 1942.
- Hermes Trismegistus — Poimandres, Traités 1–12 / Trans. and ed. A.D. Nock and A.J. Festugière // *Corpus hermeticum*. Vol. 1, 4. Paris: Société d'édition "Les Belles lettres", 1946.
- Herzfeld 1920 — *Herzfeld E.* Der Thron des Khosro. Quellenkritische und ikonographische Studien über Grenzgebiete der Kunstgeschichte des Morgen- und Abendlandes // Jahrbuch der Preussischen Kunstsammlungen, 41, 1920.
- Hoernle 1894 — *Hoernle A.F.R.* The Weber MSS — Another Collection of Ancient Manuscripts from Central Asia // Journal of the Asiatic Society of Bengal. 62, pt. 1, Calcutta, 1894.
- Hoernle 1893–1912 — *Hoernle A.F.R.* The Bower Manuscript. Facsimile Leaves, Nagari Transcript, Romanised Transliteration and English Translation with Notes. Calcutta: Superintendent Government Printing, 1893–1912.
- Janda 2010 — *Janda M.* Die Musik nach dem Chaos: Der Schöpfungsmythos der europäischen Vorzeit. Innsbrucker Beiträge zur Kulturwissenschaft, N.F. 1, Innsbruck: Institut für Sprachen und Literaturen der Universität Innsbruck, Bereich Sprachwissenschaft, 2010.
- Kane 1958 — *Kane P.V.* History of Dharmasāstra (Ancient and Mediaeval Religious and Civil Law). Vol. 5, 1. Poona: Bhandarkar Oriental Research Institute, 1958. Repr. ed. 1974.
- Kay Kāwūs ibn Iskandar ibn Qābūs — *Kay Kāwūs ibn Iskandar ibn Qābūs, 'Unşur al-Ma'ālī* A Mirror for Princes: The Qābūs Nāma by Kai Kā'ūs ibn Iskandar, Prince of Gurgān / Trans. R. Levy, London: Cresset Press, 1951.
- Kennedy 1956 — *Kennedy E.S.* A Survey of Islamic Astronomical Tables. Transactions of the American Philosophical Society. New Ser., 46, 2. Philadelphia: American Philosophical Society, 1956.
- Kennedy and Pingree 1971 — *Kennedy E.S., and Pingree D.E.* The Astrological History of Mashā'allāh. Cambridge, MA: Harvard University Press, 1971.
- Khareghat 1914 — *Khareghat M.P.* The Identity of Some Heavenly Bodies mentioned in Old Iranian Writings // Sir Jamsetjee Jeejeebhoy Madressa Jubilee Volume, ed. J.J. Modi, Bombay, 1914.
- Kuehn 2009 — *Kuehn S.* On the Role of the Ophidian and the Quadruped Dragon within the Iconography of the Mythological Scheme of the Oxus Civilization // On the Track of Uncovering a Civilization. A Volume in Honor of the 80th Anniversary of Victor Sarianidi. Transactions of the Margiana Archaeological Expedition. Vol. 3, Moscow and St. Petersburg: Aletya, 2009.
- Kuehn 2011 — *Kuehn S.* The Dragon in Medieval East Christian and Islamic Art. Islamic History and Civilization. Studies and Texts 86. Brill: Leiden and Boston.
- Levi 1915 — *Levi S.* Le catalogue géographique des Yakṣa dans la Mahāmâyūrī // Journal asiatique, 11^e série, 5, 1915.
- L'Orange 1953 — *L'Orange H.P.* Studies on the Iconography of Cosmic Kingship in the Ancient World. Instituttet for sammenlignende kulturforskning, Serie A, Forelesninger XXIII, Oslo: Aschehoug, 1953.
- Long 1976 — *Long B.J.* Life Out of Death: A Structural Analysis of the Myth of the 'Churning of the Ocean of Milk' // Hinduism, New Essays in the History of Religions, Studies in the History of Religions, ed. Bardwell Smith, L., Supplement to Numen 33. Leiden: Brill, 1976.
- MacKenzie 1964 — *MacKenzie D.N.* Zoroastrian Astrology in the Bundahishn // Bulletin of the School of Oriental and African Studies, 27, 1964.
- Mahé 1995 — *Mahé J.-P.* Dragons et serpents dans les traditions arménienne // Actes du colloque "Les Lusignans et l'OutreMer", 20–24 Octobre 1993. Poitiers, 1995.
