TANSEN SEN

Astronomical Tomb Paintings from Xuanhua: Maṇḍalas?

ABSTRACT

While the popularity of cremation in China between the tenth and thirteenth centuries is well documented, archaeological evidence for the Buddhist impact on the practice has been lacking. A group of Liao dynasty (907–1125) tombs from the Xuanhua district in Hebei Province, belonging to Chinese residents, provides significant visual testimony to the application of Buddhist rituals in disposing of the dead by cremation. The paintings of celestial objects, drawn on tomb ceilings and framed with Buddhist motifs, show striking similarities to esoteric Star Maṇḍalas and demonstrate the acceptance of Buddhist horoscopic astrology by the laity. Executed during the Liao-Jin transition period, the Xuanhua astronomical paintings include the earliest illustrations yet known of zodiacal symbols in the popular pantheon of East Asia. The paintings are important clues to the synthesis of Buddhist and Chinese views of, and the ways to deal with, life after death.

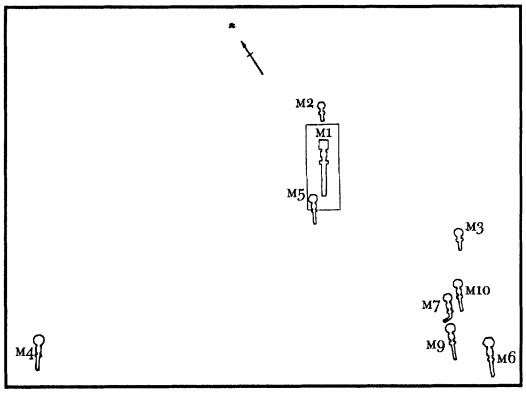

FIG. 1.
The Xuanhua tombs. After Wenwu *1996.9:14, fig. 1.*

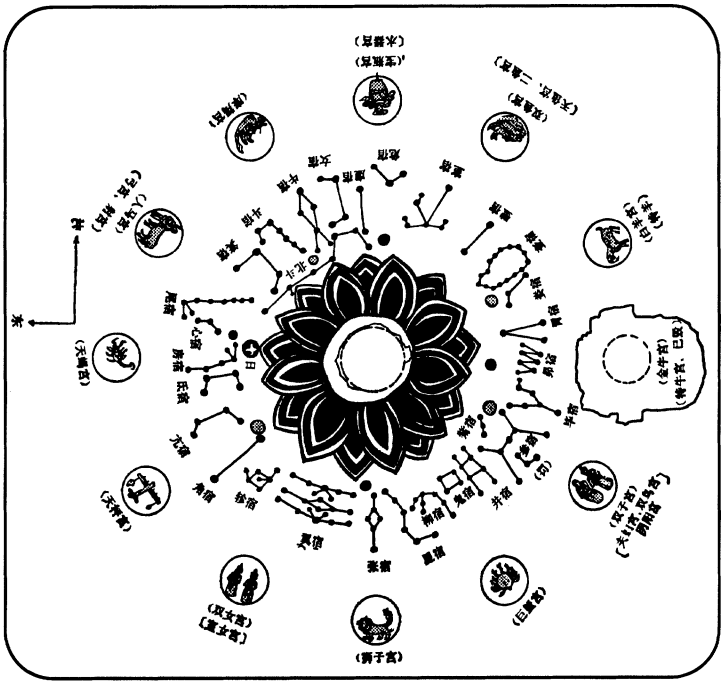

FIG. 2.
Astronomical painting from tomb M1. After Wenwu *1975.8:44.*

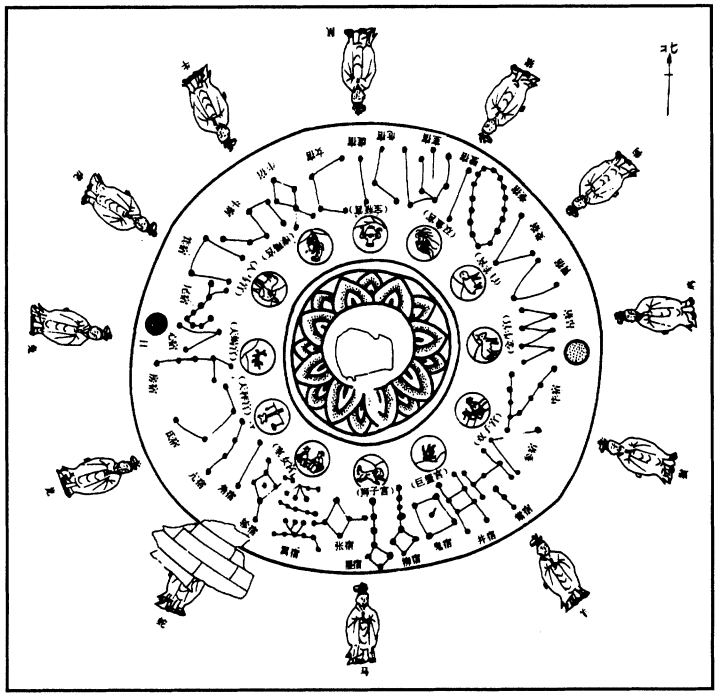

FIG. 3.
Astronomical painting from tomb M2. After Wenwu *1990.10:5, fig. 17.*

FIG. 4.
Astronomical painting from tomb M3. After Wenwu *1990.10:pl. 4.*

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THE AIM OF THIS PAPER is to analyze the astronomical paintings found on the ceilings of a group of Liao dynasty (907–1125) tombs from the Xuanhua 宣化 district, Hebei Province, and discuss their relevance to contemporary astronomical and Buddhist drawings. Previous studies have described these paintings as star maps (*xingtu* 星圖)[1] or "unusual flower depiction(s)."[2] But are these really star maps—maps of the sky as the people living in the Liao kingdom saw it? Are they "unusual"?

In this essay I shall attempt to show that Buddhist horoscopic astrology and esoteric *maṇḍalas*, popular in East Asia between the tenth and thirteenth centuries, inspired the drawings on Xuanhua tomb ceilings. Contrary to current interpretations, scientific understanding of the universe, I will contend, had little to do with the execution of the Xuanhua paintings. In order to present my arguments, I shall first discuss the social status of the occupants of the Xuanhua tombs and examine the Sino-Buddhist mortuary tradition practiced by them. Next, I will compare the Xuanhua paintings to other important astronomical diagrams found in Chinese tombs. I shall, then, demonstrate the striking similarities between the Xuanhua paintings and the esoteric Star Maṇḍalas found in China and Japan. The Xuanhua astronomical paintings, I argue, attest to the impact of Tantric Buddhism on Liao funeral rites rather than revealing any advances in the accurate mapping of the sky. These paintings are closely related to the patrons' belief in an afterlife as well as their wish to escape the torments of hell and achieve rebirth in fortunate realms.

THE XUANHUA TOMBS AND THEIR OCCUPANTS

The subterranean tombs containing the astronomical paintings are located in the Xiabali 下八里 village of the Xuanhua district (fig. 1), near the modern city of Zhangjiakou 張家口市. During the Liao dynasty, founded by the seminomadic Qidan tribe, this region was known as Guihua prefecture (Guihua zhou 歸化州), belonging to the Qinghe commandery (Qinghe jun 清河郡) in the Liao Western Capital Circuit (Xijing dao 西京道).

The first tomb, numbered M1, was excavated in 1971.[3] The main chamber of this twin-chambered tomb is 6.8 meters long, 3.10 meters wide, and 4.40 meters high. Among objects found inside were a funerary inscription, various clay figurines, and stone statues of lions. The walls of the tomb are painted with figures of musicians and scenes from daily life. The astronomical painting (fig. 2), described below, is drawn on the ceiling above the coffin.

From the funerary inscription we learn that the occupant of the tomb is a Han Chinese named Zhang Shiqing 張世卿, who died in the first lunar month of the sixth year of the Tianqing 天慶 era (1116) at the age of 74 *sui* 歲.[4] Following his cremation in the fourth lunar month of the same year, Shiqing's mortal remains were placed in a wooden figurine found inside his wooden coffin.

The funerary inscription notes that Shiqing received the titles of *youban dianzhi* 右班殿直 (palace eunuch on the Right Duty Group), *yinqing ronglu dafu* 銀青榮祿大夫 (grand master for glorious happiness with silver seal and blue ribbon),

jianjiao guozi jijiu 檢校國子祭酒 (acting chancellor of the National University), *jiancha yushi* 監察御史 (investigating censor), and *yunqiwei* 雲騎尉 (commandant of Fleet-as-clouds Cavalry)[5] because he donated food to the government during the famine of the Da'an 大安 period (1085–95).[6] The inscription also points out that his grandson, Zhang Shen 張伸, married a woman from the Yelü 耶律 clan.[7]

In March 1989 two single-chambered tombs, numbered M2 and M3, were discovered near Zhang Shiqing's grave.[8] Located a few meters north of M1, tomb M2 contains a hexagonal chamber measuring 2.9 meters long, 2.4 meters wide, and 1.8 meters high. Objects found inside the tomb include a funerary inscription, earthenware, porcelain vases and bowls, and metal utensils. The walls, like those of Zhang Shiqing's tomb, are painted with scenes from daily life. The astronomical painting (fig. 3) is likewise drawn on the ceiling above the coffin. The occupant of this tomb, according to the funerary inscription, is Zhang Gongyou 張恭誘, who died in the third year of the Tianqing era (1113) at the age of 45 *sui*. Gongyou was cremated in the seventh year of the same reign era (1117).

The underground chamber of tomb M3, located 40 meters southeast of tomb M1, is circular in shape. Although only 2.64 meters in diameter, the tomb holds a large number of funerary objects, including an inscription, earthenware, porcelain and metal utensils, and wooden furniture. The walls of the tomb are painted with floral motifs and pictures of birds.[9] The eastern and western walls feature paintings of a woman in what seems to be a study room.[10] The astronomical painting (fig. 4) in this tomb, as in the previous two, is drawn on the ceiling above the coffin.

The funerary inscription from M3 reveals that the tomb belonged to Zhang Shiben 張世本, who died in the fourth year of the Da'an era (1088).[11] Shiben's cremation took place five years later. His wife, bearing the surname Jiao 焦, died in the third year of the Huangtong 皇統 era (1143) of the Jin dynasty (1115–1234). She was then 93 *sui*. After her cremation a year later, her mortal remains were placed alongside her husband's.

By the time of née Jiao's death, the Jurchens had overthrown the Liao kingdom and established another non-Chinese dynasty in northern China. Also by that time, the grandsons of Zhang Shiben, according to his funerary inscription (re-?)written in 1144, held the prestigious *jinshi* 進士 degrees.[12]

The occupant of tomb M4 is Han Shixun 韓師訓. The tomb, excavated in 1990, is situated farthest from the above three.[13] This is perhaps because Han Shixun was not related to the Zhangs and therefore occupied a different site in the cemetery. Yet, like the Zhangs, his body was incinerated.

Due to gravediggers only a few of the funerary objects originally placed in Shixun's twin-chambered tomb have survived. According to his funerary inscription, Shixun died in the tenth year of the Qiantong 乾統 era (1110) at the age of 68 *sui* and was cremated a year later. The inscription also discloses that Han Shixun was a merchant. On the western wall is a painting of a man leading a horse, a motif found in Zhang Shiqing's tomb and common to other Liao tombs as well, which may represent Han Shixun's profession. An astronomical painting was also drawn in this tomb, as can be discerned in the faded images on the ceiling. But severe water leakage reportedly damaged the ceiling and the painting.[14]

In 1993, excavation of six more tombs in the area was undertaken. The first of these tombs, numbered M5, is located about 18 meters southwest of tomb M1. The hexagonal main chamber of this tomb measures 2.7 by 3.16 by 2.49 meters. The funerary inscription notes that the occupant, Zhang Shigu 張世古, died in the eighth year of the Qiantong era (1108). Shigu, 59 *sui* at the time of his death, was cremated almost ten years later, in the seventh year of the Tianqing era (1117).[15]

Tomb M6, whose octagonal main chamber is 3.2 meters long, 3.22 meters wide, and 3.4 meters high, is as yet undated.[16] The proximity of the tomb to the already identified Zhang family graves indicates that the occupant of M6 was probably a member of the Zhang family. And, as shall be argued later, the occupant may have been cremated around the same time as the Zhangs who occupy tombs M3 and M7.

