Buddhist astrology and astral magic in the Tang Dynasty

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Chapter 3
Early Buddhist Astrology in China: the Fourth to Seventh Centuries

The fourth through seventh centuries saw the transmission of astrological lore into China via the translation of several Buddhist and non-Buddhist texts dealing with Indian astrology, but these had limited influence on Chinese Buddhism. The question to ask here is why the literature related to astrology in this period did not become widely practiced or popularized, in contrast to later developments in the eighth century, during which time foreign astrology was widely studied and further developed in China. The answer, I propose, is that it was not necessary for Chinese Buddhists to observe astrology during these centuries. Although *nakṣatra* astrology was first introduced through Buddhism, there was no pressing need to implement it, especially on an institutional level, until the introduction of Mantrayāna in the eighth century, when ritual timing became essential knowledge for some Buddhist clergy.[1]

Despite the insignificance of these early translations in China itself, these texts, translated from the fourth to seventh centuries, are still instructive for what they tell us about developments in India and Central Asia. They furthermore display the successive developments that laid the foundation for the system which was ultimately adopted in China in the eighth century. Much more significant to the long-term development of Chinese Buddhism than *nakṣatra* astrology was the introduction of Buddhist hemerology during these centuries, i.e., the astrological schedule based on the lunar cycle, around which Buddhist activities are carried out, such as *poṣadha*, the bi-monthly meeting of the sangha to 'purify' the monastic community.

3.1. Translations of the *Śārdūlakarṇāvadāna*

As discussed in chapter 2, the earliest extant Buddhist work with substantial astrological lore is the *Śārdūlakarṇāvadāna*. This was first translated into Chinese by Dharmarakṣa between 307–313. Another translation was carried out in the late fifth century by Guṇabhadra, titled the *Mātaṅga-sūtra*. This latter text is longer than Dharmarakṣa's translation and displays some Hellenistic influences. Aoyama Tōru compared the contents of these two translations to Mukhopadhyaya's Sanskrit edition. He concluded that Dharmarakṣa's translation is closer to the Sanskrit version compared to the *Mātaṅga-sūtra*, especially in light of all the additional material found in the *Mātaṅga-*

[1] Monks, both Chinese and foreign, indeed practiced various forms of divination, including astrology, during the fourth to seventh centuries. See John Kieschnick, *The Eminent Monk: Buddhist Ideals in Medieval Chinese Hagiography* (Honolulu: University of Hawai'i Press, 1997), 80. My point is that astrology as an essential practice within a Buddhist framework only became popular after the introduction of Mantrayāna, which will be discussed below.

sūtra.[2] The *Mātaṅga-sūtra* is therefore a translation of a significantly revised version of the *Śārdūlakarṇāvadāna*.

As Zenba notes, there are two features of the text that indicate Hellenistic influences. First, chapter seven ("Explaining Time Divisions" 明時分別品) explains the Metonic cycle.[3] Seven intercalary months are to be added in a nineteen-year period (於十九年凡有七閏).[4] This is not present in the Tibetan or Sanskrit texts surveyed by Zenba.[5] The *Mātaṅga-sūtra* also subsequently mentions adding an intercalary month every five years (五年再閏), which has a parallel in the Tibetan, according to Zenba. The second Hellenistic feature, also in chapter seven, is the Greco-Egyptian ordering of planets which differs from that found in chapter five, in the order of Sun, Moon, Mars, Mercury, Jupiter, Venus and Saturn.[6] As Zenba notes, the ordering of planets in chapter seven of the *Mātaṅga-sūtra* differs from the Tibetan and Sanskrit.[7]

As to when the seven-day week was transmitted to India, Markel suggests that "it is apparent that the seven-day week was introduced into India sometime around the beginning of the 4th century, during a period when the trade between India and Rome began to resume after the Roman wars and disruption in the 3rd century."[8] This ordering does not reappear in extant Chinese Buddhist literature until the eighth century (see 4.2, 4.5 below). This ordering was also not employed with relation to the seven-day week in China until the seventh century at the earliest.[9]

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[2] Aoyama Tōru 青山亨, "Śārdūlakarṇāvadāna no kenkyū" Śārdūlakarṇāvadāna の研究, *Indogaku bukkyōgaku kenkyū* 印度學仏教學研究 60, no. 30-2 (1982): 152–153.

[3] Mēton was an Athenian astronomer in the fifth century BCE. He proposed a system of intercalation based on lunar months, later called the Metonic cycle, in which there are seven intercalary months every nineteen years. This is designed to keep lunar months in pace with the solar year. See M.C. Howatson, *The Oxford Companion to Classical Literature* (Oxford: Oxford University Press, 2013), 376–377.

[4] T 1300, 21: 410a11.

[5] Zenba Makoto 善波周, "*Matōga gyō* no tenmonrekisū ni tsuite" 摩登伽經の天文暦數について, in *Tōyōgaku ronsō: Konishi, Takahata, Maeda san kyōju shōju kinen* 東洋學論叢：小西高畠前田三教授頌壽記念 (Kyōto: Heirakuji shoten, 1952), 202.

