

M. Yano

Kyoto Sangyo University, Kamigamo, Kita-ku, Kyoto, Japan

1 *THE TEXT OF THE HSIU-YAO CHING*

The *Hsiu-yao Ching* (宿曜經 HYC) is a Chinese text on Indian astrology composed in the middle of the eighth century. Its full title can be rendered as 'Good and bad time and day and beneficent and maleficent mansions and planets promulgated by Bodhisattva-Mañjuśrī and other sages'. As the title shows the book is ascribed to the legendary Mañjuśrī and other sages, but the actual author is the Buddhist monk Amoghavajra (A.D.705-774) whose native place was somewhere in north India. His Chinese name Pu-k'ung Ching-kang is a literal translation of the Sanskrit name. Like most of the texts on Buddhist astrology and astronomy, HYC is contained in Vol.21 of the Taisho Tripitaka compiled by the Japanese Buddhist scholars during the Taisho Period (1912-1926). From many corruptions in the texts it seems that the compilers were not much interested in Buddhist astrology and astronomy in general, and that they did not try to secure better manuscripts either. Specifically in the case of HYC they simply based their edition on the text of the Korean Tripitaka and put in the footnotes the variant readings found in the Chinese Tripitaka of the Ming Dynasty.

There existed, however, several important manuscripts and even printed texts in Japan which escaped the attention of the Buddhist scholars of the Taisho Period. What I regard as the best text was published in 1736 by Kakusho, a learned Buddhist monk. He collated five manuscripts, in addition to the Chinese and Korean Tripitaka texts, and, as he says in his introduction, he based his text on a very old manuscript preserved in Muryojuin temple in Koya-san, one of the oldest sanctuaries of the Japanese Tantric Buddhism. He guessed that the manuscript was more than 500 years old. Actually the date is A.D.1160 according to Yamamoto (1975, p.28). Further Kakusho suspects that the manuscript could be directly traced to the one brought from China in 806 by Kukai, the founder of the Shingon school of Tantric Buddhism. When we compare Kakusho's critical edition with the Tripitaka text, we see immediately that Kakusho's is far superior. Recently I had an opportunity to examine another old manuscript of the same text possessed by Toji temple in Kyoto. The manuscript, copied in the 14th century from the one which was punctuated in 1121, was very close to Kakusho's edition. As a result of the study of this old Japanese recension, I could throw light on some important aspects of the origin and development of the text of HYC.

### 1.1 *Relation between the first and the second books of HYC*

In the both Tripitaka and Japanese recensions HYC consists of two books. According to the introduction of the first book, the text was first 'translated' by Amoghavajra in 759 and his Chinese disciple Shih-yao (史瑤) wrote it down. Since this first translation was a kind of a rough draft without proper arrangement of chapters, and since it was difficult for readers to use it, another Chinese scholar, Yang Ching-fêng (楊景風), revised it in 764 under the direct supervision of Amoghavajra. It is after this passage that the Kakusho edition adds an interesting remark:

*Looking at the text there are two books: one is that which Shih-yao first wrote down, the other is the one which Yang Ching-fêng revised.*

Although this remark is an interpolation made in a later period, it gives us nonetheless important information, namely, that the two books are actually two versions of the same original text of Amoghavajra, and that the apparent differences are to be ascribed to his Chinese disciples. In fact almost all the topics of Book II (Shih-yao's first draft) are discussed in Book I (Yang's revision), the difference in fact being trivial. A reader of the Tripitaka recension, even after admitting the abundance of the subjects shared in both the books, might still argue that some topics discussed in Book II are not found in Book I or vice versa. For instance, the famous passage which provided a list of the names of days of week in Sogdian, Pahlavi, and Sanskrit is missing in Book I of the Tripitaka edition. In fact, however, Book I of the Kakusho edition adds these names in Chapter 4 where the influence of the seven luminaries is instructed. There are some other instances where the Tripitaka text cut off the original passages of the Book I, while the Japanese recension preserved them.