Tomb M7 belongs to Zhang Wenzao 張文藻, who died in the tenth year of the Xianyong 咸雍 era

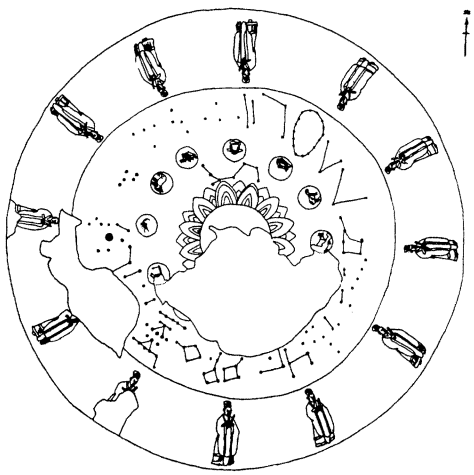


FIG. 5 (LEFT). *Astronomical painting from tomb M5. After* Wenwu *1995.2:18, fig. 43.*

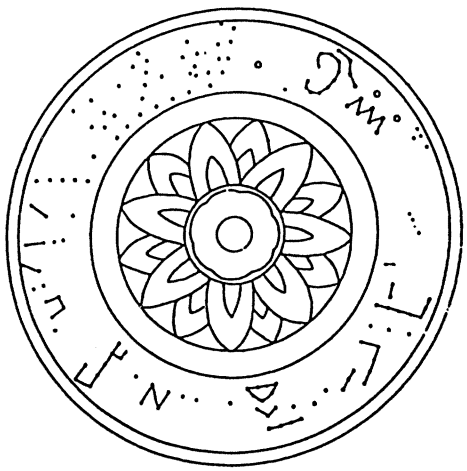


FIG. 6 (RIGHT). *Astronomical painting from tomb M6. After* Liaohai wenwu xuekan *22.2 (1996): 48, fig. 4.*

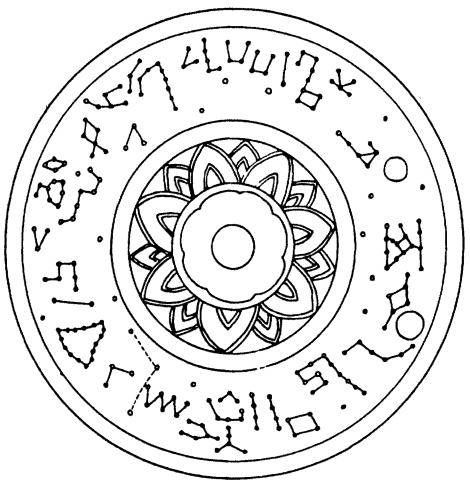


FIG. 7 (LEFT). *Astronomical painting from tomb M7. After* Wenwu *1996.9:30, fig. 12.*

FIG. 8 (RIGHT). *Astronomical painting from tomb M10. After* Liaohai wenwu xuekan 22.2 *(1996): 48, fig. 6.*

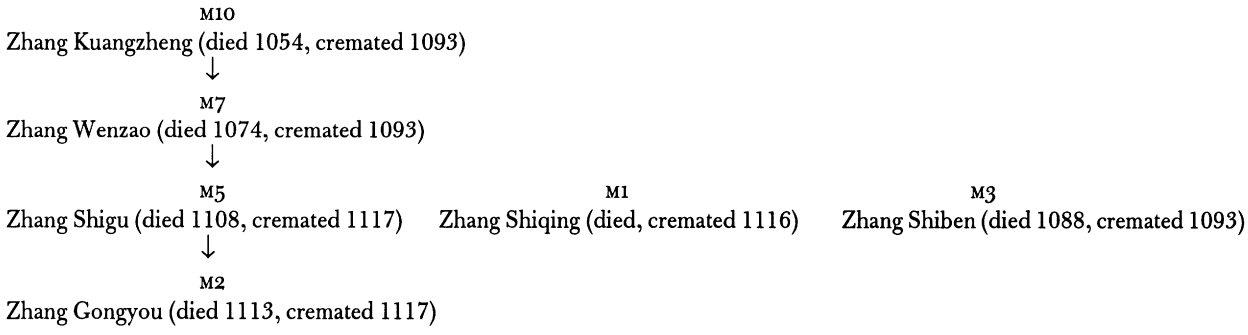
(1074) at the age of 46 *sui*. Wenzao and his wife, née Jia 賈, were cremated in the ninth year of the Da'an era (1093). The main chamber of this tomb is 2.7 meters when measured north to south and 2.89 meters east to west.[17] The well-preserved artifacts and paintings in tombs M5, M6, and M7, including their astronomical paintings (figs. 5, 6, and 7), are examined below.

The number M8 has been assigned to a completely ruined tomb in the Xuanhua cemetery. According to the excavators, almost nothing of the tomb chamber or the funerary artifacts has survived.[18] Similarly, the ceiling of tomb M9, located 5 meters south of tomb M7 and 12 meters southeast of tomb M6, is totally destroyed. Also, portions of front and back chambers, as well as the wall paintings, have been partially damaged. Lack of funerary inscription, furthermore, prevents the identification of the occupant and dating of the tomb.

Tomb M10, on the other hand, is well preserved. Funerary artifacts, the epitaph, the vivid pictures of daily life (including that of a tea ceremony), musicians, and the astronomical painting (fig. 8) on the ceiling have survived the pillaging of gravediggers and ravages of nature. The occupant of this tomb, according to the funerary inscription, is Zhang Kuangzheng 張匡正, who died in the fourth year of the Qingning 清寧 era (1058) at the age of 75 *sui*. Kuangzheng was cremated thirty-five years later in the ninth year of the Da'an period (1093).[19]

Funerary inscriptions help identify the relationships among the occupants of tombs M1, M2, M5, M7, and M10. The eldest member of the Zhang family found in the Xuanhua cemetery is Zhang

DIAGRAM 1. KINSHIP RELATIONS OF THE ZHANGS ENTOMBED IN THE XUANHUA CEMETERY



Kuangzheng, the occupant of tomb M10. The remains of his son, Zhang Wenzao, are preserved in tomb M7. Tomb M5 belongs to Wenzao's son Shigu—the father of Gongyou of tomb M2. Moreover, Zhang Kuangzheng's funerary inscription suggests that Zhang Shiqing of tomb M1 was his great-nephew. Zhang Shiben, of tomb M3, cannot be definitively linked to any of the Zhangs.[20] Diagram 1 illustrates the kinship relation among the Zhangs entombed in the Xuanhua cemetery.

It seems that the Guihua Zhangs, who lived and died during the reign of Qidans, did not hold any bureaucratic positions. The funerary inscriptions would have mentioned the official posts held by the tomb occupants. Even Zhang Shiqing, who is noted to have received a number of titles from the Liao court, probably was given official designations without any actual administrative posts or authority. Nonetheless, the Zhangs were wealthy and influential residents of the Guihua prefecture. The lavish display of funerary artifacts, the decorated tombs, and the facts that Zhang Shiqing could donate large quantities of grain to the government and, at the same time, afford to spend money on Buddhist monks and monasteries[21] demonstrate the family's affluence. Much of their wealth (perhaps acquired through commerce) and fame may have been accumulated during the time of Zhang Shiqing. Shiqing seems to have provided funds for, and perhaps also oversaw, the cremation of Zhang Kuangzheng and his son Wenzao. This may be why Shiqing's name, accompanied by one of his titulary offices (the palace eunuch on the Right Duty Group), is inscribed on the epitaphs of both Kuangzheng and Wenzao.[22] Shiqing's wealth and reputation may have even laid the foundation for the ultimate change, by the early Jin dynasty, in the social status of the Zhang family from commercial specialists to degree and office holders.

THE MORTUARY TRADITION OF THE ZHANGS

Even after the change in their social status and the fall of the Liao kingdom, the mortuary beliefs of the Zhangs seem to have remained unchanged. From Zhang Kuangzheng, entombed in 1093, to née Jiao, the wife of Zhang Shiben who died in 1144, the Zhangs followed the method, increasingly popular in East Asia, of disposing of the dead by cremation.

Promoted by the Buddhists, cremation was common among Chinese and non-Chinese people living in Central and Eastern Asia between the tenth and thirteenth centuries. Patricia Ebrey estimates that during the Song dynasty (960–1279) about 10 to 30 percent of the deceased were cremated.[23] More than seventy crematory tombs, dating from the tenth to twelfth centuries, excavated from Beijing, Heilongjiang, Jilin, Liaoning, Hebei, Shanxi, and Inner Mongolia indicate that the Buddhist custom was prevalent in Liao and Jin territories as well.[24]

The connection between Buddhist beliefs and cremation in the Xuanhua cemetery is clearly recorded in Zhang Shiqing's funerary inscription. The "*Chapi* ritual of the Western Heaven [i.e., India]" (*xitian chapi li* 西天茶毗禮), according to the inscription, was employed to cremate his body. *Chapi* (Jp. *dabi*), a transliteration of the Pāli word

jhāpeti (Sk. *dhyāpayati*), was originally the manner in which the *kṣāpayatis* (kings) in South Asia, and later the Buddha, were cremated.[25]

"Cremation," as Bernard Faure points out, "was perceived by Indian Buddhists as dissociation/annihilation, and/or as re-creation/reincorporation."[26] In China, however, people believed not only in preserving dead bodies and delaying their decay but also in the existence of souls of the dead that needed nourishment from their living descendants.[27] Indeed, the idea of the existence of souls seems to have had a great impact on the Buddhist teachings of *anattā* (no self) in China.[28] As a result, we find indigenous Chinese Buddhist texts, such as the *Yulanpen jing* 盂蘭盆經 (Āvalambana Sūtra)[29] and *Guanding jing* 灌頂經 (Consecration Sūtra),[30] acknowledging the importance of offering food to the spirits of the dead and consenting to the Chinese custom of entombing the dead.[31] One Tantric master, Yixing 一行 (673?–727) of the Tang dynasty (618–907), even ventured to write several books on geomancy.[32]

The mixing of Buddhist and Chinese beliefs in an afterlife is manifested in the practice of cremation followed by the burial of mortal remains in decorated tombs. In this regard, the Xuanhua tombs are important examples because they provide visual and written evidence linking the practice of cremation in East Asia to Buddhist ideas, something Ebrey finds to be rare in cremation burials.[33] In fact, the Xuanhua tombs indicate that the residents of Guihua prefecture were strongly influenced by Buddhist teachings. Zhang Shiqing, for example, may have been a lay Buddhist. He is, in his funerary inscription, noted to have donated money to Buddhist monasteries, invited Buddhist monks and nuns to build an altar (*daochang* 道場) in his manor, recited (*song* 誦) the *Fahua jing* 法華經 (Saddharmapuṇḍarīka Sūtra) one hundred times and read (*du* 讀) the *Jinguangming jing* 金光明經 (Suvarṇaprabhāsottama Sūtra) two thousand times, and had a *dhāraṇī* pillar (*beita* 碑塔) erected in the western suburb of his town. Moreover, one of the paintings in his tomb depicts the Buddhist sūtras *Jingang jing* 金剛經 (Vajracchedikā [prajñāpāramitā] Sūtra) and *Chang qingjing jing* 常青淨經 (Prāsādika Sūtra?) being prepared for reading.

Tombs M5, M7, and M10 also display a significant impact from Buddhism. The wooden coffins of Zhang Shigu, Zhang Wenzao, and Zhang Kuangzheng, who occupy these three tombs, are decorated with various *dhāraṇīs* (incantations) written in both Chinese and Sanskrit (fig. 9). On the left side of the coffin covers appear the five *bīja* syllables: *oṃ, ṛam, a, aṃ, vaṃ*.[34] The other three sides have Chinese graphs that may be translated as follows:

> The *dhāraṇī* coffin, with its reflective powers, will hopefully relieve the soul [from hell?] and [help] it return. It is unheard of that hell keeps heavenly [bound] bodies forever. [We] trust that

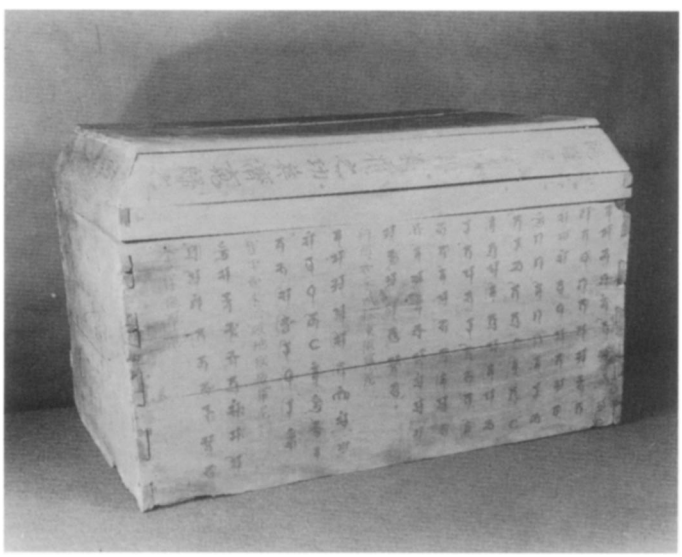


FIG. 9.
Dhāraṇī *coffin, tomb M7.*
After Wenwu *1996.9:pl. 9.3.*

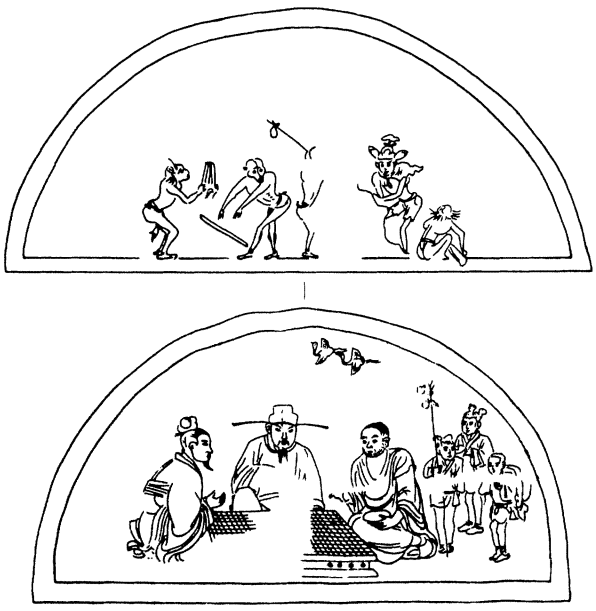


FIG. 10.
Hungry ghosts (top) and a monk playing the game of weiqi *(bottom), tomb M7. After* Wenwu *1996.9:26, fig. 8.*

> the essence of dust and ink [will] therefore make a strong solemn mark on Qian, Kun, and other [heavenly forces?].
>
> 陀羅尼棺以其影覆之功 | 冀濟魂歸之質不聞地獄承受天身 | 諒塵墨良因與乾坤而等固謹記 |

In addition, drawings of hungry ghosts, often described in Buddhist texts, and a figure of a Buddhist monk, perhaps playing a game of *weiqi* with one of the Zhangs, were found in tomb M7 (fig. 10).

