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DID BABYLONIAN ASTROLOGY INFLUENCE EARLY CHINESE ASTRAL PROGNOSTICATION *XING ZHAN SHU* 星占術?

David W. Pankenier*

Abstract

This article examines the question whether aspects of Babylonian astral divination were transmitted to East Asia in the ancient period. An often-cited study by the Assyriologist Carl Bezold claimed to discern significant Mesopotamian influence on early Chinese astronomy and astrology. This study has been cited as authoritative ever since, including by Joseph Needham, although it has never been subjected to careful scrutiny. The present article examines the evidence cited in support of the claim of transmission.

Traces of Babylonian Astrology in the "Treatise on the Celestial Offices"?

In 1919, the Assyriologist Carl Bezold published an article concerning the Babylonian influence he claimed to discern in Sima Qian's 司馬遷 and Sima Tan's 司馬談 "Treatise on the Celestial Offices" 天官書 (c. 110 B.C.E.).[1] Bezold's only resource was Édouard Chavannes' translation of the "Treatise" in *Les Mémoires Historiques de Se-Ma-Ts'ien*.[2] In part, Bezold was drawing on comparisons between Chinese texts and cuneiform passages earlier made by Morris Jastrow.[3] Since Bezold's article still continues to be cited as demonstrating Babylonian influence on Chinese astral prognostication, an examination of his "proofs" is long overdue. Here I evaluate Bezold's conclusion that sixth century B.C.E. Babylonian astral divination, preserved in the cuneiform texts from the library of Assurbanipal (685–c. 627 B.C.E.), left its mark on the treatment of Chinese astral omenology in the Simas' "Treatise." Bezold cites

* David W. Pankenier, 班大為, Lehigh University; email: dwpo@Lehigh.edu.

1. Carl Bezold, "Sze-ma Ts'ien und die babylonische Astrologie," *Ostasiatische Zeitschrift* 8 (1919), 42–49; Sima Qian 司馬遷, *Shi ji* 史記 (Beijing: Zhonghua, 1959), 27.1289–1353.

2. Édouard Chavannes, *Les Mémoires Historiques de Se-Ma-Ts'ien* (Paris: Leroux, 1895–1904), 6:339–412.

3. Morris Jastrow, *Die Religion Babyloniens und Assyriens* (Giessen: Ricker, 1905), 745ff.

two main pillars of evidence in support of his claim. The first concerns commonalities he perceived in the kinds of astral phenomena seen as omens and in the topics of divinations.[4] These include:

(1) For the Moon: its altitude, meetings with the planets and fixed stars or asterisms, e.g., "Gemini, Spica, Scorpius, Bootes," etc. In discussing China, Bezold fails to mention the irrelevance of the ecliptic in the "Treatise" (despite its importance in Babylonia), does not mention the Chinese lodge system, and wrongly asserts that the "Treatise" displays an interest in the Moon's altitude.

(2) Sun: concern with halos and colors;

(3) Jupiter: different names in different months, timing of rising and setting, color and brightness, interaction with the Moon and a series of asterisms;

(4) Venus: timing of rising and setting, brightness, color, conjunctions with Jupiter and other planets;

(5) Saturn: conjunctions with Mars;

(6) Mercury: appearances and conjunctions with Venus;

(7) Mars: rising times and relation to other planets, as well as with Leo and Pegasus;

(8) The equivalents of the word "weak" are used in Babylonia, Greece, and China for planets when they are not bright;

(9) Topical similarities: prophecies concern war, victory and defeat of the army, devastation of the country, internal unrest and resistance to the ruler and his dignitaries, fertility of the soil, drought and rain, flourishing or failure of the crops, price rises, famine, disease, death, drought, earthquakes;

(10) a specific "parallel": e.g., "a magnate will be despised" (Babylonia), compared with "a general will be humiliated" (China).

4. The term divination may be appropriate in reference to Babylonian astrology, but I prefer to avoid it in connection with astral omenology in early China. There the celestial bodies were not thought of as divine prior to the arrival of Buddhism. For a full annotated translation of the "Treatise on the Celestial Offices," see David W. Pankenier, *Astrology and Cosmology in Early China: Conforming Earth to Heaven* (Cambridge: Cambridge University Press, 2013), 444–511.

(11) both sources use conditional clauses for the omen protasis, while the apodosis is sometimes a single word (i.e., "*if* x *occurs/ occurred, then* y *will occur*").