Fortunately, even after the completion of Yang's improved translation Shih-yao's first translation was not thrown away. This manner of keeping different kinds of translations, which is not uncommon in the case of Buddhist texts, caused a confusion on the part of Chinese readers and resulted in the frequent alternations of the text, as are found in the Chinese and Korean recensions, until finally the two translations were mistaken as the two consecutive books of one text. Japanese readers, on the other hand, who had no idea of mutilating a sacred Buddhist text, preserved both the translations almost intact. When we compare these two translations we can witness the process through which the original communication by the Indian monk was passed to the Chinese scribe and then to the reviser. One may call it a process of Chinization. The ascription of the new Buddhist text to Mañjuśrī is not strange, especially because Amoghavajra was the very person who intended to popularize the cult of Mañjuśrī worship in China. Now we can safely regard Amoghavajra as the author, instead of a mere translator, of the Hsiu-yao Ching. Of course it may be doubted whether he orally taught or he actually wrote down his work at all either in Sanskrit or in Chinese.

### 1.2 *Computation of the accumulated days (ahargaṇa) and the day of the week*

In the opening passage of the fourth chapter of Book I Yang

comments that the method of computing the seven planetary days is planned to be given in the end as the seventh ('eighth' in the Tripitaka text) chapter. Such a chapter is nowhere found in the Tripitaka recension, but it is preserved in the Kakusho edition as well as in the old manuscripts. The chapter is entitled 'Suan yao-chih' (算曜直 Computation of the day governed by the luminaries). The Chinese character 章 (chang) used here for 'chapter' is different from the one used for the other chapters 品 (p'in), because, as Yang comments, 'this is not what was taught by Mañjuśrī'. In fact the main body of this chapter is made of quotations from the *Chiu-chih li* (九執曆), which is a Chinese text on Indian astronomical calculations (karaṇa) composed in the second decade of the eighth century by Chut'an Hsita (瞿曇悉達 Gotamasiddha). This text was fully studied by Yabuuti (1979). According to a recent discovery (Zhāo 1978) Chut'an Hsita belonged to the third generation of the Indian family who worked for the T'ang Dynasty as official astronomers.

The procedure prescribed in the *Chiu-chih li* is essentially the same that is found in the *Pañcasiddhāntikā*, a compendium of the manuals of the five schools of Indian astronomy compiled by Varāhamihira in the sixth century. In order to find the day of the week one should first compute the number of the days (ahargaṇa) accumulated since the epoch. The algorithmic process of finding the ahargaṇa (D) can be expressed by the modern formulas:

$$M = (Y \times 12 + m) + \left[ \frac{(Y \times 12 + m) \times 7 + k_1}{228} \right]$$

$$D = (M \times 30 + t) - \left[ \frac{(M \times 30 + t) \times 11 + k_2}{703} \right]$$

where Y is the accumulated years since the epoch, m is the number of the elapsed months within the present year, M is the number of the accumulated month since the epoch, t is the number of days (actually tithi, which is 1/30 of a synodic month) elapsed in the current month, and  $k_1$  and  $k_2$  are epoch constants called kṣepa. Only the integer part of the result of the operation within the square brackets is taken.

The number of the accumulated days thus obtained is divided by 7 and the remainder tells us the day of the week. As Yang adds for the sake of his Chinese readers, one can obtain the number of the sexagesimal day-cycle if the division is made by 60 in the above process. Since the parameters in the formulas (7/228 for intercalation of months and 11/703 for omissions of tithi) are not precise enough, this rule works well only when the epoch is in the near past (i.e. when Y is small). Thus in the *Pañcasiddhāntikā* the epoch employed was Śaka 427 (=A.D.505).

Strangely enough the epoch used by Yang is 1501 years before the second year of K'ai-yuan (A.D.714). The epoch year thus is 788 B.C., which is the year of kuei-ch'ou (癸丑), the 50th in the sexagesimal year-cycle, as is stated in the text. To be more precise according to our text, the date of the epoch was the first day of the 'second' (Chinese) month (here Indian Caitra was intended), the day of chia-ch'en (甲辰) in the sexagesimal day cycle and it was also Monday. The day most probably corresponds with March 26 (Julian Days 1433691). Further Yang assumes that  $k_1 = 0$  and  $k_2 = 500$  without mentioning the

reason. I wonder whether such a crude method was ever useful. Recently, however, when I visited the library in Koyasan University I was surprised to find a manuscript which was nothing but an evidence of a Japanese Buddhist who struggled with this computational method in as late as the 18th century.