The association between cremation and Buddhism is demonstrated in other Liao tombs as well. For example, tombs in Shilipu 十里鋪 village near Datong 大同, Shanxi, constructed around the same time as the Xuanhua tombs, show strong Buddhist influences. *Dhāraṇī*s, Buddhist stelae, and the fact that one of the occupants of the tombs, a Han Chinese named Liu Chengsui 劉承遂, was a lay Buddhist confirm the popularity of Buddhism in the Western Capital Circuit of the Liao kingdom.[35] *Dhāraṇī* pillars, numerous inscribed funerary bells,[36] and recently excavated pagodas[37] from other parts of the Liao territory imply that the influence of Buddhism, particularly Tantric teachings, on Liao funerary rites extended throughout the kingdom. *Dhāraṇī*s, such as the *Foshuo shengtian tuoluoni* 佛說生天陀羅尼 (The Dhārṇī [for those Seeking Re]birth in Heaven as Spoken by the Buddha), and *Zhuansheng jingtu tuoluoni* 轉生淨土陀羅尼 (The Dhārṇī for Rebirth in the Pure Land), found on the inscribed funerary bells and in the Xuanhua tombs, suggest that a certain number, if not a majority, of people living in the Liao territory, including Han Shixun and the Zhangs of Guihua prefecture, believed that Tantric magical spells could help the dead escape from hell and achieve rebirth in fortunate realms.[38]

THE ASTRONOMICAL PAINTINGS

Iconographically and chronologically the seven extant astronomical paintings from the Xuanhua tombs can be divided into three groups.[39] The paintings in the first group, found in tombs M3, M6, M7, and M10, consist of four concentric circles. The innermost circles have drawings of lotus. Unornamented circular bronze mirrors, all of which have now dropped to the tomb floors, were originally placed in the center of the lotus in each of the paintings. Surrounding the lotus, in the second circle, are the Sun, Moon, and illustrations of the twenty-eight lunar lodges in the form of star diagrams. The outer two circles, which are divided into eight sections, have drawings of flowers and leaves.

We know from the funerary inscriptions found in tombs M3, M7, and M10 that their occupants, Zhang Shiben, Zhang Wenzao, and Zhang Kuangzheng, were all cremated in 1093. Lack of funerary inscription or any dated material from tomb M6, as noted above, makes it difficult to date the tomb and, as a result, the astronomical painting. But the similarities in the layout of the astronomical drawings and the motifs used to paint the walls of tomb M6 and the other three indicate that these four tombs may have been constructed at the same time. It is conceivable that the wall paintings, including the astronomical drawings, in this group of tombs were all executed by the same artist(s).[40]

The astronomical painting in Zhang Shiqing's M1 tomb is, as yet, the sole representative of a second

FIG. 11A.
Calendrical animal (Ox), tomb M2. After Wenwu *1990.10:pl. 1.1.*

FIG. 11B.
Calendrical animal (Ox), tomb M5. After Wenwu *1995.2:15, fig. 38.*

group. In the center of this painting, perhaps drawn just before Shiqing's cremation in 1116, is a nine-petal lotus. An unornamented circular mirror, as in the above paintings of the first group, was initially placed in the center of the lotus. The lotus is surrounded by the nine luminaries: Sun, Moon, Mars, Jupiter, Mercury, Venus, Saturn, and the two imaginary planets Rāhu and Ketu. The Big Dipper (Ursa Major, or the *beidou* 北斗) is located in the northwest. The twenty-eight lunar lodges, in the form of star diagrams, encircle the luminaries. The outer circle is illustrated with twelve Western zodiacal signs (*shier gong* 十二宮).

The astronomical paintings from tombs M2 and M5, occupied respectively by Zhang Shigu and Zhang Gongyou (both cremated in 1117), can be classified into a third group. These two paintings, like the drawings discussed above, consist of lotus and mirror in the center. The twelve zodiacal signs, instead of being in the outer circle, now encircle the lotus. The twenty-eight lunar lodges (in the form of star diagrams) and the Sun and the Moon come next. The twelve calendrical animals (duodenary series) in human form, which are usually found on epitaphs, enclose the painting.[41] It seems that the calendrical animals, which are drawn separately within two circles, were not part of the core diagram but may have been added to emphasize the patrons' belief in cosmic forces.

There are, however, appreciable differences between the two paintings belonging to the third group: (1) the circle to enclose the lotus in tomb M2 is not used in M5; and (2) the Big Dipper drawn in the M5 painting is absent from M2. These discrepancies may have resulted from the fact that the two paintings were drawn by different hands. In fact, when compared, the images of the zodiacal signs and the duodenary series in the two paintings show two distinctive styles. For example, the gowns worn by the human figures representing the duodenary series in the painting from M2 have pointed edges (fig. 11a), but in the case of M5 they are rounded (fig. 11b). While the images of calendrical animals in M2 are represented in the form of caps, the animals in tomb M5 are drawn *inside* the caps. Moreover, the zodiacal signs in tomb M2 bear distinct "v" marks that are not found in other drawings.

The painting from tomb M1 seems to indicate that all the above astronomical drawings were meant to be drawn facing the sky and not the floor of the tombs. This way (fig. 12) not only do the twenty-eight lunar lodges correspond to the four directional animals,[42] but the Sun and the Moon also occupy

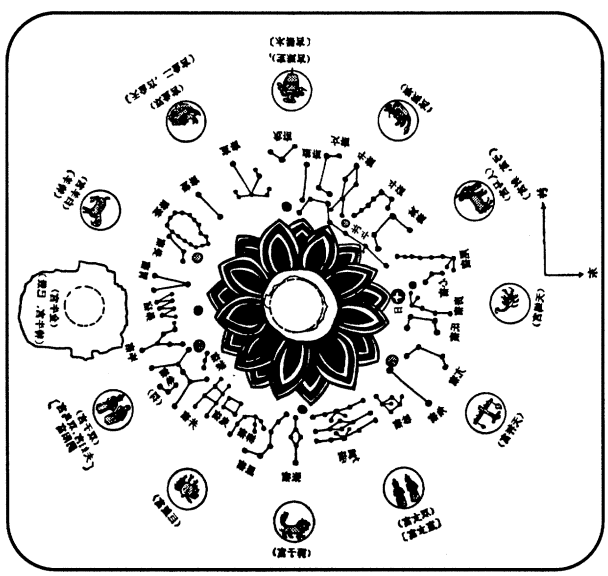


FIG. 12.
Astronomical painting from tomb M1 facing the sky.

their proper positions (Sun in the east and Moon in the west), and the zodiacal signs follow their normal clockwise position. A major disparity among the three groups of astronomical paintings, apart from the addition of new motifs, is in the number of lotus petals. The painting in tomb M1 has nine, M2 has eight, M3 six, M5 (part of which is destroyed) may have had either eleven or twelve, and the lotus in tomb M7 has seven petals. A possible explanation for this incongruity is offered below.

CURRENT INTERPRETATION OF THE XUANHUA ASTRONOMICAL PAINTINGS

The use of celestial symbols is not unique to the Xuanhua tombs. The earliest evidence indicating the use of celestial motifs in Chinese mortuary tradition can be traced to a tomb from Xishuipo 西水坡, near Puyang city 濮陽市 in Henan. The tomb is carbon 14 dated to between 4510 and 3850 B.C.E.[43] According to Feng Shi 馮時 and other Chinese scholars who have commented on this tomb, the figures of a dragon and a white tiger (two of the four directional animals) and the Big Dipper represented inside the tomb imply the application of the twenty-eight lunar lodges concept. Feng Shi points out the similarity between the astronomical layout in the Puyang tomb and a diagram found on a lacquer box in the tomb of Marquis Yi 曾侯乙, who lived in what is now Sui county 隨縣, Hubei, during the Warring States period (403–221 B.C.E.).[44] The graphs for the Big Dipper, on the box, are drawn in the center of the diagram. The names of the twenty-eight lunar lodges encircle the above two graphs. On the opposite sides of the lunar lodges are figures of a dragon and a tiger. This diagram, and the concept of drawing celestial objects in tombs, Feng concludes, developed from the pattern depicted in the Xishuipo tomb. The two diagrams, according to him, are "solid representations of the hemispherical dome theory" (*gaitian yuzhoulun de liti biaoxian* 蓋天宇宙論的立體表現).[45]

According to Sima Qian's 司馬遷 *Shiji* 史記 (Records of the Grand Historian), an astronomical diagram is also painted on the ceiling of Emperor

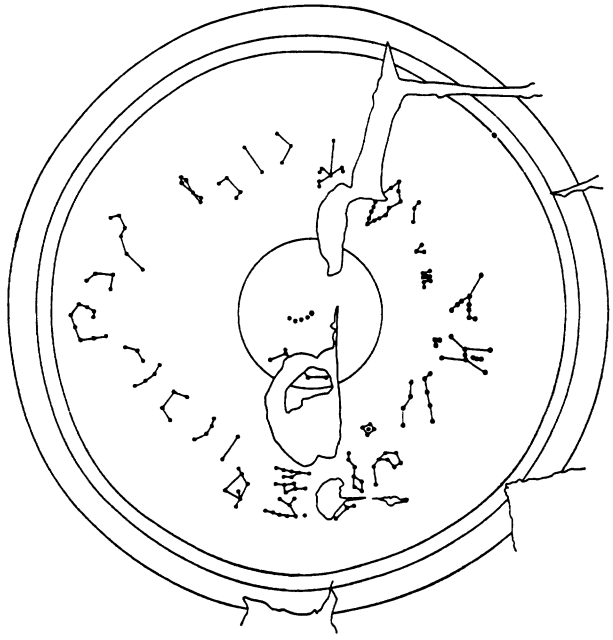


FIG. 13.
Astronomical painting from Wuyue tomb M26, Hangzhou. After Kaogu *1975.3:190, fig. 8.*

Qinshihuang's 秦始皇 (r. 221–210 B.C.E.) tomb.[46] It is only after the First Emperor's tomb is excavated that we can verify the above record. Yet a tomb from Luoyang confirms that the concept of drawing celestial objects on tomb ceilings was fully developed by the Western Han period (202 B.C.E.–9 C.E.). The paintings in the Luoyang tomb include the Big Dipper in the form of a star diagram, and the Sun (with a raven in the center) and Moon (with a tortoise in the center).[47] Astronomical diagrams continued to be drawn on tomb ceilings during the Northern Wei (386–535), Tang, and Five Dynasties (907–60) periods[48] and can even be found in some Korean tombs.[49]

It is possible that some of the above diagrams may have influenced the Xuanhua paintings. The diagrams (see, for example, fig. 13) found in tombs belonging to members of the royal Qian 錢 family of the Wuyue kingdom (907–78), for example, are chronologically close forerunners to the Xuanhua astronomical paintings.[50] Given the evidence of flourishing political and commercial relations between the Qidans and the Wuyue kingdom in Zhejiang,[51] it is conceivable that either the pictorial design or the concept of representing the universe

FIG. 14.
Suzhou star map. After Joseph Needam and Wang Ling, Science and Civilisation in China *(Cambridge, 1959), 3:pl. 106.*

on tomb ceilings, or both the design and concept, were transmitted to the Liao territory. The Bohai sea-faring traders, who frequented the Liao territories and Zhejiang,[52] and the fact that a considerable number of Bohai households were transplanted to Xuanhua by Abaoji 阿保機 (Emperor Taizu 太祖, r. 907–26), make the connection between Zhejiang and Xuanhua plausible.[53] Similar arguments can also be made for the Korean paintings. As will be argued below, however, if the Wuyue and Korean diagrams were an inspiration at all, they may not have been the only one for the people who conceived the Xuanhua paintings.[54]

Chinese scholars who have analyzed the paintings from Xuanhua have focused only on their relevance to the development of astronomical knowledge in ancient China.[55] One of their major concerns is to prove that the concept of twenty-eight lunar lodges existed in China earlier than anywhere else. As a consequence, scholars such as Xia Nai 夏鼐 have answered mathematical questions rather than explaining what the paintings may have meant to the occupants of the Xuanhua tombs.[56] Although recent Chinese works on Liao society have also considered the Xuanhua paintings to be "scientific" renderings of astronomical bodies,[57] the fact remains that these paintings are iconographically very different from any of the star maps and cosmic symbols found in China. First, none of the other star maps, including those found in the Wuyue tombs, employs the Western zodiacal signs, lotus, or the two imaginary planets—Rāhu and Ketu. Secondly, whereas the star maps, such as the Suzhou star map 蘇州星圖 (fig. 14), are divided into time or angle segments, the Xuanhua paintings are not.[58]

Scholars who have stressed the scientific value of the Xuanhua astronomical paintings have often pointed out various "mistakes" in the representation of lunar lodges. The number of stars in some lunar lodges, according to them, does not tally with contemporary works on astronomy.[59] It should be noted that the highly stylized Xuanhua paintings are definitely not maps of the actual sky. They were probably used for their symbolic rather than scientific value. Hence, the number of stars in a particular lunar lodge mattered less than the fact that all twenty-eight lunar lodges were represented.