Nothing in this list of "commonalities" seems particularly surprising or dispositive (as Bezold, to his credit, also admitted, see *infra*). Given the agricultural economies of the two civilizations and the history in both of conflict among rival states, the above topics are among those one would expect to be of concern to any ruler. Others (e.g., nos. 7, 8, 10) are either mere coincidences, or in the case of (11), universal aspects of omenology with their roots in logic and syntax. Nothing in the list of highlighted features is so unique as to be ascribable on its face to diffusion rather than independent invention. This is all the more so when one takes into account the context in the Chinese case. The documented history of prognostication in China begins with the wide variety of omens concerning astral and meteorological phenomena in the late Shang Dynasty oracle-bone inscriptions (mid-thirteenth century–1046 B.C.E.), more than a millennium before the "Treatise" was composed and 700 years before Assurbanipal. In 1919, Bezold was aware of none of this, of course. He cherry-picked passages from among the hundreds in the "Treatise," the only text of its kind available to him at the time.

Excusing the discrepancies between his quoted passages (A–G below) on the grounds that distortions will have occurred in the process of transmission to China, as the second main pillar of support for his thesis, Bezold cites the following "parallels" which he finds particularly noteworthy.

Example A. Bezold's translations of the cuneiform texts:

(a) "Wenn Mars sich dem Skorpion nähert, wird die Stadt die Waffe (?) nehmen." ["If Mars approaches Scorpio, a city will take to weapons (?)"]

(b) "Wenn Mars im dem Skorpio steht, wird ein mächtiger Feind das Land aufheben, Bel wird seine Waffe dem Feinde geben, wenige Feinde werden viele Truppen töten." ["If Mars stands in Scorpio, a powerful enemy will seize territory; Bel will give his weapons to the enemy, and a small number of the enemy will kill many soldiers."]

(c) "Wenn Mars, nachdem er rückläufig geworden, in den Skorpion eintritt, sei nich leichtsinnig deiner Wache gegenüber; der König soll am 'Bösen Tage' nicht zum Tor hinausgehen." ["If Mars enters Scorpio after retrograding, do not heedlessly let down your guard; on evil days the King should not go out."]

"Treatise on the Celestial Offices": 火犯守角則有戰，房心王者惡之也.

Chavannes' translation: "Lorsque la planète du feu [Mars] se trouve . . . il y a des combats. [dans des Mansions] Fang [β δ π ρ Sco] et Sin [α σ τ Sco], c'est ce que redoute les rois."[5]

Pankenier: "If the Fire Star trespasses on and guards Horns [in Virgo], there will be war; if it be Chamber or Heart [in Scorpius], it is hateful to kings."

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Example B. Babylonian: "Wenn Mars im [Sternbild des?] . . . zur linken von Venus . . . Verwüstung in Akkad [Babylonien] . . ." ["If Mars is in (the constellation ?) . . . to the left of Venus . . . there will be devastation in Akkad (Babylonia)]."

"Treatise": 熒惑從太白，軍憂.

Chavannes: "Quand Yong-ho (Mars) suit T'ai-pe (Vénus), l'armée est plongée dans l'affliction."

Pankenier: "If Sparkling Deluder [Mars] follows Supreme White [Venus], the army will be afflicted."

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Example C. Babylonian: "Wenn Venus (?) im Mond steht, stellt sich ein Verwirrung von Schubartu [des Nordlandes] ein." ["If Venus (?) stands in the Moon, confusion arises from Šubartu (the North)]." NB: Bezold notes regarding the identification of Venus: "not certain but probable based on what follows."

"Treatise": [月食歲星 . . .] 太白也強國以戰敗].

Chavannes: "Si c'est [la planète] T'ai-pe [Vénus] [qui cause une éclipse de la Lune], un royaume puissant est vaincu dans la bataille."[6]

Pankenier: "If the Moon occults Jupiter . . . if it is Supreme White [Venus], a powerful state will be defeated in war."

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Example D. Babylonian: "Wenn der Mond einen Hof um sich hat, und Bootes [Komm. Bootes (=) Mars] darin steht, wird der König sterben, und sein Land klein werden." ["If the Moon has a halo around it and

5. The elided text is Chavannes' interpolation based on Zhang Shoujie's 張守節 *Shi ji zhengyi* 史記正義 commentary (c. 736 C.E.).

6. Both Chavannes and Needham badly mistranslate here. It is the Moon that is obscuring the planets, as is clear from the preceding serial protases in the text, "if the Moon occults planet X . . . planet Y . . . planet Z"; Joseph Needham, with the research assistance of Wang Li, *Science and Civilisation in China*, vol. 3, *Mathematics and the Sciences of the Heavens and the Earth* (Cambridge: Cambridge University, 1959), 353.

Bootes (Comm.: Boo = Mars) stands in it, the king will die and his country will become small."] (NB: This is an example where the name of a zodiacal constellation stands for the planet, a particularly noteworthy characteristic of Babylonian astrological texts, according to Bezold.)