- De Mallmann 1962 — *De Mallmann M.-Th.* Les enseignements iconographiques de l'Agni-purāna. Annales du Musée Guimet, Bibliothèque d'études 67. Paris: Presses universitaires de France, 1962.
- Markel 1990 — *Markel S.A.* The Imagery and Iconographic Development of the Indian Planetary Deities Rāhu and Ketu // South Asian Studies, 6, 1, 1990.
- Markel 1995 — *Markel S.A.* Origins of the Nine Planetary Deities. Studies in Asian Thought and Religion. Vol. 16, Lewiston, NY, 1995.
- Meinecke 1996 — *Meinecke M.* Patterns of Stylistic Changes in Islamic Architecture: Local Traditions Versus Migrating Artists. New York: New York University Press, 1996.
- Mohl, J. (Trans. and ed.) Le livre des rois. 7 vols. Paris: J. Maisonneuve, 19, 1838–78.
- Öney 1969 — *Öney G.* Anadolu Selçuk sanatında Ejder Figürleri (Dragon Figures in Anatolian Seljuk Art) // Belleten 33, 1969.
- Otto-Dorn 1978–79 — *Otto-Dorn, K.* Figural Stone Reliefs on Seljuk Sacred Architecture in Anatolia // Kunst des Orients, 12, 1–2, 1978–79.
- Pancaroglu 2000 — *Pancaroglu O.* 'A World unto Himself': The Rise of a New Human Image in the Late Seljuq Period (1150–1250). Doctoral dissertation, Harvard University, 2000.
- Pingree 1963 — *Pingree D.E.* Astronomy and Astrology in India and Iran // Isis, 54, 1963.
- Pingree 1968 — *Pingree D.E.* The Thousands of Abū Ma'shar. London: The Warburg Institute, 1968.
- Pingree 1970 — *Pingree D.E.* Census of the Exact Sciences in Sanskrit. Philadelphia: American Philosophical Society, Memoirs of the American Philosophical Society, 1970.
- Pingree 2006 — *Pingree D.E.* The Byzantine Translations of Māšā'allāh on Interrogational Astrology // The Occult Sciences in Byzantium / Eds. P. Magdalino and M.V. Mavroudi. Geneva: La Pomme d'or, 2006.

- Preusser 1911 — *Preusser C.* Nordmesopotamische Baudenkmäler altchristlicher und islamischer Zeit. Leipzig: J.C. Hinrichs, 1911.
- Ṛgveda — The Hymns of the Rigveda / Trans. Griffith, Ralph Thomas Hotchkinn. 2 vols. London, 1892. Reprint ed., Chowkhamba Sanskrit Series 35, Varanasi: Chowkhamba Sanskrit Series Office, 1963.
- Roxburgh 2005 — *Roxburgh D.* (ed). Turks: A Journey of a Thousand Years, 600–1600. London: Royal Academy of Arts, 2005.
- Russell 2004 — *Russell J.R.* Armenian and Iranian Studies. Harvard Armenian Texts and Studies 9. Armenian Heritage Press, Cambridge, MA: Department of Near Eastern Languages and Civilizations, Harvard University, 2004.
- Sacred Books of the East — Sacred Books of the East / Trans. E.W. West, vol. 5, Oxford, 1880.
- Saliba 1992 — *Saliba G.* The Role of the Astrologer in Medieval Islamic Society // Bulletin d'Études Orientales, 44, 1992.
- Santoro 2006 — *Santoro A.* On the Two Intertwined Dragons from Pendžikent // Ērān ud Anērān: Studies Presented to Boris Il'ich Maršak on the Occasion of His 70th Birthday / Eds. M. Comparesi, P. Raffetta and G. Scarcia. Venice: Cafoscarina, 2006.
- Śārdūlakarṇāvadāna of the Divyāvadāna — Śārdūlakarṇāvadāna of the Divyāvadāna, trans. Mukhopadhyaya S. Santiniketan: Viśvabharati, 1954.
- Sarre and van Berchem 1907 — *Sarre F. and van Berchem M.* Das Metalbecken des Atabeks Lulu von Mosul in der Kgl. Bibliothek zu München // Münchener Jahrbuch der bildenden Kunst, I, 1907.
- Savage-Smith 2004 — *Savage-Smith E.* Introduction // Magic and Divination in Early Islam / Ed. E. Savage-Smith. Aldershot, Hants and Burlington, VT: Ashgate/Variation, 2004.
- Saxl 1912 — *Saxl F.* Beiträge zu einer Geschichte der Planetendarstellungen im Orient und Okzident // Der Islam 3, 1912.