The day of the week, or the day governed by one of the seven planet-gods in turn, is one of the chief subjects of HYC, the word yao in this very title meaning the '(seven) luminaries'. In Book II, namely, Shih-yao's original translation, we find an interesting passage which says:

*If it suddenly happens that you do not remind of the day of the week, you are advised to ask it to the Sogdian, or Persian, or people from five Indias.*

Following this passage is the famous multilingual list of the names of planetary weekdays which will be given below. Probably Amoghavajra did not give any further information, but Yang Ching-fêng, when he prepared the revised translation, thought it necessary and useful to add the mathematical method of obtaining the day of the week, the method which he had acquired from the *Chiu-chih li*.

It is noteworthy that while this part of HYC which was added by Yang was soon cut off in China, it did survive in Japan for a long time. It seems that Kukai, the first of the three Japanese Buddhist monks who brought HYC to Japan, wanted to keep this chapter in order to compute the day of the week. I am not sure whether he ever attempted the computation. Concerning to this question, there is a very interesting folio which is added at the end of the Kakusho edition. Here we find the record of the first Sundays of the three consecutive years beginning with the 25th year of the Japanese era Enryaku, equated in the text with the first year of the Chinese era Yuan hê (元和), which began on 24 January, 806. This is the very year when Kukai came back to Japan bringing HYC with him. In the colophone Kakusho says that the two oldest manuscripts in Koya-san contain this passage and he suspects that Kukai himself might have recorded the Sundays so that someone who did not understand the chapter on the 'Computation of the day governed by the luminaries' might be able to get a clue.

### 1.3 *The number of the lunar mansions, 27 or 28?*

In the Indian texts of astronomy and astrology the number of lunar mansions (nakṣatra) is sometimes 27 and sometimes 28. When 28 are counted Abhijit is put between Uttarāṣāḍha and Śravaṇa. It seems to me that when Amoghavajra first communicated the Buddhist version of Indian astrology to Shih-yao he intended only the 27 nakṣatra system. My conjecture is based on the fact that no mention of Niu (牛, a word used for a Chinese translation of the nakṣatra Abhijit, but the star itself is not to be identified with the Chinese lunar mansion Niu) is found in Shih-yao's first translation except in one passage which is mentioned below. It is in Yang Ching-fêng's revision that one finds inconsistent references to Niu. In the first part of the first chapter Amoghavajra enumerates the correspondence between the 27 nakṣatra and the 12 zodiacal signs. In this case each nakṣatra occupies an equal space of  $13;20^\circ$  along the ecliptic. Thus one sign consists of two and one quarter of nakṣatra. In the next paragraph Yang gives a list of the schematic

allotment of a hsiu to each day. The list covers 12 months, each month consisting of 30 days. Here Kakusho's edition is based on the 27 nakṣatra system, which seems to be closer to the original, while the Tripitaka recension follows the 28 nakṣatra system. However, in the passage of Book I where the deity, gotra, etc. of each nakṣatra are summarized, the account of Niu (Abhijit) is added in both the recensions. In Kakusho's edition it is put at the end, while in the Tripitaka text it is placed between Tou (斗 Uttarāṣāḍha) and Nu (女 Śravaṇa). This is a typical instance of what I called Chinization. The original 27 nakṣatra system was modified into the 28 nakṣatra system so that the text might be more appealing to the Chinese readers. This Chinization explains well why the Tripitaka recension of HYC is so drastically different from the Japanese recension which has preserved the original reading with less alternation. The only disadvantage of the Japanese recension is that it did not make clear distinction between the main text and what was added by Yang Ching-fêng.

The custom of assigning the 27 nakṣatra to days was transmitted to Japan by HYC. Later in the seventeenth century the 27 hsiu system was replaced by the 28 hsiu system. It might be interesting for the modern reader to know that the old, and ultimately Indian, system of 27 nakṣatra is reviving recently in the popular Japanese almanacs.

## 2 THE CONTENTS OF THE HSIU-YAO CHING

Since Yang Ching-fêng's revised translation is better arranged, I follow his order of description and his naming of chapters in my brief sketch of HYC. Occasionally I refer to Shih-yao's original translation (Book II) which retains more of the Indian flavor. For reasons mentioned above I have used the Kakusho edition.