MAṆḌALAS?

Despite the overwhelming evidence from the Xuanhua tombs that testifies to the popularity of Buddhism, especially that of Tantric teachings, in Guihua prefecture, the prospect of Buddhist ideas influencing the Xuanhua astronomical paintings has never been fully explored. Since the occupants of the Xuanhua tombs, some of whom may have been lay Buddhists, practiced Buddhist-style funerary rites, had Buddhist *dhāraṇīs* written on their coffins, and used drawings with Buddhist motifs in their tombs, it is conceivable that the astronomical paintings were also drawn to express their faith in or conform to a specific aspect of Buddhist teaching.

All the motifs depicted in the Xuanhua astronomical paintings—mirror, lotus, the twelve zodiacal signs, the nine planets, the twenty-eight lunar

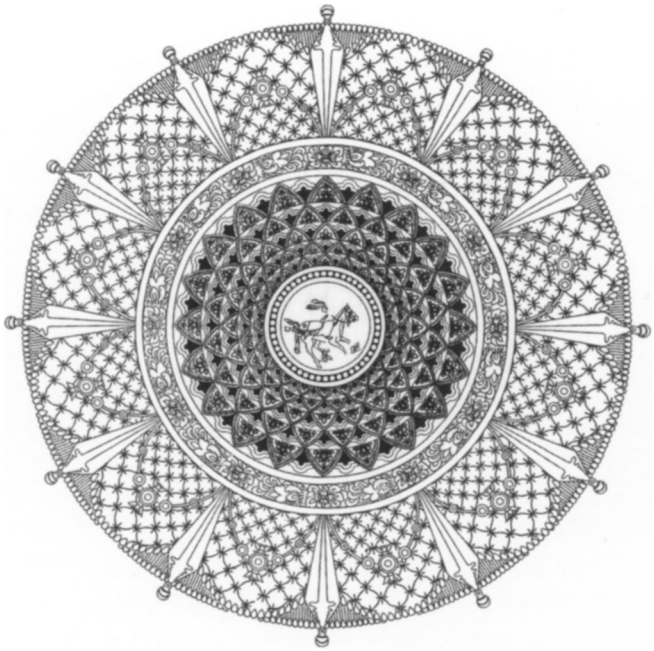


FIG. 15A.
Lotus, Sengim. After Albert Grünwedel, Bericht über archäologische Arbeiten in Idikutschari und Umgebung im Winter 1902–1903 *(Munich, 1905), pl. 28.*

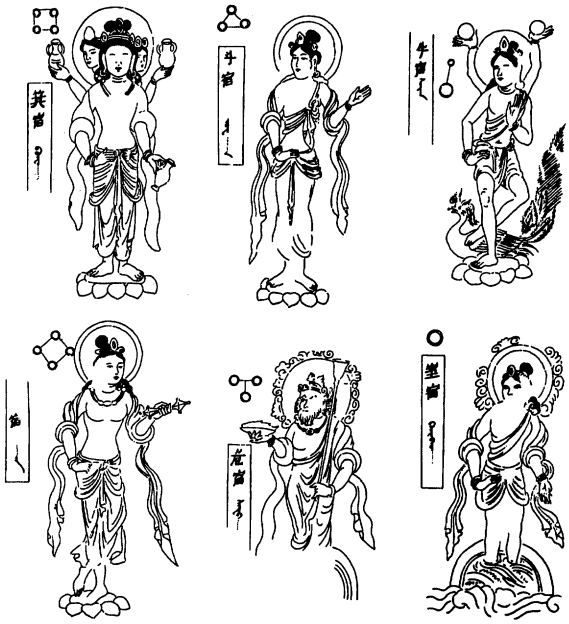


FIG. 15B.
Some of the lunar lodges that surround the lotus in fig. 15a, Sengim. After Grünwedel, Bericht über archäologische, *pl. 26.*

FIG. 16.
Lotus with the A-syllable painted within the moon disk. After Taikō Yamasaki, Shingon: Japanese Esoteric Buddhism, *trans. R. and C. Peterson (Boston and London, 1988), 190.*

lodges, and the calendrical animals—are, in fact, also found in Buddhist paintings. While the lotus, the zodiacal signs, and the concept of two imaginary planets, Rāhu and Ketu, entered China with the translation of Buddhist texts,[60] the use of mirrors and calendrical animals can be found in pre-Buddhist Chinese art. The idea of lunar lodges, on the other hand, was common to both Indian and Chinese astronomical traditions. Is it possible, then, that the Xuanhua paintings, like the practice of cremation followed by burial, resulted from the mixing

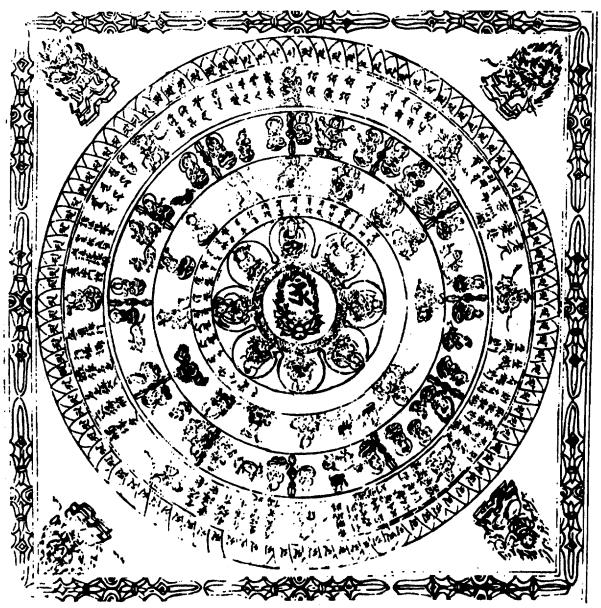


FIG. 17.
Tejaprabhā Maṇḍala with Chinese graphs, Sanskrit letters, and anthropomorphic images of astronomical bodies. After Takeda Kazuaki, Hoshi mandara no kenkyū *(Kyoto, 1995), 35, fig. 8. Courtesy Takeda Kazuaki.*

of Chinese and Buddhist beliefs in an afterlife? The answer, as discussed below, is an emphatic yes.

Lotus. The tomb ceiling in China, as has been noted by Judy Chungwa Ho, symbolizes Heaven based on the *gaitian* theory, while the floor, often rectangular or square, forms the Earth. "With additional painted imagery the ceiling," she writes, "easily created the illusion of cosmic totality."[61] The use of lotus, the zodiacal signs, and the two imaginary planets makes it evident that Buddhist doctrines exercised significant influence on the "cosmic totality" of the Xuanhua tomb ceilings.

Lotus (*padma*), an important motif in Mahāyāna cosmology, can represent enlightenment, rebirth, and sometimes even the Buddha himself.[62] It is frequently found painted on the ceilings of cave-temples in India, Central Asia, and China. Yet lotus surrounded by celestial objects is not a common theme in Buddhist cave ceilings. In a unique painting found in Sengim, near Turfan in Xinjiang Autonomous Region,[63] a multilayered, multipetaled lotus, with the Buddha on a white horse (an allusion to the Great Renunciation) in the center (fig. 15a), is surrounded by anthropomorphic images of lunar lodges (fig. 15b).[64] The names of each of these lunar lodges is written in Chinese and Uighur scripts. Probably dating from the ninth or tenth century, when the Uighurs in the northern Silk Road area converted to Buddhism,[65] the painting shows traces of Tantric influence. In esoteric Buddhist tradition, lotus forms the core of *maṇḍala*s, the map of the Tantric universe.[66] Employed in esoteric rituals, *maṇḍala*s are supposed to unite the patrons with the reality of the universe.[67] This universe is often conceived in the *siddham* letter *a* अ on a lotus (fig. 16) in the center of *maṇḍala*s.[68] In some versions of the Tejaprabhā (Ch. Zhishengguang 熾盛光) and Big Dipper *maṇḍala*s the A-syllable on a lotus is surrounded by letters (or images) representing the luminaries, zodiacs, and twenty-eight lunar lodges (figs. 17 and 18). This depiction of the universe, in

FIG. 18.
Big Dipper Maṇḍala with Sanskrit letters. After Tōji no mandara zu *(English title:* Universe of Maṇḍalas: Buddhist Divinities in Shingon Esoteric Buddhism*) (Kyoto, 1995), 82, pl. 23.*

FIG. 19.
The Horā Diagram, Tōji. After Universe of Maṇḍalas, *76, pl. 10.*

terms of content, is very similar to the Sengim and Xuanhua paintings.

The use of lotus itself, it must be pointed out, is not limited to the ceilings of Xuanhua tombs. Two Liao tombs from the Beijing area, for example, have the flower painted on their ceilings.[69] The Buddhist symbol is also used to decorate the ceiling of a Song dynasty tomb from Baisha 白沙, Henan.[70] All the above tombs, it seems, belong to Buddhist patrons. What is unusual about the lotus in the Xuanhua paintings, however, is the variation in the number of petals. As noted above, the number of lotus petals in the Xuanhua paintings ranges from six to twelve. Usually in Buddhist iconography, lotus is depicted as having four, eight, or twelve petals. The inconsistency in the number of lotus petals represented in the Xuanhua paintings may have been intentional rather than erroneous.

Although speculative, an explanation may be found in the horoscopic astrology popular when the Xuanhua tombs were being built. In both Daoist and Buddhist astrological traditions the time of birth of an individual is an important factor. Burial dates in the Daoist tradition are calculated according to the year, month, day, and hour of birth of the deceased. Moreover, the tail of the Big Dipper, represented at the burial sites, points to a direction that represents the moment of the individual's birth.[71] Similarly, for the Buddhists "the point of departure," as noted by Shigeru Nakayama, "was the moment of birth of the individual. Each part of the human body was said to be influenced by a particular constellation."[72] It can be seen from the astronomical paintings in tombs M1 and M5, in which the Big Dipper is clearly represented, that the tails of the Big Dipper point to different zodiac signs (Scorpio in the case of M1 and Capricorn in the case of M5) and lunar lodges (between *xin* 心 [heart] and *fang* 房 [chamber] lodges in the case of M1, and the *niu* 牛 [ox] lodge in the case of M5). It seems that the Big Dippers in the Xuanhua paintings were, following existing custom (whether Daoist, Buddhist, or Buddho-Daoist), drawn to imply a particular period in time, perhaps the moment of birth of the individual. The varying number of lotus petals in each of the Xuanhua paintings may, similarly, correspond to a specific time or period, most likely the month in which the deceased was born. Yet it is not clear what would happen if the individual were born in the first, second, or third lunar months. The traditional number of lotus petals may have been employed in such cases.

The Zodiacal Signs and Horoscopic Astrology. The zodiacal symbols in the Xuanhua tombs are the earliest evidence yet known of their application in the

popular pantheon of East Asia. They are additional, if not convincing, proof of Buddhist influences on the Xuanhua astronomical paintings.

The zodiacal signs have been known to the Chinese at least since the seventh century.[73] Texts such as the *Wenshushili Pusa ji zhu xian suoshuo jixiong shi ri shan e xiuyao jing* 文殊師利菩薩及諸仙所說吉凶時日善惡宿曜經 (Sūtra on the Auspicious and Inauspicious Times and Days and the Good and Evil [Influences] of the Lunar Lodges and the Luminaries as Spoken by the Bodhisattva Mañjuśrī and Various Other Immortals; T. 1299) compiled by the Indo-Sogdian monk Bukong 不空 (Amoghavajra, 705–74) in 759, *Qiyao rang zai jue* 七曜攘災決 (Ways to Avoid the Calamities Caused by the Seven Luminaries; T. 1308) translated by the Indian Brahmin Jinjuzha 金俱吒 (Suvarṇakūṭa?), and *Fantian huoluo jiuyao* 梵天火羅九曜 (The Indian Art of Horoscopy [based on the effects of] the Nine Luminaries; T. 1311) attributed to the Chinese Buddhist astronomer Yixing explain the use of the zodiacs for prognostication. The above astrological treatises are based on Brahmanical and Hellenistic horoscopic traditions, written within the Buddhist framework and interspersed with Chinese beliefs.[74] Certainly the interest of Tang emperors, especially emperors Xuanzong 玄宗 (r. 712–56), Suzong 肅宗 (r. 756–62), and Daizong 代宗 (r. 762–79), in Tantric rituals and preachers may have contributed immensely to the popularity of Buddhist horoscopic astrology in China.[75] In fact, a majority of Chinese Buddhist astrological treatises were translated or composed under these three Tang emperors.[76] Horoscopes from Japan, magic circles found in the Xi Xia territory,[77] and the zodiacal signs in the Xuanhua tombs attest to the widespread use of Buddhist horoscopic astrology in East Asia even after the fall of the Tang dynasty.