[6] 日月熒惑辰星歲星太白鎮星. T 1300, 21: 410a14-15. This ordering of the seven-day week is an amalgamation of the Egyptian belief in deities overseeing each of the twenty-four hours and the Greek cosmological concept of concentric spheres. The spheres run in the descending order of Saturn, Jupiter, Mars, the Sun, Venus, Mercury and the Moon. The first hour of the first day is assigned to Saturn, the second hour to Jupiter, the third to Mars, and so on. The twenty-fifth hour (the first hour of the second day) is assigned to the Sun. The forty-ninth hour is assigned to the Moon. This ordering was known in the second century BCE. Yano Michio, "Calendar, Astrology, and Astronomy," in *The Blackwell Guide to Hinduism*, ed. Gavin Flood (Oxford: Blackwell Publishing, 2003), 383.

[7] Zenba, "*Matōga gyō* no tenmonrekisū ni tsuite," 190.

[8] Stephen Markel, "The Genesis of the Indian Planetary Deities," *East and West* 41, no. 1/4 (1991): 181.

[9] One of the earliest references to the seven-day week in China is found in a Nestorian Christian text, the *Jesus-Messiah Scripture* 序聽迷詩所經 (T 2142). This states that the Messiah was "tied to wood [cross] for five hours. This was on the sixth fasting day [Friday]." 木上縛著五時，是六日齋. T 2142, 54: 1288a24-25. This text likely dates to between 635–638, having been produced by the first Christian mission

There is evidence that the *Mātaṅga-sūtra* was produced in Central Asia rather than India. The text's gnomonic measurements,[10] which Shinjō Shinzō calculated for an average northern latitude of 43 degrees, indicate a point of reference somewhere in Central Asia, such as Samarkand.[11] Conversely, the Tibetan translation provides a calculated average latitude of 27.5 degrees (corrected to 26.5 degrees if a potential scribal error is considered), which indicates a location in the vicinity of Magadha.[12] Additionally, chapter seven of the *Mātaṅga-sūtra* details the division of daytime into fifteen units (*muhūrta*), in which each is defined by the length of a shadow cast by a man on day one of lunar month two. "At noon the shadow is of equal length to the man 於日正中影共人等."[13] From this Zenba calculated a northern latitude of approximately 39 degrees.[14] In consideration of these points, the Chinese translation of the *Mātaṅga-sūtra* was based on a recension of the *Śārdūlakarṇāvadāna* that originated from somewhere in Central Asia. This recension included numbers revised to account for a higher latitude. This is significant since it shows that the first Central Asian influences in Chinese Buddhist astrological literature can be traced back to the late fifth century.

Dharmarakṣa's earlier translation of the *Śārdūlakarṇāvadāna* was the first text in Chinese to introduce in detail the Indian *nakṣatra*–s. Unlike in later Chinese translations, Dharmarakṣa semantically translated their names rather than using the Chinese lunar stations (*xiu* 宿) as functional equivalents. They are also unequal in their respective dimensions, which are measured by *muhūrta*–s. The *Mātaṅga-sūtra* uses *nakṣatra*–s of unequal dimensions, though they are defined differently from those in Dharmarakṣa's translation. This is significant because the *nakṣatra* system that was later introduced in the eighth century uses *nakṣatra*–s of equal dimensions, which reflects an Indian reconfiguration of an earlier *nakṣatra* system to accommodate the equal dimensions of the zodiac signs of Hellenistic astronomy. The *Śārdūlakarṇāvadāna* provides parameters that reflect the earlier *nakṣatra* system in India prior to the Hellenization of Indian astronomy. It does not appear, however, that this system of unequal *nakṣatra*–s was ever implemented in China. In the absence of additional materials or a foreign specialist, it

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to China. The seven-day week may have been observed by the early Nestorian church in China, but it was not observed by the Chinese until the late eighth century at the earliest. For a detailed study of this text see Haneda Tōru 羽田亨, *Haneda Hakushi shigaku ronbunshū* 羽田博士史學論文集, vol. 2 (Kyōto: Tōyōshi Kenkyūkai, 1958), 240–269. Note that the authenticity of the scripture is contested by some scholars. For a recent discussion see Wang Lanping 王蘭平, "Riben Xingyu shuwu zang Fugang wenshu Gaonan wenshu zhenwei zaiyanjiu" 日本杏雨書屋藏富岡文書高楠文書真僞再研究, *Dunhuangxue jikan* 敦煌學輯刊 (2016-1): 10–15.

[10] A gnomon is a pillar or rod that casts a shadow from which one can take measurements to determine latitude and seasons.

[11] Shinjō Shinzō 新城新藏, *Tōyō tenmongakushi kenkyū* 東洋天文學史研究 (Kyōto: Rinsen shoten, 1989), 417–418. Reprint of 1928 work.

[12] Zenba, "*Matōga gyō* no tenmonrekisū ni tsuite," 201.

[13] T 1300, 21: 409a4.

[14] Zenba, "*Matōga gyō* no tenmonrekisū ni tsuite," 205.

would have been difficult for even a Chinese astronomer to track the position of the Moon relative to these vaguely defined parameters for the *nakṣatra*–s.[15] There was also no known need to do so at this point in Chinese Buddhist history. The issue of how to adequately define the *nakṣatra*–s in a Chinese context was not addressed in this period.