### 2.1 *The first chapter: On the Classification of Nakṣatra and Zodiacal Signs*

First of all the correspondence between the 27 nakṣatra and 12 zodiacal signs is briefly mentioned. The Sun and Moon have the equal share of 13 1/2 nakṣatra. Before the full description of the constituents of each sign and the planet-god presiding over it, the text gives the size (probably diameter) in yojana of the seven planets. A close parallel to this passage is found in the Buddhist text *Abhidharmakośabhāṣya* (III, 60) of Vasubandhu and in its Chinese translation. The values are quite different from those given in standard astronomical texts such as the *Aryabhaṭīya* I,5. The way of distributing the 27 nakṣatra to the 12 signs, in which the first point of Aśvinī is equated with that of Meṣa (Aries), is exactly that is prescribed in the Sanskrit astrological and astronomical texts which belong to the period after the Hellenistic influence. The description in HYC begins with Siṃha (Leo) which is governed by the Sun.

In the next passage the beginning of the Indian year is explained in the almost same wording that is attested in the Chiu-chih li (Yabuuti 1979, p.11). Here Yang explains the Indian way of naming the months according to the nakṣatra in which the full moon is stationed, as well as the correspondence between Indian and Chinese month names.

This passage is followed by the table in which the 27 nakṣatra are assigned to (12 x 30 ⇒) 360 days as was mentioned above (1.3). At the end of this chapter the unequally spaced 27 nakṣatra are mentioned. The topic here is very close to that of the Śārdūlakarṇāvadāna (Mukhopadhyaya p.52) and the Parīśiṣṭa of the Atharvaveda I,5,6 (Bolling and Negelein p.4), the topic which belongs to the period before the Hellenistic influence on the Indian astrology.

## 2.2 *The second chapter: On the Lord of the Nakṣatra where the Moon stays*

For each nakṣatra the following items are recorded: the number of the stars comprising it, its configuration, deity, gotra, food, advisable and unadvisable actions, and general dispositions of the natives born under it. These are the standard subjects of the Indian astrological texts which can be classified as muhūrta-śāstra (Pingree 1980, p.101f.). In the last paragraph of this chapter the 28 nakṣatra are classified into the seven groups. The Chinese terms for these seven are translations of Sanskrit names dhruva, tīkṣṇa, ugra, laghu, mṛdu, mṛdutīkṣṇa, and carakarma, which are found in, for instance, Bṛhatsaṃhitā 97,6-10. In Indian texts there were some variants in the ways of classifying 28 or 27 nakṣatra into seven categories. Amoghavajra's version is closest to Parāśara's which is quoted in Utpala's commentary on the Bṛhatsaṃhitā. In the Śārdūlakarṇāvadāna similar terms are used (p.52 and 98), but the way of classification is quite different. It is only in this paragraph in Shih-yao's translation that the exceptional reference to Abhijit is attested.

## 2.3 *The third chapter: On the Secret Division of Nakṣatra into Three Nines*

The 27 nakṣatra are divided into three groups of nines beginning with the first, the tenth, and the nineteenth nakṣatra counted from the nakṣatra of one's birth in the order of increasing longitude. The Chinese names of these three nakṣatra are translations of janma, karma, and garbhādhānaka. Each one of them is followed by eight nakṣatra of which Chinese names are again translations of sampatkara, vipatkara, kṣema, pratyari, sādhaka, vaināśika, mitra, and atimitra, in this order. The idea propounded here is essentially the same that is briefly mentioned in Varāhamihira's Bṛhadyātrā 4,17 and it goes back to the Atharvanajyotiṣa which was quoted by Kane (1974, p.532f.). At the end of this chapter Amoghavajra explains the beneficent and maleficent influence of the seven luminaries over the native when they enter the nakṣatra thus classified. Commenting on this passage Yang says that the positions of the seven luminaries are to be computed by Indian method. After referring to three families of Indian astronomers, Gotama, Kāśyapa, and Kumāra, who were active in the T'ang Dynasty China, Yang says that he used Gotama's astronomical book. As we have seen above, the Gotama family were responsible for the transmission and establishment of the Chiu-chih li, the title of which Sanskrit equivalent is nava-graha-karaṇa (calculation of nine graha). Thus it is possible that the original text of the Chiu-chih li might have contained the section of

the five planets and Rāhu and Ketu, besides that of the sun and moon which is available to us.