To simplify the complicated arrangement of multicultural astrological traditions, Tantric preachers seem to have created manuals for those who practiced Buddhist horoscopic astrology. The Horā 火羅 Diagram (fig. 19), housed at Kyoto's Tōji 東寺 temple, is an example of such a manual.[78] The diagram explains auspicious and

FIG. 20.
Tejaprabhā Maṇḍala, Dunhuang. After Edward H. Schafer, Pacing the Void: T'ang Approaches to the Stars *(Berkeley, 1977), pl. 1.*

inauspicious dates and the influences of various celestial objects with pictures. The text in the diagram, copied from an earlier work in Jison-in 慈尊院 in the second year of the Eiman 永万 era (1166), is taken from Yixing's *Fantian huoluo jiuyao*. Another set of diagrams that emerged due to the popularity of Buddhist horoscopic astrology and esoteric rituals is the Star Maṇḍalas (*Xing mantuoluo* 星曼陀羅, Jp. *Hoshi mandara*). The Tejaprabhā and Big Dipper *maṇḍala*s and the painting in Sengim, mentioned above, are examples of such diagrams.[79]

Star Maṇḍalas and the Xuanhua Astronomical Paintings. The earliest extant version of the Star Maṇḍala dates from 897. The painting (fig. 20), found in Dunhuang by Sir Aurel Stein, depicts Tejaprabhā Buddha on an ox-drawn cart surrounded by five planetary deities. Similar paintings, although frequently with nine planetary deities,

FIG. 21 (LEFT). *Tejaprabhā Maṇḍala, Khara Khoto. After* Lost Empire of the Silk Road, *ed. M. Piotrovsky (Milan, 1993), pl. 57.*

FIG. 22 (RIGHT). *Tejaprabhā Maṇḍala, Yingxian. After* Zhonghua wenming shi *(History of the Chinese Civilization), vol. 6 (Shijiazhuang, 1994), color pl.*

FIG. 23. *Tejaprabhā Maṇḍala, Song dynasty. After* Hoshi mandara, *pl. 11. Courtesy Takeda Kazuaki.*

have also been found in Khara Khoto (fig. 21), Yingxian county in Shanxi (fig. 22), and a number of Japanese temples. These paintings, as pointed out by Takeda Kazuaki 武田和昭, constitute visual representations of Amoghavajra's *Zhishengguang foding daweide xiaozai jixiang tuoluoni jing* 熾盛光佛頂大威德消災吉祥陀羅尼 (The Dhāraṇi Sūtra of the Greatly Majestic and Virtuous Tejaprabhā [Buddha] Who Dispels Calamities and [Brings] Good Fortune as Spoken by the Bud-

FIG. 24.
Big Dipper Maṇḍala, Tang dynasty. After Hoshi mandara, *pl. 1. Courtesy Takeda Kazuaki.*

dha; T. 963) and are therefore known as Tejaprabhā Maṇḍalas. In fact, a Song edition of the above text has a drawing of Tejaprabhā Buddha surrounded by the luminaries, zodiacal signs, twenty-eight lunar lodges, and the calendrical animals (fig. 23).[80]

The Big Dipper Maṇḍalas, Takeda notes, evolved from the Tejaprabhā diagrams and Tantric

FIG. 25.
Circular Big Dipper Maṇḍala, Hōryūji. After Hoshi mandara, *pl. 13. Courtesy Takeda Kazuaki.*

works such as *Xiuyao yigui* 宿曜儀軌 (Rites of Lunar Lodges and Luminaries; T. 1304), *Beidou qixing humo fa* 北斗七星護摩法 (Goma Rites of the Seven Stars of the Big Dipper; T. 1310), *Fantian huoluo jiuyao* compiled by Yixing, and *Beidou qixing niansong yigui* 北斗七星念誦儀軌 (Rites to Read and Recite [the Mantras] of the Seven Stars of the Big Dipper; T. 1305), translated by the Indian monk Jingangzhi 金剛智 (Vajrabodhi, 671–741).[81] As the name suggests, Big Dipper Maṇḍalas have an added emphasis on the seven stars of Ursa Major. The "Tang edition of the Big Dipper Maṇḍala" (*Tōhon hokudo mandara* 唐本北斗曼荼羅, fig. 24) housed in Tokyo College of Arts , although copied in 1148, indicates that Big Dipper Maṇḍalas were already in use during the Tang dynasty.

The extant Big Dipper Maṇḍalas, which date from the twelfth century and later, are found in both circular and quadrilateral forms. Circular Big Dipper Maṇḍalas are housed in temples including Hōryūji 法隆寺 in Nara (fig. 25) and Ninnaji 仁和寺 in Kyoto. Some of the angular versions are preserved

at Tōji (fig. 26) and Daigoji 醍醐寺 temples in Kyoto. Celestial objects in the Big Dipper Maṇḍalas are represented in the form of personified deities or star diagrams, in Sanskrit letters or Chinese graphs, or in some combination of these. It may have been left to the patron to select the iconographic form.

The Tantric texts from which the Tejabrabhā and Big Dipper *maṇḍala*s originate explain the methods of invoking the celestial objects to cure illnesses, avoid natural calamities, win wars, and achieve rebirth in the fortunate realms. The seven stars of the Big Dipper are especially important in this respect because they were thought to control the life and death of individuals. Listening to or reading the Tantric texts on the Big Dipper, as the work *Foshuo beidou qixing yanming jing* 佛說北斗七星延命經 (The Sūtra to Extend Life-span Based on the Seven Stars of the Big Dipper as Spoken by the Buddha) reveals, helped the patron, his/her ancestors, and future generations achieve rebirth in heaven. Moreover, it was accepted that making an offering to the seven stars of the Big Dipper might pacify hungry ghosts, enabling the dead to escape from hell and achieve rebirth in the Land of Highest Joy (*jile shijie* 極樂世界, Sukhāvatī).[82] Other texts, such as the *Dasheng Miaojixiang Pusa shuo chuzai jiaoling falun* 大乘妙吉祥菩薩說出災教令法輪 (T. 966), describe ways to draw (*hua* 畫) and establish (*jianli* 建立) the Big Dipper and various celestial objects in the form of *maṇḍala*s, suggesting that these diagrams (*tu* 圖) and altars (*daochang* 道場) were often used to make offerings to the stars and planets.[83]

The similarities between the Xuanhua astronomical paintings and the Star Maṇḍalas, especially the circular Big Dipper Maṇḍalas, are remarkably striking. Like the Big Dipper Maṇḍalas, the Xuanhua astronomical paintings are composed of twenty-eight lunar lodges, zodiacal signs, luminaries, Big Dipper, and lotus. While the outer circles have exactly the same motifs, the difference is in the core of the two diagrams. Instead of the image of the Buddha or the *siddham* letter *a*, unornamented mirrors occupy the central position in the Xuanhua astronomical paintings. Since these mirrors are found inside a Buddhist symbol (lotus), and because they differ from the ornamented Chinese mirrors, it is reasonable to address the problem of mirrors from a Buddhist perspective.

FIG. 26.
Angular Big Dipper Maṇḍala, Tōji. After Universe of Maṇḍalas, *82, pl. 22.*

Mirrors, in the Buddhist context, have multiple meanings and usages. There is, for example, a *maṇḍala* called *Yuanjing mantuoluo* 圓鏡曼陀羅 (Circular Mirror Maṇḍala) that could be used to "understand the meaning of the *dharmacakra-pravartana* (the teachings of the Buddha) [found] in the esoteric piṭaka (*jie mimi zang zhong zhuanfalun yi* 解秘密藏中轉發輪義)."[84] A mirror is also used as a metaphor for emptiness, human mind, and the

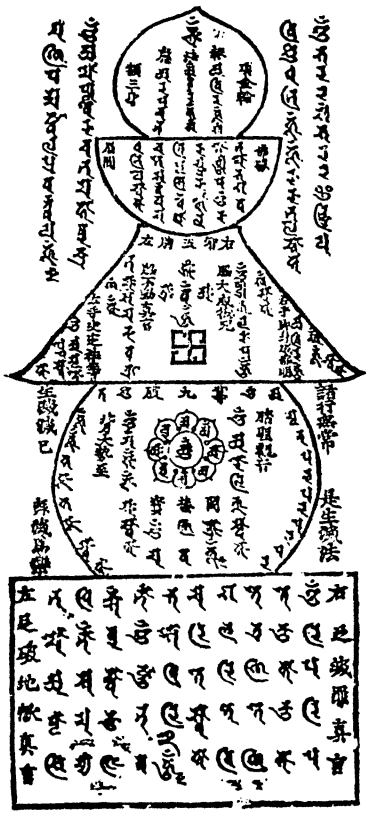


FIG. 27. *Iri Maṇḍala. After Hikomatsu Saitō, "Iri mandara no kenkyū,"* Indogaku Bukkyōgaku kenkyū *1.11 (1963): 266.*

wisdom of the Buddha. Moreover, in the following passage from the Buddhist text *Da Piluzhena fo shenbian jia chi jing* 大毗盧遮那佛神變加持經 (Commentary on Mahāvairocana Sūtra) the Moon is compared to a mirror: "The lotus is dazzling. Inside is a full circular Moon, dustless like a bright mirror (*yuanman yuelun zhong, wugou ru jingjing* 圓滿月輪中，無垢如淨鏡)."[85]

In the esoteric A-syllable visualization technique, the *siddham* letter *a* on top of the lotus is drawn inside a moon disk. The Japanese tantric text *Ajikan yōjin kuketsu* 阿字觀用心口決 (Record of Oral Instruction on the A-Syllable Visualization) notes: "The eight-pettalled [*sic*] lotus is the heart [*karita*, corporeal heart] mind. This is form. The mind [*shitta*, spiritual mind] dwells in this lotus. These two minds do not separate for even a moment, and therefore you should visualize the moon disk above the lotus. . . . The seed syllable of the lotus is the A-syllable. Therefore you should visualize the A-syllable within the moon disk."[86]

By visualizing the symbol, according to Shingon teachings, a patron can become one with the Buddha.[87] Moreover, the visualization of the A-syllable was seen as an important part of the esoteric Buddhist mortuary tradition. The Indian monk Shanwuwei 善無畏 (Śubhākarasiṃha, 637–735) in his *Foding zunsheng xin podiyu zhuanye zhangchu sanjie mimi sanshen foguo sanzhongxidi zhenyan yigui* 佛頂尊勝心破地獄轉業障出三界秘密三身佛國三種悉地真言儀軌, perhaps the source of the "Zhiju rulai xin podiyu *dhāraṇī*" 智炬如來心破地獄陀羅尼 written on the coffins in Xuanhua tombs, explains that by visualizing the A-syllable, one could escape various levels of hell and achieve rebirth in the Pure Land.[88]

The image of a moon disk with the A-syllable on top of a lotus, as noted above, forms the core of some Star Maṇḍalas. In fact, an instruction to draw the Pole Star Maṇḍala (*Miaojian mantuoluo* 妙見曼陀羅) notes:

> The Rites of the Divine Star King says: In the center [of the *maṇḍala*] draw a great circular Moon. Inside [the Moon] draw the figure of the Bodhisattva [of the Pole Star]. In the left hand [the Bodhisattva] carries a lotus. On [top of] the lotus make the figures of the seven stars of the Big Dipper.[89]
>
> 尊星王軌云：當中央畫大月輪。中畫菩薩像，左手持蓮華。【連華】上作北斗七星形。

The mirrors in the Xuanhua paintings occupy the same position as the Moon does in the Big Dipper Maṇḍalas—inside the lotus. It seems, given the overall similarities between the Xuanhua astronomical paintings and the Star Maṇḍalas, that the mirrors within the lotus in the Xuanhua paintings symbolized the moon disk. It is possible that the mirrors placed inside the lotus may have even had the Buddhist symbol for the universe (the A-syllable) written on them.

The maṇḍalic representation of the universe on the Xuanhua ceilings not only conforms to the esoteric mortuary beliefs expressed inside the tombs but is also consistent with the popular funeral practices of the period. In eleventh-century Japan, for instance, Iri 曳屣 Maṇḍalas were used to cover the body of the deceased before cremation.[90] These *maṇḍala*s, with images of lotus, *dhāraṇī*s, and the *bīja* syllables (fig. 27), were to help the dead dislodge

bad karma and hence be reborn in paradise. This, as we have seen, echoes the written wishes of the occupants of the Xuanhua tombs and may thus explain the reason for drawing a *maṇḍala* on the canopy above the remains of the deceased.