"Treatise": [月食歲星 . . .] 大角，主命者惡之.

Chavannes: "Si [la Lune] est éclipsée par Ta-kio [la Grande Corne, Arcturus du Bouvier], celui qui préside aux destinées le redoute."[7]

Pankenier: "If the Moon occults Jupiter . . . [if the Moon occults] Great Horn [Arcturus], rulers hate it."

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At this point Bezold concedes: "these four examples considered by themselves hardly weigh heavily as proof and will only convince with difficulty; but they appear in another light in company with the following":

* * *

Example E. Babylonian: "Wenn sich Irgendwer [Mars] der Großen Zwillingen nähert, wird der König sterben, und es wird Feindschaft sein." ["If someone (Mars) approaches the Great Twins, the king will die and there will be enmity."]

"Treatise": 火守南北河，兵起，穀不登.

Chavannes: "Quand [la planète du] Feu se trouve dans les Fleuves du Sud [Procyon, β, η du Petit-Chien] et du Nord [Castor et Pollux et ρ des Gémeaux], des guerres s'élèvent et la moisson ne pousse pas."[8]

Pankenier: "If the Fire [Star] guards North or South River, fighting will erupt and the grain will not grow."

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Example F. Babylonian:

(a) "Wenn Venus in Gebat [Januar-Februar] sich zeigt, und ihre rechte Seite den Roten [Komm. Roter (=) Mars] berührt, werden die Schwangeren samt ihre Leibesfrucht sterben." ["If Venus shows itself in Gebat (Jan-Feb) and its right side touches the Red One (= Mars), pregnant women with their unborn will die."]

(b) "Wenn Venus sich dem Dreieck nähert [d. i. hier Mars], wird sich eine Niederlage einstellen." ["If Venus approaches the Triangle (i.e., Mars here), a defeat will set in."]

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7. Once again, Chavannes mistranslates. Needham's, "if the Moon is eclipsed near Ta-Chio," is no better; Needham, *Science and Civilisation in China*, 3:353.

8. Chavannes and Needham mistranslate the important technical term *shou* "to guard."

"Treatise": 與金合為鑠為喪。皆不可舉事。用兵大敗.

Chavannes: "Si elle [la planète du Feu, Mars] se rencontre avec [celle du] Métal, il y a fusion de métal, il y a deuil; dans ces deux cas, on ne peut faire aucune entreprise; si on se sert des soldats, on est fort battu."

Pankenier: "If [the Fire Star, Mars] and the Metal [Star, Venus] join, it is 'fusing' and [there are] obsequies; under no circumstances may one initiate undertakings. If troops are used they will be utterly defeated."

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Example G. Babylonian: "Wenn sich der Nördliche Fisch [d. i. hier Merkur] dem Großen Hund [d. i. hier Venus] nähert . . . wird der König mächtig werden und seine Feinde niederstrechen." ["If the Northern Fish (i.e., Mercury here) approaches the Great Dog (i.e., Venus here) . . . the king will become powerful and his enemies laid low."

"Treatise": 其與太白俱出東方, 皆赤而角, 外國大敗, 中國勝.

Chavannes: "Quand elle [Mercure] apparait en companie de T'ai-pe [Vénus] du côté de l'est, qu'elles sont tout rouges et dardent leurs rayons, les royaumes étrangers sont fort battus et le royaume du Milieu est vainqueur."

Pankenier: "If it [Mercury] appears together with Supreme White [Venus] in the east, both being red and radiant, foreign kingdoms will be utterly defeated and China will gain the victory."

Discussion

Misled by Chavannes' mistranslations in C and D, Bezold injects a discussion on the significance of "eclipse" *shi* 食, which ends with his suggestion that it refers to a halo of sorts, and that Great Horn (Arcturus) must therefore be the name of a planet. This, he claims, is so because Arcturus lies too far from the ecliptic for the Moon to approach it. Similarly, in (E) Mars' path along the ecliptic lies too far from North or South Rivers for Mars ever to approach them, according to Bezold. Therefore, he argues, these asterisms must stand for planets, evidence of the practice of referring to planets using constellation names that is characteristically Babylonian. In Bezold's words: "damit dürfte der schlagende Beweis für die Abhängigkeit der chinesischen von der babylonischen Astrologie erbracht sein" ("with that, striking evidence of the dependence of Chinese astrology on the Babylonian would be provided").