#### 2.4 The fourth chapter: On the Rule of the Seven Luminaries

The seven luminaries, namely, Sun, Moon, Mars, Mercury, Jupiter, Venus, and Saturn, govern each day in turn in this order. This seven day week, which was first introduced in India by the Yavanajātaka in the second century, quickly gained a high popularity and became one of the most important elements of Indian astrology. It was transmitted to China in T'ang Dynasty, probably by Iranian people, especially by Manichaeans. In the Kakusho edition of Book I the foreign names are added at the beginning of each relevant paragraph prescribing the influence of the planets. As mentioned above Shih-yao (in Book II) provides a multilingual list of the names of the day of the week. It is to this part of Shih-yao's text that the two famous French Sinilogists paid a good attention (Chavannes & Pelliot 1913, p.171f.). Leaving out all the details of historical Chinese phonology I have simply tabulated the Chinese characters as they are used in Kakusho's edition of Book II and added the variant readings in Book I(K<sub>1</sub>) and Taisho Tripitaka (T). The Sogdian and Indian (Sanskrit) names are those of the seven planet-gods, while so-called 'Persian' names stand for numerals 'one' to 'seven'. In the text each numeral is followed by 森勿 which is a phonetic translation of Pahlavi šambhīh.

Table of names of weekdays

	Sogdian		'Persian'		Indian	(Sanskrit)	
Sun	蜜	myr	曜	ēw	阿你底耶 <sup>1</sup>	āditya	
Moon	漢 <sup>2</sup>	m'x	婁禍 <sup>3</sup>	dō	蘇摩 <sup>4</sup>	soma	
Mars	雲漢 <sup>5</sup>	wnx'n	勢	sě	盎峨羅迦	angāraka	
Mercury	咍	tyr	製 <sup>6</sup>	čahār	部陀	budha	
Jupiter	温没斯 <sup>7</sup>	wrmzt	本	panj	勿哩訶婆跋底	bṛhaspati	
Venus	那歌 <sup>8</sup>	n'xyδ	數	šaš	戌羯羅 <sup>9</sup>	śukra	
Saturn	枳院 <sup>10</sup>	kyw'n	翕 <sup>11</sup>	haft	賒及以室折羅 <sup>12</sup>	śanaīścara	
Variants	1. T	阿爾底耶	2. K <sub>1</sub>	冥	T 莫	3. T 婁	4. K <sub>1</sub> 蘇摩
	5. K <sub>1</sub>	雲漢	6. K <sub>1</sub> & T	掣	7. K <sub>1</sub> 鶻鳴勿	T 鶻勿	8. K <sub>1</sub> 那頡
	9. K <sub>1</sub>	戌訖羅	10. K <sub>1</sub>	枳緩	T 枳院	11. K <sub>1</sub> 欲	12. K <sub>1</sub> 拾室悉羅

### 2.5 *The fifth chapter: On the Miscellaneous Method of Secrecy*

Not all the five miscellaneous techniques of astrology instructed here are attestable in Sanskrit texts.

(1) According to the combination of the day of the planetary week and nakṣatra which the moon occupies, the days are divided into three categories. The Sanskrit equivalents of the Chinese names used would be Amṛta, Vajra, and Rākṣasa, although I can not give evidence.

(2) Divination according to the position of Venus. Thirty days of each month are divided into ten groups:(1,11,21), (2,12,22), and so on. To these ten groups are assigned the ten regions of Venus, namely, eight cardinal directions and the 'center' and the 'heaven'. I have been unable to find the Indian source of this peculiar idea.

(3) Six kinds of harmful nakṣatra. They are the 1st, 4th, 10th, 13th, 16th, and 20 nakṣatra counted from the one under which the native was born. The origin of this classification is also unknown to me.