CONCLUSION

Wu Hung ascribes the frequent representation of the universe in Chinese mortuary art to the concepts of Heaven's will and the mandate of Heaven that developed during the Han dynasty. "Heaven," he writes, "manifests itself as concrete signs or omens on the ceiling, a decorative position denoting the physical existence of Heaven in space. It is 'above' and opposite to Earth below, in accordance with the assertion of Dong Zhongshu, the founder of Han Confucianism: 'Heaven covers all.'"[91]

Celestial symbols were also often used by the Daoists. The Dipper constellation, for example, occupies an important position in the Daoist liturgical tradition. Kristofer Schipper points out that the Dipper constellation is the "Controller of Destiny." It is, he writes, "present everywhere in Taoist [Daoist] ritual: its image is engraved on swords to scare off demons; as a receptacle filled with rice, the dipper is a pure and purifying container where ritual instruments and sacred writings are placed and protect them against evil influences."[92] The Big Dipper, as Livia Kohn explains, also "represents the Tao [Dao] or the One in the center of the sky and is thus parallel to Mount Kunlun on Earth," a paradise where immortals reside.[93] Such Daoist beliefs in and representation of celestial objects, as Xiao Dengfu 蕭登福 has shown, contributed immensely to the development of Chinese Buddhist horoscopic astrology and esoteric iconography.[94] Although the belief in cosmic forces was already a notable aspect of Tantrism before it reached China,[95] the focus on the Big Dipper may have been an outcome of Tantric-Daoist syncretism. In fact, it seems that the Tantric texts on the Big Dipper were all composed in China.[96] Similarly, the Star Maṇḍalas that are based on the Chinese esoteric texts may have been the creation of the Tantric masters in East Asia rather than imports from India.

Some scholars have already suggested that Vajrayāna *maṇḍala*s are of non-Indic origin. Schuyler Cammann, for example, has argued that the Chinese T-L-V mirrors contributed to the development of Tibetan *maṇḍala*s.[97] Edward Conze, on the other hand, has pointed out the Central Asian origin of *maṇḍala*s.[98] And recently Todd Gibson has emphasized the impact of an "Indo-Iranian contact zone" in the rise of maṇḍalic symbolism, especially because "there is no proof that it [maṇḍalic symbolism] was widespread in India any earlier than in Inner Asia."[99]

While Gibson's argument may not be entirely convincing, since we do find Kauṭalya, as early as the fourth century B.C.E., using *maṇḍala* as a geopolitical concept,[100] the Star Maṇḍalas, which are a fusion of Indian and Chinese symbolism, may have actually originated in either Inner or Eastern Asia. Perhaps the diagrams were conceived in the early ninth century, soon after the Chinese Tantric texts on horoscopic astrology were compiled. The attractive magical powers of esoteric Buddhism and the Huichang persecution of Buddhism in 842–45 may have catalyzed the outflow of Tantric monks and texts, and with them the concept of horoscopic astrology, from Tang China to the surrounding regions. Thereafter, esoteric Buddhism flourished in places such as Dunhuang, Dali, Xi Xia, and Liao kingdoms, and Japan. In some of these places, Dali, Liao, and Japan, for example, Tantric mantras and *maṇḍala*s seem to have become an integral part of the native mortuary practices. The *dhāraṇī* coffins and pillars, Iri Maṇḍalas, and the astronomical paintings from Xuanhua are all indicative of this process of amalgamation.

Finally, a distinction must be made between those who engaged themselves in the empirical study of the sky and those who were primarily interested in prognostication. The difference between the two has already been pointed out in the works of Shigeru Nakayama and Nathan Sivin.[101] They have called the former style "potent" or "judicial" astrology and the latter "horoscopic" astrology. Similarly, a distinction must also be made between the iconographic representations of the sky by these two groups. The first group struggled to produce diagrams of the sky

in a correct ephemeris. The second group, on the other hand, was more interested in the symbolic representation of the sky. While the Suzhou star map is an example from the judicial astrological tradition, the Star Maṇḍalas, including those found in the Xuanhua tombs, are related to peoples' belief in life after death and the options available to deal with it. The Xuanhua tombs, the artifacts accompanying the occupants, and the maṇḍalic paintings on the ceilings illustrate the synthesis of Confucian, Daoist, Buddhist, and geomantic beliefs rather than pointing to any breakthrough in the mathematical understanding of the cosmos. □

Notes

The connection between the Xuanhua paintings and the Star Maṇḍalas was first examined in a term paper written for the Seminar on Liao Art taught by Nancy Steinhardt at the University of Pennsylvania in the spring of 1991. Some of the points discussed in that paper can be found in Steinhardt's *Liao Architecture* (Honolulu: University of Hawaii Press, 1997), 342–47, and in her recent article "Liao Archaeology: Tombs and Ideology along the Northern Frontier of China," *Asian Perspectives* 37.2 (1998): 224–44. I would like to thank Nancy for her support and encouragement throughout this project. I would also like to thank Victor H. Mair, Nathan Sivin, Paul Goldin, Chang Che-chia, Valerie Hansen, Zhang Guangda, and Alan DiGaetano for comments and suggestions on various drafts. Research in Japan was graciously funded by a grant from Bukkyō Dendō Kyōkai. In Japan, I am indebted to Professors Yoritomi Motohiro, Kuwayama Shōshin, Antonino Forte, Toru Funayama, and the staff at the Italian School of East Asian Studies. Reassigned time for research awarded by the Dean of the Weissman School of Arts and Sciences, Baruch College, paved the way for the completion of the final draft.

1. Xia Nai, "Cong Xuanhua Liao mu de xingtu lun ershiba xiu he huangdao shier gong" (A Discussion on the Twenty-eight Lunar Lodges and the Zodiacal System Based on the Star Map [Found] in a Liao [Dynasty] Tomb from Xuanhua [District]), *Kaogu xuebao* 1976.2:35–58. See also Edward H. Schafer, "An Ancient Chinese Star Map," *Journal of the British Astronomical Association* 87.2 (1977): 162.

2. Ellen Johnston Laing, "A Survey of Liao Dynasty Bird-and-Flower Painting," *Journal of Sung-Yuan Studies* 24 (1994): 57–99, esp. 83, n. 47.

3. Hebei shengwenwu guanlichu (Hebei Cultural Relics Administrative Department) and Hebei sheng bowuguan (Hebei Provincial Museum), "Hebei Xuanhua Liao bihuamu fajue jianbao" (A Brief Report on the Excavation of a Liao [Dynasty] Painted Tomb from Xuanhua [District], Hebei), *Wenwu* 1975.8:31–39. Architectural layout of the Xuanhua tombs is discussed in detail in Steinhardt's *Liao Architecture*, 341–51.

4. A clear copy of Shiqing's funerary inscription can be found in *Quan Liaowen* (Complete Prose Literature of the Liao [Dynasty]), ed. Chen Shu (Taibei: Dingwen shuju, n.d.), 326–27.

5. Translations of official titles in this paper are based on Charles O. Hucker's *A Dictionary of Official Titles in Imperial China* (Stanford: Stanford University Press, 1985).

6. In the third year of the Da'an period (1087) famine and other natural disasters were rife in the Shangjing (Supreme Capital), Zhongjing (Central Capital), and Nanjing (Southern Capital) circuits of the Liao territory. Emperor Hongji 洪基 (Daozong 道宗, r. 1055–1101), as a result, not only exempted people in the affected regions from various taxes but also instituted the scheme of exchanging grain for official titles. See *Liao shi* (Dynastic History of the Liao), *Daozong* 5 (Beijing: Zhonghua shuju, 1974): 295–305. For various forms of relief measures undertaken by the Liao court to tackle the effects of natural disasters, including famines, see Karl A. Wittfogel and Feng Chia-sheng, *History of Chinese Society: Liao (907–1125)*, Transactions of the American Philosophical Society, n.s., 36 (Philadelphia: American Philosophical Society, 1949), 375–97.

7. It is not clear whether Zhang Shen married a member of the ruling Yelü clan, a woman from a distant and poor branch of the Yelüs, or a daughter of a Han Chinese official who received the honorific title form the Liao rulers. For a study of the Yelü clan, its branches, and Han officials who were given the royal name, see Wittfogel and Feng, *History of Chinese Society: Liao*, 191–213.

8. Zhangjiakoushi wenwu shiye guanlisuo (Zhangjiakou Cultural Relics Administrative Institute) and Zhangjiakoushi Xuanhuaqu wenwu baoguansuo (Zhangjiakou Xuanhua District Cultural Relics Preservation Institute, hereafter ZXWB), "Hebei Xuanhua Xiabali Liao-Jin bihuamu" (Liao and Jin Dynasty Painted Tombs from Xiabali [Village] in Xuanhua [District], Hebei), *Wenwu* 1990.10: 1–19.

9. For a study of the bird and flower motif in Liao tomb paintings, see Laing, "A Survey," 57–99.

10. The paintings of women in the Xuanhua tombs are discussed in Danielle Elisseeff's "À propos d'un cimetière Liao: Les belles dames de Xiabali," *Arts Asiatiques* 49 (1994): 70–81.

11. It is difficult to figure out how long Shiben lived because the

portion of the funerary inscription that may have noted his age at the time of death is blurry.

12. *Wenwu* 1990.10:18. The Jin civil service examination system began in 1123. For the Chinese living under the Jurchens it was, as Herbert Franke has pointed out, "an important means of access to the bureaucracy." See "The Chin Dynasty," in *The Cambridge History of China,* vol. 6: *Alien Regimes and Border States, 907–1368*, ed. Herbert Franke and Denis Twitchett (New York: Cambridge University Press, 1994), 270–73.

13. ZXWB, "Hebei Xuanhua Xiabali Liao Han Shixun mu" (The Liao Tomb of Han Shixun from Xiabali [Village] in Xuanhua [District], Hebei), *Wenwu* 1992.6:1–11.

14. *Wenwu* 1992.6:9.

15. ZXWB, "Hebei Xuanhua Liaodai bihuamu" (Liao Dynasty Painted Tombs from Xuanhua [District], Hebei), *Wenwu* 1995.2:4–28.

16. *Wenwu* 1995.2:28.

17. Hebei sheng wenwu yanjiusuo (Hebei Cultural Relics Research Institute), Zhangjiakoushi wenwu guanlichu (Zhangjiakou Cultural Relics Administrative Department), and Xuanhuaqu wenwu guanlisuo (Xuanhua District Cultural Relics Administrative Institute), "Hebei Xuanhua Liao Zhang Wenzao bihuamu fajue jianbao" (A Brief Report on the Excavation of the Liao [Dynasty] Painted Tomb of Zhang Wenzao from Xuanhua [District], Hebei), *Wenwu* 1996.9:14–46.

18. Hebei Cultural Relics Research Institute, Zhangjiakou Cultural Relics Administrative Department, and Xuanhua District Cultural Relics Administrative Institute, "Xuanhua Liaodai bihuamu qun" (A Group of Liao Dynasty Painted Tombs from Xuanhua [District]), *Wenwu chunqiu* 28.2 (1995): 1–22.

19. The late cremation dates, as is seen in tombs M3 (four years), M5 (nine years), M7 (nineteen years), and M10 (thirty-five years), may have been a result of current geomantic practices. For geomancy and its connection to late burial dates, see Patricia Buckley Ebrey, "The Response of the Sung State to Popular Funeral Practices," in *Religion and Society in T'ang and Sung China*, ed. Patricia Buckley Ebrey and Peter N. Gregory (Honolulu: University of Hawaii Press, 1993), 209–39.

20. The generation name Shi seems to suggest that Shiben may have been a cousin of Shigu and Shiqing.

21. See the following section.

22. Kuangzheng's epitaph records that he and his "grandson" (*sunnan* 孫男) Shiqing were "friends-from-heart" (*yi xin xiangyou* 以心相友). Wenzao's epitaph, on the other hand, notes: "[Zhang] Shiqing, the palace eunuch on the Right Duty Group, mourns him *just as* a son [would do]" 猶子右班殿直世卿追念其事. See, *Wenwu chunqiu* 28.2 (1995): 15; and *Wenwu* 1996.9:45. Kuangzheng was probably Shiqing's great-uncle, and Wenzao his uncle. Shiqing could have also provided funds for the burial of Zhang Shiben, another Zhang family member whose cremation took place in 1093. Yet the author of Shiben's new epitaph, written in 1144, chose not to mention Shiqing. Instead, the focus is on the grandsons of Shiben who successfully passed the prestigious *jinshi* exams and may have financed the new epitaph upon the death of their grandmother.

23. Patricia Ebrey, "Cremation in Sung China," *The American Historical Review* 95.2 (April 1990): 406–28. Other studies on cremation in China include Xu Pingfang, "Song-Yuan shidai de huozang" (Cremation during the Song and Yuan Periods), *Wenwu cankao ziliao* 9 (1956): 21–26; Makio Ryōkai, "Sōdai ni okeru kasō shūzoku ni tsuite" (On Cremation Customs during the Song Dynasty), *Chizan gakuhō* 16 (1968): 47–57; and Jing Ai, "Liao-Jin shidai de huozangmu" (Crematory Tombs from the Liao and Jin Periods), *Dongbei kaogu yu lishi* 1 (1982): 104–15.

24. *Dongbei kaogu yu lishi* 1 (1982): 104–15.