- Scherer 1953 — *Scherer A.* Gestirnnamen bei den indogermanischen Völkern. Heidelberg: Winter, 1953.
- Schwartz 1980 — *Schwartz M.* Mayrhofer, M., Iranisches Personennamenbuch, Band I: Die altiranischen Namen. Faszikel I: Die avestischen Namen // Orientalia 49, n.s., Pontificium Institutum Biblicum, 1980.
- Şentürk and Topraktepe 2009 — *Şentürk Ş., Topraktepe E.* What the Coins Tell Us: Symbols and Multicultural Aspects in Medieval Anatolian Coins. 30 September to 31 December 2009. Yapı Kredi Vedat Nedim Tor Museum. Istanbul: YKY, 2009.
- Sezgin 1971 — *Sezgin F.* Alchimie-Chemie-Botanik-Agrikultur bis ca. 430 H., Geschichte des arabischen Schrifttums. Vol. 4. Leiden: Brill, 1971.
- Strong 1992 — *Strong J.S.* Legend and Cult of Upagupta: Sanskrit Buddhism in North India and Southeast Asia. Princeton, NJ: Princeton University Press, 1992.

- Suhrawardī — *al-Subrawardī, Shihābuddīn Yahyā.* The Mystical and Visionary Treatises of Suhrawardī. Trans. W.M. Thackston, London: Octagon Press, 1982.
- al-Tha'ālībī — *al-Tha'ālībī, Abū Manṣūr.* Ta'rikh Ghurar al-siyar or al-Ghurar fi siyar al-mulūk wa'l-akhbārihim. Trans. and ed. H. Zotenberg // Histoire des rois des Perses par Abou Manṣour 'Abd al-Malik ibn Muḥammad ibn Isma'il al-Tha'ālībī. Paris: Imprimerie nationale, 1900.
- Ullmann 1972 — *Ullmann M.* Die Natur- und Geheimwissenschaften im Islam. Handbuch der Orientalistik I, Ergänzungsband VI, 2, Leiden: Brill, 1972.
- Van Bladel 2015 — *Van Bladel K.* Eighth-Century Indian Astronomy in the Two Cities of Peace // Islamic Cultures, Islamic Contexts. Essays in Honor of Professor Patricia Crone, / Eds. B. Sadeghi, A.Q. Ahmed, A.J. Silverstein and R.G. Hoyland. Brill: Leiden and Boston, 2015.
- Varāhamihira 1870–74 — *Bṛhatsamhitā.* Trans. and ed. H. Kern. The Bṛhat-Saṅhitā; Or, Complete System of Natural Astrology of Varāha-mihira // Journal of the Royal Asiatic Society of Great Britain and Ireland, New Series, 4, 2, 1870: 430–79; 5, 1, 1870: 45–90; 5, 2, 1871: 231–88; 6, 1, 1873: 36–91; 6, 2, 1873: 279–338; and 7, 1, 1874: 81–134.
- Varāhamihira 1947 — *Bṛhatsamhitā.* Trans. and ed. R. Bhat // *Varahamihira's Brihat sambhita.* Bangalore: V.B. Soobbiah, 1947. Repr. ed. Delhi: Motilal Banarsidass, 1981.
- Waldschmidt 1970 — *Waldschmidt E.* Buddha Frees the Disc of the Moon // Bulletin of the School of Oriental and African Studies, 33, 1970.
- Ward 1993 — *Ward R.* Islamic Metalwork. London: Thames and Hudson, 1993.
- Williams 1982 — *Williams J.G.* The Art of Gupta India: Empire and Province. Princeton, NJ: Princeton University Press, 1982.
- Zaehner 1955 — *Zaehner R.Ch.* Zurvan: A Zoroastrian Dilemma. Oxford: Clarendon Press, 1955. Repr. ed. New York: Biblio and Tannen, 1972.
- Zaehner 1956 — *Zaehner, R.Ch.* The Teachings of the Magi: A Compendium of Zoroastrian Beliefs. London: George Allen & Unwin Ltd., New York: Macmillan. Repr. ed. 1975.
- Zimmer 1936 — *Zimmer H.R.* Maya; der indische Mythos. Stuttgart: Deutsche Verlags-Anstalt, 1936. Repr. ed. Frankfurt: Insel-Verlag 1978.
- Zürcher 1959 — *Zürcher E.* The Buddhist Conquest of China: The Spread and Adaptation of Buddhism in Early Medieval China. Vol. 1. Leiden: Brill, 1959.