3.2. Astrological Elements in the *Mahāsaṃnipāta*

The voluminous *Mahāsaṃnipāta* 大方等大集經 (T 397), which is comprised of translations by several translators, contains three sections that explain astrology.

The first is the **Samādhi-ṛddhi-pāda* 三昧神足品 chapter of the *Ratnaketu-parivarta* 寶幢分 (fasc. 20). The translation of this text is attributed to Dharmakṣema 曇無讖 (385–433). The relevant section has a discussion between the Buddha and an astrologer named *Jyotīrasa 光味. The latter is questioned about the value of reading books on astrology (星宿書). He replies that he teaches beings with this Dharma, and thereby receives many offerings, but does not answer how to transcend saṃsāra. The astrologer is asked to describe his path. He explains the twenty-eight *nakṣatra*–s, as well as natal predictions for individuals born under each one. This is an example of pre-Hellenized Indian astrology, similar to that of the *Śārdūlakarṇāvadāna*. The individual's personality, fate, proclivities, birthmarks, illnesses and longevity plus anticipated disasters at certain ages are explained. He concludes by stating that one who knows these matters well will 'reach the other shore' and attain great wisdom. The Buddha then replies as follows:

> 佛言：眾生闇行，著於顛倒，煩惱繫縛。隨逐如是星宿書籍，仙人星宿雖好，亦復生於牛馬狗猪。亦有同屬一星生者而有貧賤富貴參差。是故我知是不定法。仙人汝雖得禪，我是一切大智之人。何故不問解脫因緣。
> The Buddha said, "Beings move in the dark, attached to erroneous views, and bound in afflictions. Following these sorts of astrological books, the stars of you the sage might be good, but you will still be reborn among cows, horses, dogs and swine. Moreover, there are those born together under the same star, yet there are differences in wealth and status. Thus, I know this is not a certain method. Although you as a sage might attain *dhyāna*, I am someone with omniscience. Why not ask of the causes and conditions for liberation?"[16]

Here it seems that the validity of astrology is not being outright rejected. The point is rather that astrology does not lead to liberation, and thus it is inferior to the Buddha's teaching. The detailed natal predictions nevertheless indicate that the author of the text

[15] Their dimensions are defined by units of time, which stands in contrast to the way the lunar stations are defined with standardized degrees relative to fixed stars in Chinese astronomy.

[16] T 397, 13: 140a3-7.

was familiar with astrology, yet simultaneously believed it was not to be understood as a method of liberation. There is another translation of this section as a separate text entitled **Ratnaketudhāraṇī-sūtra* 寶星陀羅尼經 (T 402; fasc. 4), translated in 630 by Prabhāmitra (Prabhākaramitra) 波羅頗蜜多羅 (565–633), a monk from Magadha who had studied at Nālanda. He arrived in Chang'an in 627.[17] The details of the natal predictions in this work differ from the earlier translation. The Buddha's response to astrology in the **Ratnaketudhāraṇī-sūtra* is outright rejection.[18]

Zenba pointed out some features of the *Mahāsaṃnipāta* version of the *Ratnaketu-parivarta* that led him to doubt that it was actually translated by Dharmakṣema. The twenty-eight *nakṣatra*–s are named starting from *jiao* 角 in the east (he assumed that this corresponded to the *nakṣatra* Citrā), which is a convention of China and not India (in India the *nakṣatra*–s originally commenced from Kṛttikā, and later this was changed to Aśvinī). He suspected the presence of Chinese influences in this work. The latter translation by Prabhāmitra, however, commences from *mao* 昴 (Kṛttikā), one of the two standard starting points when listing the *nakṣatra*–s. According to Zenba, the *nakṣatra* predictions in the texts are largely contradictory. He suggested that these points indicate not only different sources from which the Chinese versions were produced, but also different astrological traditions, concluding that since Dharmakṣema was from Middle India, he would not have employed any 'regional' system of astrology.[19] On the contrary, Mak assigns a date of 426 to the translation.[20] He also points out that "[b]y later standard, the Chinese translation *jiao* 角 is associated with the *nakṣatra* Citrā, not Kṛttikā. However, by comparing the astrological content presented here and those of ŚKA [*Śārdūlakarṇāvadāna*] and Amoghavajra's XYJ [*Xiuyao jing*], we can see that the original text starts with *Kṛttikā* indeed."[21] In the other words, Zenba made the mistake of assuming that the later Chinese associations between the Chinese lunar stations and Indian *nakṣatra*–s were identical to those found in the *Mahāsaṃnipāta* version of the *Ratnaketu-parivarta*. However, as Mak points out, the lore associated with the *nakṣatra*–s provided in other texts reveals that the sequence does in fact commence from *Kṛttikā* despite having been translated as *jiao* 角, which only later was associated with Citrā. Dharmakṣema's choice of vocabulary in this regard again reveals the use of functional equivalents in Chinese that were too ambiguous to feasibly implement.

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[17] See his biography: T 2060, 50: 439c26-a03.

[18] T 402, 13: 556b9-13.

[19] Zenba Makoto 善波周, "Daishū-kyō no tenmon kiji – sono seiritsu mondai ni kanren shite" 大集經の天文記事 – その成立問題に關連して, *Nihon Bukkyōgakkai nenpō* 日本佛教學會年報 22 (1957): 102–107.