25. On *chapi* see Anna Seidel, "Dabi," *Hōbōgirin* 6 (Tokyo: Maison franco-japonaise, 1929–): 573–85. For Buddhist, especially Chan, funeral rites during the Song dynasty and their origins, see Alan Cole, "Upside Down/Right Side Up: A Revisionist History of Buddhist Funerals in China," *History of Religions* 35.4 (1996): 307–38. See also "Dead, The Disposal of the," in *Encyclopaedia of Buddhism*, ed. G. P. Malalasekera (Colombo: The Government of Ceylon, 1961–) 4.2:329–31.

26. Bernard Faure, *The Rhetoric of Immediacy: A Cultural Critique of Chan/Zen Buddhism* (Princeton: Princeton University Press, 1991), 136, n. 16.

27. Ying-shih Yü, "'O Soul, Come Back!' A Study in the Changing Conception of the Soul and Afterlife in Pre-Buddhist China," *Harvard Journal of Asiatic Studies* 47.2 (1987): 363–95.

28. W. Pachow, "The Controversy over the Immortality of the Soul in Chinese Buddhism," *Journal of Oriental Studies* 15.1–2 (1978): 21–38. See also Michihata Ryōshū, *Chūgoku bukkyō shi zenshū, dai-10-kan: Chūgoku bukkyō to jukyō no sosen sūhai* (Complete History of Chinese Buddhism, vol. 10: Chinese Buddhism and Ancestor Worship in Confucianism) (Tokyo: Shoen, 1985), 153–68.

29. An excellent study of this text, and Yulanpen festivities in particular, is Stephen F. Teiser's *The Ghost Festival in Medieval China* (Princeton: Princeton University Press, 1988).

30. This text is examined by Michel Strickmann in "The *Consecration Sūtra*: A Buddhist Book of Spells," in *Chinese Buddhist*

Apocrypha, ed. Robert E. Buswell, Jr. (Honoulu: University of Hawaii Press, 1990), 75–118. See also Cole, "Upside Down/ Right Side Up," 317–21.

31. *Taishō shishū daizōkyō* (Newly Revised Tripiṭaka Inaugurated in the Taishō Era, cited hereafter and in the text as T.), ed. Takakusu Junjirō and Watanabe Kaigyoku (Tokyo: Taishō issaikyō kankōkai, 1924–32), 1331:512a–514c.

32. One such work, now lost, was entitled *Dili jing* 地理經 (Classic of Earth Pattern). See *Song shi* (Dynastic History of the Song), 206 (Beijing: Zhonghua shuju, 1977): 5253. For geomantic practices and their influence on Buddhism, see Ebrey, "The Response of the Sung State," 215–20. On some Buddhist oppositions to geomancy in China, see Daniel L. Overmyer, "Buddhism in the Trenches: Attitudes toward Popular Religion in Indigenous Scriptures from Tun-huang," *Harvard Journal of Asiatic Studies* 50 (1990): 197–222.

33. Ebrey, "Cremation in Sung China," 415, n. 46.

34. *Bīja*, or seed, syllables, according to esoteric Buddhist tradition, are the source of all *dharmas*.

35. Shanxi sheng wenwu guanli weiyuanhui (Shanxi Cultural Relics Administrative Committee), "Shanxi Datong jiaoqu wuzuo Liao bihuamu" (Five Liao [Dynasty] Painted Tombs from the Suburbs of Datong, Shanxi), *Kaogu* 1960.10:37–42. See also Ellen Johnston Laing, "Patterns and Problems in Later Chinese Tomb Decoration," *Journal of Oriental Studies* 15.1–2 (1978): 3–19.

36. Inscriptions on some of these *dhāraṇī* pillars and funerary bells can be found in the *Quan Liaowen*. See especially 81–82, 117–18, 171, 187, 196–97, 243–44, and 280–81.

37. For example see Chaoyang beita kaogu kanchadui (Chaoyang Archaeological Surveillance Team [in charge of the] Northern Pagoda), "Liaoning Chaoyang beita tiangong digong qingli jianbao" (A Brief Report on the Excavation of the Ceiling and the Underground Chamber of the Northern Pagoda in Chaoyang, Liaoning), *Wenwu* 1992.7:1–28.

38. This view was also popular among the people who lived in the Kingdom of Dali (937–1253) in Yunnan. The common factor between the two regions was the prevailing influence of esoteric Buddhism. See Angela F. Howard, "The *Dhāraṇī* Pillar of Kunming, Yunnan: A Legacy of Esoteric Buddhism and Burial Rites of the Bai People in the Kingdom of Dali (937–1253)," *Artibus Asiae* 62.1–2 (1997): 33–72.

39. A similar classification has been made by Zheng Shaozong in his "Xuanhua Liao bihuamu caihui xingtu zhi yanjiu" (Research on the Colored Star Maps from the Liao [Dynasty] Painted Tombs from Xuanhua), *Liaohai wenwu xuekan* 22.2 (1996): 45–60.

40. The use of the same group of artists to decorate multiple tombs, especially those constructed for a specific kin group, was not unusual in the Liao territory. Best examples are tombs 27, 28, and 29 from Shilipu. See *Kaogu* 1960.10:42; and Laing, "Patterns and Problems," 9.

41. For a study of twelve calendrical animals in Chinese funerary art, see Judy Chungwa Ho, "The Twelve Calendrical Animals in Tang Tombs," in *Ancient Mortuary Traditions of China: Papers on Chinese Ceramic Funerary Sculptures*, ed. George Kuwayama (Los Angeles: Los Angeles County Museum of Art, 1991), 60–83.

42. The lunar lodges *jiao* 角 (horn), *kang* 亢 (gullet), *di* 氐 (base), *fang* 房 (chamber), *xin* 心 (heart), *wei* 尾 (tail), and *ji* 箕 (winnower), usually depicted in the east, represent the green dragon; *dou* 斗 (dipper), *niu* 牛 (ox), *nü* 女 (woman), *xu* 虛 (barrens), *wei* 危 (roof), *shi* 室 (house), and *bi* 壁 (wall), in the north, represent the turtle; *kui* 奎 (straddler), *lou* 婁 (harvester), *wei* 胃 (stomach), *mao* 昴 (mane), *bi* 畢 (net), *zui* 觜 (beak), and *can* 參 (triaster), in the west, portray the white tiger; *jing* 井 (well), *gui* 鬼 (ghost), *liu* 柳 (willow), *xing* 星 (star), *zhang* 張 (spread), *yi* 翼 (wing), and *zhen* 軫 (axletree), in the south denote the peacock. The names of lunar lodges are translated according to Edward H. Schafer's *Pacing the Void: T'ang Approaches to the Stars* (Berkeley: University of California Press, 1977).

43. Puyangshi wenwu guanli weiyuanhui (Puyang Cultural Relics Administrative Committee), Puyangshi bowuguan (The Puyang City Museum), and Puyangshi wenwu gongzuodui (Puyang Cultural Relics Working Group), "Henan Puyang Xishuipo yizhi fajue jianbao" (A Brief Report on the Excavation of Relics from Xishuipo in Puyang, Henan), *Wenwu* 1988.3:1–6; Feng Shi, "Henan Puyang Xishuipo 45hao mu de tianwenxue yanjiu" (Research on the Astronomical [Aspects] of Tomb 45 from Xishuipo in Puyang, Henan), *Wenwu* 1990.2: 52–60, 69.

44. Wang Jianmin, Liang Zhu, and Wang Shengli, "Zeng Hou Yi mu chushi de ershiba xiu qinglong baihu tuxiang" (The Diagrams of Twenty-eight Lunar Lodges, Green Dragon, and White Tiger Excavated from the Tomb of Marquis Yi), *Wenwu* 1979.7:40–45. For an extensive study of Marquis Yi's tomb, see Hubei sheng bowuguan (Hubei Provincial Museum), *Zeng Hou Yi mu* (The Tomb of Marquis Yi), 2 vols. (Beijing: Wenwu chubanshe, 1989).

45. *Wenwu* 1990.3:60. These diagrams are also discussed in Sun Xiaochun and Jacob Kistemaker's *The Chinese Sky during the Han: Constellating Stars and Society* (Leiden: Brill, 1997). For an explanation of the *gaitian* theory, see Nakayama Shigeru, *A History of Japanese Astronomy: Chinese Background and Western Impact* (Cambridge: Harvard University Press, 1969), 24–35; Christopher Cullen, "Appendix A: A Chinese Eratosthenes of the Flat Earth: A Study of a Fragment of Cosmology in

Huainanzi," in John S. Major's *Heaven and Earth in Early Han Thought: Chapters Three, Four, and Five of the Huainanzi* (Albany: State University of New York, 1993), 269–90; and Joseph Needam and Wang Ling, *Science and Civilisation in China,* vol. 3: *Mathematics and the Sciences of the Heavens and the Earth* (Cambridge: Cambridge University Press, 1959), 210–16.

46. *Shi ji* 6 (Beijing: Zhonghua shuju, 1996): 265.

47. Xia Nai, "Luoyang Xi Han bihuamu zhong de xingxiangtu" (Astronomical Diagrams in the Western Han Painted Tomb from Luoyang), *Kaogu* 1965.2:80–90.

48. See Wang Che and Chen Xu, "Luoyang Bei Wei Yuan Yi mu de xingxiangtu" (The Astronomical Diagram in the Northern Wei Tomb of Yuan Yi from Luoyang), *Wenwu* 1974.12: 56–60; Xinjiang Weiwu'er zizhiqu bowuguan (Xinjiang Uighur Autonomous Region Museum), "Tulufanxian Asitana—Halahezhuo gumuqun fajue jianbao (1963–1965)" (A Brief Report on the Excavation of Ancient Tombs of Astana and Khara Khoto in Turfan County [1963–1965]), *Kaogu* 1973. 10:7–20.

49. See Jilin sheng wenwu gongzuodui (Jilin Cultural Relics Working Group) and Ji'an xian wenwu baoguansuo (Ji'an Cultural Relics Peservation Institute), "Ji'an Changchuan yihao bihuamu" (The Painted Tomb 1 from Changchuan, Ji'an [County]), *Dongbei kaogu yu lishi* 1 (1982): 154–73. See also Steinhardt, *Liao Architecture*, 366–67.

50. These tombs, which belong to King Qian Yuanguan 錢元瓘 (r. 931–41) and his concubine Wu Hanyue 吳漢月, respectively date from 941 and 952. See Zhejiang sheng wenwu guanli weiyuanhui (Zhejiang Cultural Relics Administrative Committee), "Hangzhou, Linan Wudai mu zhong de tianwentu he mise ci" (Astronomical Diagrams and Secret Glazed Porcelain [Excavated] from Five Dynasties Tombs in Hangzhou and Linan), *Kaogu* 1975.3:186–94; and Yi Shitong, "Zuigu de shike xingtu: Hangzhou Wuyue mu shike xingtu pingjie" (The Earliest Stone Relief Star Maps: An Evaluation of Star Maps Inscribed on Wuyue Tombs [from] Hangzhou), *Kaogu* 1975.3: 153–57.

51. White porcelain ware with the graphs *guan* 官 (official) and *xin guan* 新官 (new official) found in both Wuyue and Liao tombs, as has been pointed out by modern scholars, are evidence of commercial relations between the two kingdoms. See *Kaogu* 1975.3:186–94; and Chen Shu, *Qidan shehui jingji shi gao* (Draft History of Qidan Society and Economy) (rpt. Beijing: Sanlian shudian, 1978), 146. For trade between the Wuyue kingdom and the Qidan, see Denis Twitchett and Klaus-Peter Tietze, "The Liao," *The Cambridge History of China,* 6:71–72; and Wittfogel and Feng, *History of Chinese Society: Liao*, 346–51.

52. Chen Shu, *Qidan shehui jingji shi gao*, 146.

53. Wittfogel and Feng, *History of Chinese Society: Liao*, 63, n. 27.

54. Although astronomical drawings have also been found in other Liao tombs, they are significantly different from the Xuanhua tomb paintings. See Li Dajun, "Chaoyang Goumenzi Liao mu qingli jianbao" (A Brief Report on the Excavation of a Liao Tomb from Goumenzi, Chaoyang [County], *Liaohai wenwu xuekan* 23.1 (1997): 30–36; and Li Zhengzhi, *Liao Chenguo gongzhu mu* (The Tomb of the Liao Princess Chenguo) (Beijing: Wenwu chubanshe, 1993).

55. *Kaogu xuebao* 1976.2:35–58; Hebei Cultural Relics Administrative Department and Hebei Provincial Museum, "Liaodai caihui xingtu shi woguo tianwen shi shang de zhongyao faxian" (The Liao Dynasty Colored Star Map Is an Important Discovery in the History of Chinese Astronomy), *Wenwu* 1975.8: 40–44; and Yi Shitong, "Hebei Xuanhua Liao-Jin mu tianwentu jianxi: Jianji Xingtai tiezhong huangdao shier gong tuxiang" (A Brief Analysis of the Star Maps [Found] in the Liao and Jin Tombs from Xuanhua, Hebei: Including [a Discussion] on the Representation of the Solar Zodiac on an Iron Bell from Xingtai), *Wenwu* 1990.10:20–24, 71. The only exception is Zheng Shaozong, who briefly points to the similarities between the Xuanhua diagrams and the Tejaprabhā Maṇḍala from Dunhuang. But he too is interested in proving the scientific value of the Xuanhua paintings. See *Liaohai wenwu xuekan* 22.2 (1996): 53.