(4) The houses and the planets. What is called 'life-sign'(命宮) here probably corresponds to the Greek hōroscópos or Sanskrit lagna, which is the sign on the eastern horizon at the time of the native's birth. Since, however, the text gave no definition, there was a room for several different interpretations among Japanese Buddhist astrologers. This is the only passage where we find a meagre reference to the twelve houses.

(5) A nakṣatra version of a zodiacal melothesia. If it happens that the client does not know the nakṣatra under which he was born, the astrologer can tell it by watching the part of the body which the client first touched when he appeared. The idea of a zodiacal melothesia of ultimately Egyptian origin was transmitted to India by the Yavanajātaka (Pingree 1978 II, p.199). Since, in the first chapter of HYC, the first point of Meṣa (Aries) is equated with that of Aśvinī, the latter should have been assigned to head. But Amoghavajra grafted the new idea of melothesia to the old nakṣatra system in which the first one was Kṛttikā, the third counted from Aśvinī.

### 2.6 *The sixth chapter on Śukla-pakṣa and Kṛṣṇa-pakṣa*

The Indian division of a month into two halves called śukla-pakṣa and kṛṣṇa-pakṣa is explained. For each of the 15 days (actually tithi) comprising a pakṣa, the name, deity presiding over it, and desirable and undesirable activities are instructed. A very similar idea with the closest terminology is expounded in Garga's work quoted by Utpala's commentary on Bṛhatsaṃhitā 98, 1-3.

### 2.7 *The seventh chapter: On the Computation of the Day Governed by the Luminaries*

As was already mentioned this chapter is not Amoghavajra's work but Yang Ching-fêng's addition of which a large part is made of quotation from the Chiu-chih li. The only, and most serious, difference lies in the epoch: the Chiu-chih li's epoch is the second year of K'ai-yuan (A.D.714), while Yang put it 1501 years back.

## 3 CONCLUSION

As we have seen above almost all the topics of HYC are attestable in Sanskrit texts on astrology and astronomy, although we can not say specifically from which source each topic was derived. It is natural that Amoghavajra was familiar with the Buddhist text *Śārdūlakarṇāvadāna* which was a part of the *Divyāvadāna*. This text represents the older period of Indian astrology when no evidence of the Hellenistic influence is found. At the same time he had some knowledge of new elements of astrology which were in vogue when he visited India, the elements which we now know from the works of, e.g., Varāhamihira. But Amoghavajra's knowledge of Indian astrology, as far as we judge from HYC, is far from professional. What few elements he added to the astrological instruction of the *Śārdūlakarṇāvadāna* were the equally spaced 27 nakṣatra and the seven-day planetary week. No mention is found to *navāṃśa* (1/9 of a sign), *dvādaśāṃśa* (1/12 of a sign), *triṃśāṃśa* (1/30 of a sign), *dreṣkāṇa* (1/3 of sign, decan), *drṣṭi* (aspect), etc. Probably he was not much informed of the genethliological astrology (*Jātaka*) of the Hellenistic origin in which the twelve houses (*bhāva*, Lat. *domus*) beginning with the ascendant (*lagna*) were the essential elements. Under the guise of the Buddhist 'sūtra' (經 ching), however, Amoghavajra's text survived among Buddhists, especially among Japanese Tantric Buddhists, and became the main source of the new school of Japanese astrology called *Suku-yō-dō*, *Suku-yō* being the Japanese pronunciation of Chinese Hsiu-yao, which again was the translation of Sanskrit *Nakṣatra-graha*.

It was only after the introduction of the Ch'i-yao jang-tsai tüh (Formulas for preventing evil influence of the seven luminaries) and its ephemeride in 865 that Japanese Buddhists got informed of the horoscopic astrology and interested in obtaining planetary positions. Finally it was after the Fu-t'ien li was brought to Japan in 957 that they began to compute planetary positions in order to compose horoscopes (Momo 1975).

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#### DISCUSSION

- L.C.Jain** : Is there any mention on non-luminaries (dark planets) in the text Hsiu-Yao Ching (work composed in the middle of 8th Century) or any other text of Chinese astronomy, as there is a mention of certain dark-planets in Indian text ?
- M.Yano** : No, there is only mention of 7 grahas or luminaries, or else 9 planets alone. Two added are Rāhu and Ketu. Rāhu is same as in India. But there are many interpretations of Ketu.