[20] Bill M. Mak, "The Transmission of Astral Science from India to East Asia: The Central Asian Connection," *Historia Scientiarum* 24, no. 2 (2015): 64.

[21] Bill M. Mak, "Indian Jyotiṣa Through the Lens of Chinese Buddhist Canon," *Journal of Oriental Studies* 48, no. 1 (2015): 10.

The second text containing astrological elements is the *Candragarbha-parivarta* 月藏分, translated by Narendrayaśas 那連提耶舍 (490–589) in 566.[22] Chapter nine (fasc. 51) commences with Brahmā explaining the deities, *nakṣatra*–s and planets presiding over the four continents. Chapter eleven (fasc. 52) sees the Sun and Moon rulers (Sūrya and Candra) dispatch an envoy to the Buddha to pay respects at an assembly, and state that they will look after the Buddhadharma in addition to "also ensuring that the five planets and twenty-eight *nakṣatra*–s all maintain correct movements."[23] This is a noteworthy idea that gods either directly control or are supporting conditions behind celestial movements, rather than it being explained by a 'wind-wheel' (*vāyu-maṇḍalaka*) and the collective karma of beings, as is the case in at least one Abhidharma text.[24] This illustrates how there were differing Buddhist perspectives on celestial mechanics, perhaps aimed at different audiences. Some clearly favored the concept of divine beings presiding over celestial bodies, whereas others preferred a mechanistic theory. It does not appear, however, that Chinese Buddhists favored either model of cosmology, though the 'wind-wheel' system is cited in a later Tang-era work, as we will later see.

Chapter eighteen (fasc. 56) commences with the Buddha addressing Brahmā, Indra and the four Mahārājas, asking them how the past sages 天仙 (**ṛṣi*) arranged the stellar bodies and constellations. The gods reply, dividing the twenty-eight *nakṣatra*–s into the four groups under each respective cardinal direction, before briefly describing the things, places, people or animals that they preside over. The Buddha then commands the stellar bodies and constellations to protect countries and raise beings.[25] This brings to mind the invocation of astral deities in the *Mahāsāṃghika-vinaya*, discussed in the previous chapter (2.6).

The *Candragarbha-parivarta* includes the earliest known mention in Chinese of the twelve zodiac signs, which are phonetically transliterated from Sanskrit into Chinese (table 3.1).

These zodiac signs are deified in the same manner as the *nakṣatra*–s and planets. The Buddha states, "I now command these planets and stars to protect countries, cities,

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[22] For date of translation see T 2154, 55: 543c12-13.

[23] 亦令五星二十八宿皆得正行. T 397, 13: 346c3.

[24] The **Lokasthānābhidharma-śāstra* 立世阿毘曇論 (T 1644), for example, states, "With the karma of beings as contributing conditions, there is thus the wind-wheel [*vāyu-maṇḍalaka*] perpetually blowing on a circuit. It is due to the wind blowing that the palaces of the Sun and Moon circuit around endlessly." 以眾生業增上緣故，故有風輪恒吹迴轉。以風吹故，日月等宮，迴轉不息. T 1644, 32: 195b22-24.

[25] "At that time the Buddha said unto King Brahmā and the others, 'All of you, listen well! I see all and am foremost among sages in the world, also causing the *nakṣatra*-s, planets and stars to protect countries and raise beings.'" 爾時佛告梵王等言：汝等諦聽，我於世間天人仙中一切知見最爲殊勝。亦使諸宿曜辰攝護國土養育眾生. T 397, 13: 371b10-12. The use of *shi* 使 here is causative. This implies that the Buddha is not just the knower of these astro-terrestrial correspondences, but the agent controlling them. This same idea of commanding the stars is again seen below following the naming of planets and the twelve zodiac signs.

villages, and to raise beings. You all must proclaim [this] and ensure that they know it."[26] There is no precedent in the Hellenistic world of zodiac signs being deified in this manner. This development in India was likely a result of the *nakṣatra*–s having long been envisioned as deities. It was therefore easy to conceive of the zodiac signs in the same manner. These deified zodiac signs also appear in the early Mantrayāna tradition of the seventh century (see 4.3 below). The emergence of zodiac deities within Buddhism can therefore be traced back to these earlier texts of the sixth century.

Table 3.1. Zodiac signs of the *Candragarbha-parivarta*.[27]			
	Chinese	**Sanskrit**	**Zodiac Sign**
1	*Misha* 彌沙	Meṣa	Aries
2	*Pilisha* 毘利沙	Vṛṣabha	Taurus
3	*Mutouna* 彌偷那	Mithuna	Gemini
4	*Jiejiazhajia* 羯迦吒迦	Karkaṭa	Cancer
5	*Xinghe* 綟呵	Siṃha	Leo
6	*Jiaruo* 迦若	Kanyā	Virgo
7	*Douluo* 兜邏	Tulā	Libra
8	*Pilizhijia* 毘梨支迦	Vṛścika	Scorpio
9	*Tannipi* 檀尼毘	Dhanus	Sagittarius
10	*Mojialuo* 摩伽羅	Makara	Capricorn
11	*Jiupan* 鳩槃	Kumbha	Aquarius
12	*Mina* 彌那	Mīna	Pisces

The third text with astrological elements is the *Sūryagarbha-parivarta* 日藏分, translated by Narendrayaśas in 585.[28] The relevant section is chapter eight (fasc. 41 and 42). It appears to be an astrology manual embedded into an otherwise unrelated narrative within the sūtra. Some *nāga* kings in distress are referred to a certain *Jyotīrasa Bodhisattva 殊致羅娑菩薩. His name ('Flavor of Light') and the following remarks characterize him as an astrologer, and moreover indicate a belief in astrological determinism within a Mahāyāna context:

[26] 我今令此諸曜辰等攝護國土，城邑，聚落，養育眾生，汝等宣告令彼得知. T 397, 13: 373a27-29.