56. *Kaogu xuebao* 1976.2:35–58.

57. Feng Jiqin, Menggu Tuoli, and Huang Fengqi, *Qidan zu wenhua shi* (A Cultural History of the Qidans) (Shenyang: Heilongjiang renmin chubanshe, 1994); and *Zhonghua wenming shi: Di liu juan, Liao, Song, Xia, Jin* (A History of the Chinese Civilization, vol. 6: Liao, Song, Xia, Jin) (Shijiazhuang: Hebei jiaoyu chubanshe, 1994), 43–45.

58. For a discussion on the Suzhou star map, see Joseph Needam and Wang Ling, *Science and Civilisation in China,* 3:278–81.

59. See, for example, Yi Shitong, *Wenwu* 1990.10:20–24. Yi Shitong compares the number of stars in the lunar lodges depicted in tombs M1, M2, and M3 to those mentioned in Wang Ximing's 王希明 (fl. seventh century) *Bu tian ge* 步天歌 (The Song of Walking on the Heaven). He concludes by saying that "the artists of the [Xuanhua] paintings were not familiar with celestial objects" (21). The artists who drew astronomical paintings on Xuanhua ceilings may not have been familiar with scientific knowledge of stars and planets, but as the Song work *Xuanhe huapu* 宣和畫譜 (Catalogue of Paintings [Compiled during the] Xuanhe [Reign Period]) indicates, one could find painters expert in drawing celestial objects and the Buddhist images of Rāhu and Ketu. See Schafer, *Pacing the Void*, 279–80.

60. Hayashi Minao, however, has argued that the lotus was a popular motif in pre-Buddhist Chinese art. See "Chūgoku kodai ni okeru ren no ke no shōchō" (Symbolism of Lotus in Ancient China), *Tōhō Gakuhō* 59 (March 1987): 1–61.

61. Judy Chungwa Ho, "The Twelve Calendrical Animals in Tang Tombs," 68–69.

62. On the significance of lotus in Buddhist cosmology, see Akira Sadakata, *Buddhist Cosmology: Philosophy and Origins*, trans. Gaynor Sekimori (Tokyo: Kōsei Publishing Co., 1997), 143–57.

63. Albert Grünwedel, *Bericht über archäologische Arbeiten in Idikutschari und Umgebung im Winter 1902–1903* (Munich: K. B. Akademie der Wissenschaften, 1905), 143–46.

64. A painting with similar motif, with lotus and anthropomorphic images of lunar lodges, has also been found on the ceiling of a Buddhist shrine in the nearby Toyuk region. See P. Banerjee, "Naksatras on the Ceiling of a Buddhist Shrine [in] 'Toyuk,'" *New Light on Central Asian Art and Iconography* (New Delhi: Abha Prakashan, 1992), 7–15.

65. See Wittfogel and Feng, *History of Chinese Society: Liao*, 307–9, n. 52.

66. Giuseppe Tucci has defined *maṇḍala* as a "map of the cosmos." It is, he writes, "the whole universe in its essential plan." See *The Theory and Practice of the Mandala: With Special Reference to the Modern Psychology of the Subconcious*, trans. Alan Houghton Brodrick (London: Rider & Company, 1969), 23. For recent studies on *maṇḍalas*, see the *Journal of the International Association of Buddhist Studies* 19.2 (1996), which is devoted to the ritualistic use of *maṇḍalas* in South and East Asia.

67. Tsuda Shinichi, "A Critical Tantrism," *The Memoirs of the Toyo Bunko* 36 (1978): 167–231.

68. The motif is often used in the esoteric A-syllable visualization meditations (*ajikan* 阿字觀); see Taikō Yamasaki, *Shingon: Japanese Esoteric Buddhism*, trans. Richard and Cynthia Peterson (Boston and London: Shambhala, 1988), 202–3.

69. Beijingshi wenwu gongzuodui (Beijing Cultural Relics Working Team), "Beijing xijiao Liao bihuamu fajue" (Excavation of Liao [Dynasty] Painted Tombs in the Western Suburbs of Beijing), *Beijing wenwu yu kaogu* 1983.1:28–47; and Beijingshi wenwu shiye guanliju (Beijing Cultural Relics Administrative Bureau) and Mentougouqu wenhua bangongshi (Mentougou Cultural Office), "Beijingshi Zhaitang Liao bihuamu fajue jianbao" (A Brief Report on the Excavation of Liao Painted Tombs from Zhaitang [District] in Beijing), *Wenwu* 1980.7:23–27.

70. See Su Bai, *Baisha Song mu* (Song [Dynasty] Tombs from Baisha [County]) (Beijing: Wenwu chubanshe, 1957).

71. Michael Saso, *Blue Dragon White Tiger: Taoist Rites of Passage* (Washington, DC: The Taoist Center, 1990), 147–48.

72. Nakayama, *A History*, 60.

73. The earliest extant work to mention the zodiacal system in China is the Buddhist text *Dasheng dafang deng rizang jing* 大乘大方等日藏經 (Mahāyāna Mahāvaipulya Sūryagarbha Sūtra; T. 397). The work was translated into Chinese by the Indian monk Naliantiliyeshe 那連提黎耶舍 (d. 589) (Narendrayaśas?) in the later half of the sixth century.

74. On Buddhist astrology in China, see Raoul Birnbaum, "Introduction to the Study of T'ang Buddhist Astrology: Research Notes on Primary Sources and Basic Principles," *Society for the Study of Chinese Religions Bulletin* 8 (Fall 1980): 5–19. Birnbaum notes that the Chinese Buddhist astrology system resulted from the merging of native Chinese astrological works, foreign (Brahmanical) teachings, and Mahāyāna principles. See also Angela Howard, "Planet Worship: Some Evidence, Mainly Textual, in Chinese Esoteric Buddhism," *Asiatische Studien/Études Asiatiques* 37.2 (1983): 104–19; Yano Michio, *Mikkyō sensei ho: Shukuyodō to Indo sensei ho* (Esoteric Astrology: The Way of Lunar Lodges and Luminaries and Indian Astrology) (Tokyo: Tokyō Bijutsu, 1986); and Yabuuti Kiyoshi, "Researches on the Chiu-chih li: Indian Astronomy under the T'ang Dynasty," *Acta Asiatica* 36 (1979): 7–48.

75. The popularity of Tantrism under these three Tang emperors is discussed by Chou Yi-liang in "Tantrism in China," *Harvard Journal of Asiatic Studies* 8 (1944–45): 241–332. For a history of Tantrism in China, see Lü Jianfu, *Zhongguo mijiao shi* (History of Esoteric Buddhism in China) (Beijing: Zhongguo shehuikexue chubanshe, 1995). The role of Tantrism in Tang politics is discussed by Charles D. Orzech in *The Scripture for Humane Kings and the Creation of National Protection Buddhism* (University Park: The Pennsylvania State University Press, 1998).

76. See W. Eberhard, "Untersuchungen an Astronomischen Texten des Chinesischen Tripitaka," *Monumenta Serica* 5 (1940): 208–268.

77. See *Lost Empire of the Silk Road: Buddhist Art from Khara Khoto (X–XIIIth Century)*, ed. Mikhail Piotrovsky (Milano: Electa, 1993), 274.

78. The diagram is discussed in detail in Raoul Birnbaum's "Introduction," and by Angela Howard in "Planet Worship." A clear plate of the diagram can be found in *Tōji no mandara zu* (English title: *Universe of Maṇḍalas: Buddhist Divinities in Shingon Esoteric Buddhism*) (Kyoto: Museum of Tōji Temple, 1995).

79. For the origin of Star Maṇḍalas see Takeda Kazuaki, *Hoshi mandara no kenkyū* (Research on the Star Maṇḍalas) (Kyoto: Hōzōkan, 1995). For an in-depth study of the Tejaprabhā *maṇḍalas* in East Asia, see Meng Sihui, "Zhisengguangfo bian-empress'sxiang xingtu yanjiu" (An Iconographical Study on the Paintings of Tejaprabhā Buddha), *Dunhuang tulufan yanjiu* 1997.2: 101–48.

80. A colophon on the text notes that it was copied in the fifth year of the Kaibao era (972). The scroll is now housed in Kaminobu, Nara, Japan.

81. Takeda, *Hoshi mandara*, 77–104.

82. T. 1307:426a.

83. T. 966:342b–344c.

84. T. 1796:670c.

85. T. 848:40c.

86. In *Kōbō daishi sho deshi zenshū* (Works of the Disciples of Master Kōbō [Kūkai]), 3 vols., ed. Sofu Senyokai (Kyoto: Rokudai Shinpōsha, 1942), 1:471–72; translated in Taikō Yamasaki, *Shingon*, 201.

87. Taikō Yamasaki, *Shingon*, 191.

88. T. 906:914a–b. Other versions of the text include *Sanzhongxidi podiyu zhuanye zhangchu sanjie mimi tuoluoni* 三種悉地破地獄轉業障出三界秘密陀羅尼 (T. 905) and *Foding zunsheng xin podiyu zhuanye zhangchu sanjie mimi tuoluoni* 佛頂尊勝心破地獄轉業障出三界秘密陀羅尼 (T. 907). Although attributed to Śubhākarasiṁha, these three texts seem to have been composed in Japan in the ninth century. See Jinhua Chen's convincing arguments in "The Construction of Early Tendai Esoterica Buddhism: The Japanese Provenance of Saichō's Transmission Documents and Three Esoteric Buddhist Apocrypha Attributed to Śubhākarasiṁha," *Journal of the International Association of Buddhist Studies* 21.1 (1998): 21–76, esp. 47–73.

89. Kakuzen 覺禪, *Kakuzenshō* 覺禪鈔, T. Zuzō 圖象 (Diagrams), 5:398.

90. Hikomatsu Saitō, "Iri mandara no kenkyū," *Indogaku Bukkyōgaku kenkyū* 1.11 (1963): 263–66.

91. Wu Hung, *The Wu Liang Shrine: The Ideology of Early Chinese Pictorial Art* (Stanford: Stanford University Press, 1989), 218.

92. Kristofer Schipper, *The Taoist Body*, trans. Karen C. Duval (Berkeley, Los Angeles, London: University of California Press, 1993), 72.

93. Livia Kohn, *Early Chinese Mysticism: Philosophy and Soteriology in the Taoist Tradition* (Princeton: Princeton University Press, 1992), 110.

94. The influence of Daoism on Tantric astrological texts is discussed by Xiao Dengfu in *Daojiao xingdou fuyin yu fojiao mizong* (Esoteric Buddhism and Daoist Symbols and Seals of Stars and Dippers) (Taibei: Xinwenyi chubanshe, 1993). For Buddhist impact on Daoist mortuary tradition, see Stephen R. Bokenkamp, "Sources of the Ling-Pao Scriptures," in *Tantric and Taoist Studies in Honour of R. A. Stein*, vol. 2, ed. Michel Strickmann (Brussels: Institut Belge des Hautes Etudes Chinoises, 1983), 434–86. The above volume also includes a relevant article by Judith M. Boltz, "Opening the Gates of Purgatory: A Twelfth-century Taoist Meditation Technique for the Salvation of Lost Souls," 487–511. See also Livia Kohn, "Steal Holy Food and Come Back as a Viper: Conceptions of Karma and Rebirth in Medieval Daoism," *Early Medieval China* 4 (1990): 1–48; and Carole Morgan, "Inscribed Stones: A Note on a Tang and Song Dynasty Burial Rite," *T'oung Pao* 83.4–5 (1996): 317–48.

95. See Günter Grönbold, "The Date of the Buddha according to Tantric Texts," in *When Did the Buddha Live?: The Controversy on the Historical Buddha*, ed. Heinz Bechert (Delhi: Sri Satguru Pablications, 1995), 311–28.

96. Yixing's *Beidou qixing humo fa*, which includes a section called "Important Rites of Tejaprabhā" (Zhishengguang yaofa 熾盛光要法), for example, is noted to have been "compiled" (*xuan* 選) rather than "translated" (*yi* 譯). See T. 1310:457b.

97. Schuyler Cammann, "Suggested Origin of Tibetan Mandala Paintings," *Art Quarterly* 13 (1950): 106–19.

98. Edward Conze, *A Short History of Buddhism* (New York: Allen and Unwin, 1980), 76.

99. Todd Gibson, "Inner Asian Contributions to the Vajrayāna," *Indo-Iranian Journal* 40 (1997): 37–57.

100. See S. J. Tambiah, *World Conqueror and World Renouncer: A Study of Buddhism and Polity in Thailand against a Historical Background* (Cambridge: Cambridge University Press, 1976), 102.

101. Shigeru Nakayama, "Characteristics of Chinese Astrology," *Isis* 57 (1966): 442–54; and N. Sivin, "Chinese Archaeoastronomy: Between Two Worlds," in *World Archeoastronomy: Selected Papers from the Second Oxford International Conference on Ascheoastronomy Held at Merida, Yucatan, Mexico, 13–17 January 1986*, ed. Anthony R. Aveni (Cambridge: Cambridge University Press, 1989), 55–64.