[27] T 397, 13: 373a23-29.

[28] For the date of translation see T 2154, 55: 547c15-17.

爾時殊致羅娑菩薩，善解方便知世因緣，欲爲諸龍說星宿法。星宿法者，各有度數，和合時節。合時則易，不合則難。時節未合，不得解脫。諦聽次第，我當爲汝分別解說。今此月者名奢婆拏，星宿名爲富那婆藪。富那婆藪屬此五月。此月復繫屬於日天。汝諸龍王，與此星辰時未和合。

At that time, *Jyotīrasa Bodhisattva adeptly understood expedient means (*upāya*) and knew worldly[29] causes and conditions. He wanted to teach the Dharma of *nakṣatra*–s to the *nāga*–s. The Dharma of *nakṣatra*–s: each has degrees, which correspond to specific times. It is easy when in agreement with time. It is difficult when not in agreement. When not in agreement with the specific times, it is not possible to attain liberation. "Listen well to [this] sequence! I will explain in detail for you. Presently this month is called Śrāvaṇa. The name of the *nakṣatra* is Punarvasū. Punarvasū belongs to this fifth month. This month is further connected to the solar deity. All you *nāga* kings are not in agreement with this *nakṣatra* and time."[30]

The details in this passage are problematic as they are not in accord with the general Indian *nakṣatra* calendar. The fifth month is Śrāvaṇa, but it is normally associated with Viṣṇu. Punarvasū is not a month, but it can be a day of the month. Punarvasū is the fourth *nakṣatra* from Kṛttikā. Normally Punarvasū is associated with Aditi. The translator or original manuscript might have misread Aditi as Āditya.[31] Āditya the solar deity is associated with the *nakṣatra* Hasta.[32] Below again Punarvasū is associated with the solar deity,[33] while Hasta is associated with *Shapilidi 沙毘梨帝, which is clearly a corrupted transliteration for Savitṛ, the solar deity (it should read Shapidili 沙毘帝梨).[34]

The *nakṣatra*-deity associations are given in the *Nakṣatrakalpa* (I.4.3) of the *Atharvavedapariśiṣṭā*.[35] It reads, "*aditeḥ punarvasū … haste ca savitā daivaṃ …*"[36] Savitṛ is clearly associated with Hasta. The *Sūryagarbha-parivarta* in Chinese translation therefore displays misunderstandings about Indian astrological lore, though it still represents itself as providing authoritative knowledge on the subject. The message from the bodhisattva is that the *nāga*–s should understand the calendar and subsequently attain

[29] Alternatively, this could be an abbreviation of *su shi* 宿世, *xian shi* 先世 or *qian shi* 前世: past life.

[30] T 397, 13: 274a7-13.

[31] This same error is made in the *Xiuyao jing* (4.5 below). Punarvasū is associated with the solar deity 日神. As Yano points out, in this case Aditi was misunderstood as Āditya. See Yano, *Mikkyō senseijutsu*, 90.

[32] See table in Yano, "Calendar, Astrology, and Astronomy," 380.

[33] 井爲第五宿屬於日天. T 397, 13: 275a1.

[34] 軫爲第四宿屬沙毘梨帝天. T 397, 13: 275a21.

[35] I must thank Peter Bisschop (Leiden University) for pointing this out to me.

[36] Bolling, George Melville and Julius Von Negelein, ed, *The Pariśiṣṭās of the Atharvaveda* (Leipzig: Otto Harrassowitz, 1909), 3.

relief from their distress. Attainment of liberation is said to depend upon correct calendrical knowledge. Despite the emphasis on such knowledge in this scripture, problematic as it is, it does not seem that Chinese Buddhists ever made serious use of such lore before the eighth century.[37]

The bodhisattva is then asked for details on the calendar, to which he replies by relating a story about a donkey-headed sage. Within that narrative, details are provided on the *nakṣatra*–s (starting from Kṛttikā) and Indian calendar. The following chapter provides further details on prescribed and proscribed activities under each *nakṣatra*, as well as related medical procedures and natal predictions. In its description of the Indian calendar, it also mentions the twelve zodiac signs presiding over their respective months. Here they are semantically translated (table 3.2).

Table 3.2. Zodiac signs of the *Sūryagarbha-parivarta*.

Month	**Chinese**	**Semantic Meaning**	**Zodiac**
8	蝎神	Scorpion Deity	Scorpio
9	射神	Shooting Deity	Sagittarius
10	磨竭之神	*Makara* Deity	Capricorn
11	水器之神	Water Vessel Deity	Aquarius
12	天魚之神	Heavenly Fish Deity	Pisces
1	持羊之神[38]	Ram Deity	Aries
2	持牛之神[39]	Bull Deity	Taurus
3	雙鳥之神	Bird Pair Deity	Gemini
4	蟹神	Crab Deity	Cancer
5	師子之神	Lion Deity	Leo
6	天女之神	Heavenly Woman Deity	Virgo
7	秤量之神	Scales Deity	Libra

The zodiac signs here, however, play no other stated role other than presiding over their respective months.

One other interesting feature of this text is a listing of eight planets in the order of Jupiter, Mars, Saturn, Venus, Mercury, Sun, Moon and *Rāhu (荷羅睺).[40] This is remarkable for two reasons. First, the ordering of the first five follows the cycle of five elements in Chinese metaphysics (each planet is respectively assigned one: wood 木, fire

[37] The text is cited in the encyclopedic *Fayuan zhulin* 法苑珠林 of 668 by 道世 (d. 683), though it does not appear that such lore was utilized in any significant way. T 2122, 53: 293a19-296b13.

[38] *Chi* 持 (holding) is probably an error for *te* 特 (male animal).

[39] Again, *chi* 持 is probably an error for *te* 特.

[40] T 397, 13: 282a24-25.

火, earth 土, metal 金 and water 水), which indicates Chinese influence or editing.[41] Secondly, normally Ketu is included among the standard nine planets (*nava-graha*). However, this is from a time when Ketu was still regarded as a comet or comets, rather than as a hidden planet like Rāhu with a specific astronomical function.[42] It was therefore only later that Ketu's function as a planet was known in China.

To summarize: before the late fifth century translation of the *Mātaṅga-sūtra* – it was *not* translated in 230 as is traditionally held to be the case (see 2.6 above) – there are no apparent Hellenistic influences within Indian literature translated into Chinese, but from the late fifth century, elements such as the twelve zodiac houses, the Metonic cycle, and the modern planet ordering appear in Chinese. This reflects the absorption and popularity of Hellenistic astrology/astronomy in India during the fifth century. Although these datable texts in China provide valuable information concerning developments in India and Central Asia, it does not seem that they had much immediate impact in China. Prior to the eighth century, there appears to have been little interest or need for the *nakṣatra* calendar in China. Buddhist hemerology based on the lunar cycle of waxing and waning (the *pakṣa* cycle) was, however, integrated into Chinese Buddhist practice due to its importance in scheduling the *poṣadha* rites, and later the regular recitation of the bodhisattva precepts.

3.3. Early Buddhist Hemerology in China

Early Buddhist hemerology, i.e., that preceding Hellenistic influences, was introduced through various sūtra and vinaya works in this period. A relevant sūtra produced in China during the period in question is the *Four Deva Kings Sūtra* 佛說四天王經 (**Catur-devarāja-sūtra*; T 590), purportedly translated by Zhiyan 智嚴 (350–427) and Baoyun 寶雲 (376–449).[43] Like the *Abhidharma-mahāvibhāṣā* cited above, it states that various gods descend into the world on specific days of the waxing and waning periods of the lunar cycle.

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[41] Mak also points this out and suggests that it places "some doubt as to the source of the material." Mak, "Indian Jyotiṣa Through the Lens of Chinese Buddhist Canon," 11.

[42] There is a precedent for this in Indian archaeology. As Pingree notes, the oldest representations of the planets as sculptures from India date from the late Gupta period. He notes that these sculptures were usually placed above doorways. The earliest extant specimen, which is probably from Mathurā, shows eight figures with Ketu omitted." David Pingree, "Indian Planetary Images and the Tradition of Astral Magic," *Journal of the Warburg and Courtauld Institutes* 52 (1989): 6.

[43] Sørensen concludes that the "*Si tianwang jing* as it appears in T 590 is obviously not a translation into Chinese of a classican Indian sūtra, but it is not a completely apocryphal scripture either, at least not if we thereby mean a complete fabrication." He suggests that the text "was composed in China, and most likely during the first half of the fifth century." See Henrik H. Sørensen, "Divine Scrutiny of Human Morals in an Early Chinese Buddhist *Sūtra*:A Study of the *Si tianwang jing* (T.590)," *Studies in Central Asian and East Asian Religions* 8 (1995): 78–79.

諸天齋日伺人善惡。須彌山上即第二忉利天，天帝名因，福德巍巍。典主四天，四天神王即因四鎮王也，各理一方。常以月八日遣使者下，案行天下，伺察帝王，臣民，龍鬼，蜎蜚，蚑行，蠕動之類，心念，口言，身行善惡。十四日遣太子下，十五日四天王自下，二十三日使者復下，二十九日太子復下，三十日四王復自下。

The devas on the fasting days examine the good deeds and misdeeds of people. Atop Mount Sumeru there is the second [desire realm heaven] of Trāyastriṃśa where there is the celestial sovereign named Indra, whose virtues are lofty. The chief four devas, the four deva kings, are Indra's four guardian kings, each presiding over one direction. On the eighth day of the month, envoys are always dispatched. They descend on an inspection tour of the whole world. They investigate the sovereigns, kings, officials, citizens, nāgas, spirits, fliers, crawlers and wrigglers; the good deeds and misdeeds in the thoughts of their minds, the speech of their mouths, and the actions of their bodies. On the fourteenth day, they dispatch down the princes. On the fifteenth day, the four kings themselves descend. On the twenty-third day, the envoys again descend. On the twenty-ninth day, the princes again descend. On the thirtieth day, the four kings again descend.[44]

The sangha holds the *poṣadha* ritual according to this same cycle. On three days per *pakṣa*, the monks are to confess their transgressions, recite the *prātimokṣa* and administer precepts to laypeople. The specific days on which this is to occur, however, vary according to the text.[45] Early on in Chinese Buddhism, perhaps from around the fifth century, there was a preference to carry it out every half-month (i.e., twice a month on the new and full moons). The *Brahmā Net Sūtra* states that 'newly training bodhisattvas' 新學菩薩 should recite the ten major and forty-eight minor bodhisattva precepts every half-month.[46]

The *pakṣa* schedule was a major component of Indian calendars that came to be integrated into Chinese Buddhist practice. This would have been easy to implement, given that the Chinese month counts thirty days while closely observing the lunar cycle. It was relatively simple to accommodate the Indian system of *pakṣa*–s and *tithi*–s. The *nakṣatra* calendar, however, does not appear to have been implemented in Chinese Buddhism in these early centuries.

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[44] T 590, 15: 118b2-9.

[45] The *Madhyamāgama* 中阿含 (T 26) and *Ekottarikāgama* 增一阿含 (T 125) schedule the *poṣadha* rite on lunar days 8, 14, 15, 23, 29 and 30. The *Dharmaguptaka-vinaya* 四分律 (T 1428) schedules it on lunar days 1, 14 and 15. The **Mahāprajñāpāramitōpadeśa* 大智度論 (T 1509) schedules it on lunar days 1, 8, 14, 16, 23 and 29. The custom clearly is to carry out the *poṣadha* rite three times per *pakṣa*. For further details, see *Foguang dacidian* 佛光大辭典, 1910–1911 (digital edn.).

[46] 若布薩日新學菩薩，半月半月布薩誦十重四十八輕戒. T 1484, 24: 1008a20-21.

3.4. Brahmanical Astrological Literature in Chinese Translation

Other materials related to Indian astrology were translated into Chinese before the end of the Sui dynasty (581–618). There are three "Brahmin astronomical" works listed in the catalog of texts in the *Sui shu* 隋書 (the history of the Sui, compiled in the early Tang between 636–656) which are no longer extant:[47]

> 1. 婆羅門天文經，二十一卷，婆羅門捨仙人所說。
> *Poluomen tianwen jing* [*Book on Brahmin Astronomy*], 21 fascicles, taught by Brahmin Sage **She*.

The *Lidai sanbao ji* 歷代三寶紀 (T 2034; *Account of the Triple Gem in Past Generations*), compiled by Fei Changfang 費長房 (d.u.) in 598, lists a work entitled *Poluomen tianwen* 婆羅門天文 (*Brahmin Astronomy*) in 20 fascicles, which is likely the same work. A comment notes that it was produced in the Tianhe 天和 reign era (566–572) under Wu Di 武帝 (r. 560–578) by a *śramaṇa* from Magadha named Dharmaruci 達摩流支 or Damoliuzhi 達摩留支 (d.u.).[48] His translation in 20 fascicles is also rendered as *Fan tianwen* 梵天文 (*Brahmin Astronomy*).[49]

While the content of the work is unknown, we know that it was not a Buddhist work because of a comment in the sūtra catalog *Kaiyuan shijiao lu* from 730. It repeats Fei Changfang's account and states, "Now it is not preserved [in this catalog] because it is not a teaching of the Tripiṭaka."[50] This is an interesting case of a foreign Buddhist monk in China translating a non-Buddhist manual on astronomy or astrology, although it was not the last, as Amoghavajra's work incorporated non-Buddhist astrological materials, which will be discussed later.

> 2. 婆羅門竭伽仙人天文說，三十卷。
> *Poluomen Jiejia xianren tianwen shuo* [*Astronomical Teachings of Brahmin Sage *Garga*], 30 fascicles.

Here *Jiejia* 竭伽 is likely a transliteration of Garga or Gārgya, in which case this work, in light of its length, might have been the *Gārgīya-jyotiṣa* (**Garga-saṃhitā*) or a work

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[47] Kawai Kōzō 川合康三 and Kōzen Hiroshi 興膳宏, *Zui sho keisekishi shōkō* 隋書經籍志詳攷 (Tōkyō: Kyuko Shoin, 1995), 603–604.

[48] T 2034, 49: 100b9-11. Elsewhere it is specified as specifically year 4 of Tianhe (569). See T 2154, 55: 544c28.

[49] T 2034, 49: 95a24.

[50] 今以非三藏教故不存之．T 2154, 55: 544c29.

attributed to the sage (*vṛddha*?) Garga.[51] The title only indicates that its content was related to Indian astrology or astronomy, otherwise nothing else is known. If this was, in fact, the *Gārgīya-jyotiṣa*, then it also would have explained cosmic cycles of time including the *kaliyuga*.

3. 婆羅門天文，一卷。
Poluomen tian wen [*Brahmin Astronomy*], 1 fascicle.

There are no further details available on this short work.

There is no immediate indication that these works were widely studied in the Sui-Tang period, though as Kawai and Kōzen point out, they also appear in the *Tong zhi* 通志 compiled in 1161 by Zheng Qiao 鄭樵 (1104–1162), which indicates that they were preserved, most likely in the imperial library, until at least the Song period.[52] I will argue below that these works might have been consulted by Amoghavajra when he compiled his manual on astrology.

Fei Changfang also states that there was a state sponsored project during the Sui dynasty to translate 'Brahmanical classics' (梵古書) and astronomical works (乾文), which commenced in year 5 of Kaihuang 開皇 (585) before the project's conclusion in year 12 (592). It finally amounted to altogether more than two-hundred fascicles. This team was comprised of monks and laymen, though the project seems to have been initiated by the state, and not the Buddhist sangha.[53] The titles are not listed, but it is possible that the final two works listed above might have been produced under this project.

Zhisheng's expressly stated exclusion of the Brahmanical work on astrology from his catalog in 730 is significant because it highlights the unwillingness of Buddhists at this stage to accept foreign astrology to any significant extent. Foreign astrology of the non-Buddhist type was clearly understood as heterodox**.**

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[51] The presently extant *Yuga-purāṇa* comprises two chapters within this work on *jyotiṣa* attributed to Garga. It was written sometime before 25 CE. Although the names Garga and Vṛddha-Garga appear in the text, it appears that historically there were two figures. Mitchiner states, "Varāhamihira states in several contexts in the *Bṛhat-saṃhitā* that he is expounding the teachings of either Garga or Vṛddha-Garga: the passages in which he cites Garga do appear in the present work, whereas the teachings which he takes from Vṛddha-Garga do not appear therein. ... Similarly, the commentator Utpala quotes a large number of lines from both Garga and Vṛddha-Garga: those quoted from Garga do appear in the present work, while those quoted from Vṛddha-Garga do not appear therein. It would seem, therefore, that the present work is, correctly-speaking, the work of Garga rather than of Vṛddha-Garga." There are furthermore several *jyotiṣa*-related manuscripts in India bearing titles such as *Garga-saṃhitā*, *Gārgya-saṃhitā*, *Vṛddha-Gārgya-saṃhitā*, *Vṛddha-Gārgī-saṃhitā* and *Uttara-Gārgya-saṃhitā*. See John E. Mitchiner, *The Yuga Purāṇa* (Calcutta: The Asiatic Society, 1986), 3–13.

[52] Kawai and Kōzen, *Zui sho keisekishi shōkō*, 603–604.

[53] T 2034, 49: 104b14-18.

3.5. Conclusion

There were several manuals on Indian astrology translated into Chinese between the fourth to the seventh centuries. These introduced the *nakṣatra* calendar and astrological lore into China, but their impact in these centuries was negligible. Although these texts provide datable examples of Indian astrology, while displaying noteworthy innovations, such as the Hellenistic seven-day week and the first mention of the zodiac signs in Chinese, their systems of astrology were not implemented during these centuries in China, since there was no pressing need to practice foreign astrology. It was also impractical, given that the *nakṣatra* dimensions stated in the extant texts from this period are imprecise, and could not have been effectively incorporated within the framework of Chinese astronomy.

The first introduction of Indian astrology into China, a critical starting point for the chronology which this study establishes, was not the traditionally held date of 230 CE when the first version of the *Śārdūlakarṇāvadāna* was purportedly translated as the *Mātaṅga-sūtra*. The first authentic and verifiable introduction of Indian astrology was actually via the translation of the *Śārdūlakarṇāvadāna* into Chinese, which was carried out by Dharmarakṣa between 307–313.

The *Mahāsaṃnipāta* collection includes three separate texts which provide details on astrology: the *Ratnaketu-parivarta* translated by Dharmakṣema (385–433), followed by the *Candragarbha-parivarta* (566) and *Sūryagarbha-parivarta* (585) translated by Narendrayaśas. The latter two are noted for being the first texts to introduce the twelve zodiac signs into Chinese, but equally important are the statements relating that gods or even the Buddha himself are effectively architects of the cosmos. This stands in contrast to more mechanistic cosmological models, such as that of the *Lokasthānābhidharma-śāstra*. The *Mahāsaṃnipāta* further reveals an increasing Buddhist interest in cosmological speculation, and attributing increasingly powerful abilities to the Buddha. Although the *Sūryagarbha-parivarta* in Chinese translation erroneously explains a component of the Indian calendar, it still stresses the importance of calendrical knowledge for liberation. Astrology was increasingly integrated into Buddhist models of practice and cosmology, a feature which became especially prominent in Mantrayāna, a topic which will be discussed in the following chapter.

What was more significant to the long-term development of Chinese Buddhism from these centuries was the introduction of Buddhist hemerology, specifically the schedule for the *poṣadha* ritual based on the *pakṣa* cycle (waxing and waning periods), which formed a key part of the vinaya tradition and later the observance of Chinese bodhisattva precepts.

There were at least three manuals on Brahmanical astrology or astronomy translated before the end of the Sui dynasty in 618. There had also been a project to translate Indian classics, staffed by monks and laymen between the years (585–592),

which included works on astronomy/astrology. Despite such translations, the Chinese sangha had no need for such works until the mid-Tang, to which our attention now turns.