At a remove of nearly a century, what Bezold found so suggestive in these examples is somewhat mystifying—not one is persuasive or even particularly suggestive of cultural contact. Moreover, Bezold's analysis is marred by errors and false assumptions. For example, in the case of Mars (in E), from the next most important source on early Chinese

astronomy, the *History of the Jin Dynasty*, we have several definitions of *shou* 守 "guard" which clearly illustrate the inadequacy of Chavannes' translation 'se trouve dans,' and Bezold's 'approach.' *Shou* refers to a celestial body found stationary near a lodge or a celestial body. There are various definitions, for example 'to attach and stay by the side of (a lodge or celestial body) . . . to stay (in a particular place) without leaving . . . to linger around without parting from the same degree . . . to stay in a lunar lodge.'[9] Planets do not necessarily have to be immediately adjacent to stars they are 'guarding'; being stationary in the same approximate right ascension (longitude), or simply location within the same lodge is sometimes sufficient. In any case, I know of no case anywhere in Chinese astral prognostication of the use of the name of a lodge or asterism to denote a planet. The only conceivable such example is "Fire Star" *huo xing* 火星 which refers to either Antares (α Sco) or Mars, depending on the context, but the redundancy is simply due to the fact that both are reddish-orange in color. Names of lodges are sometimes used metonymically to stand for their correlated terrestrial "fields" or kingdoms, but never for planets. Bezold's inference is based on faulty knowledge.

Bezold continues (paraphrasing here), by saying that he also finds that:

> Of the thirty-nine mentioned Babylonian constellations, nine are entirely absent from the "Treatise," while elsewhere parts of Delphinus and Crater are mentioned but have yet to be discovered in Babylonian sources; both sources are unaware of five constellations from Ptolemy's (ca. 85–165 C.E.) *Tetrabiblos*—Sagitta, Cetus, Eridanus, Lepus, Corona Australis.

This means, admits Bezold, that the topical similarities he noted (#1–11 above) are likely coincidental. However, Bezold feels the following findings should also be considered significant:

> From among the Babylonian constellations a few clearly identified as unitary figures are likewise identified and provided with their own names by the Chinese; namely, Ursa Major, Ursa Minor, Coma, Draco, Corona Borealis, Orion, and Andromeda (the latter's stars in Babylonia having formed no unitary, named figure).

In fact, with the exception of Ursa Major and the belt of Orion, Bezold's assertion that the Chinese recognized the others as "unitary figures" is mistaken. Apart from Ursa Major, none of the mentioned

9. Ho, Peng-yoke, trans. *The Astronomical Chapters of the Chin shu* (Paris: Mouton, 1966), 36.

constellations have truly matching Chinese counterparts in the "Treatise."[10]

The Chinese have, in contrast to the Babylonians, recorded by far the majority of constellations as individual asterisms comprising a few stars, and to these they gave names, according to Bezold, "without being aware of the Babylonian expressions for the larger entity"; namely, Aries, Taurus, Gemini, Leo, Virgo, Scorpius, Sagittarius, Aquarius, Bootes, Auriga, Pegasus and Hydra. For example, in the case of Scorpio they call α, ς, τ Sco "Heart," while α Sco by itself is the "Celestial King." β, δ, π, ρ Sco are "Chamber," aka "Heavenly Quadriga," and so on.

Finally, according to Bezold:

> In further contrast to the Babylonians, from a series of figures which are known from the cuneiform inscriptions and Ptolemy to have had about the same extension, the Chinese have chosen only individual stars, as a rule lying close together, grouped and given their own name, or else denoted using only one of their stars; namely, for Cancer the stars γ, δ, η, ϑ, and the Nebula, for Libra α, β, γ, ι, for Capricorn α, β, ξ, π, ρ, for Lyra α, ε, ζ, for Cassiopeia α, β, μ, η, for Aquila α, β, γ, for Canis Minor α, β, η, and for Centaurus γ, ι, σ, etc.; further for Cygnus μ, for Pisces Australis α, for Canis Major α, and for Corvus ζ.

In view of all the above, Bezold is obliged to conclude that, "between Babylonian astronomy as known to us from the library of Assurbanipal and that set forth in *Shi ji* there prevails an *almost inexplicable inconsistency*" (emphasis mine). Bezold admits his first set of "parallels" (#1–11) is coincidental. We have seen the second set (A–G) to be based on wrong assumptions, mistranslation, and inadequate information. Therefore, Bezold's claim to have found convincing evidence for Chinese dependence on Babylonian astrology is plainly vacuous. Confronted by the "inexplicable inconsistency," but convinced, in spite of strong evidence, that the Babylonian zodiac system and astrology must have been transmitted to China, Bezold reasons that the contradiction results from a reformulation of Babylonian astrology after it somehow made its way to China prior to the late sixth century. He then ventures the following rationalization for his findings (paraphrasing again):

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10. Compare the Chinese star maps from Dunhuang 敦煌 (c. seventh century C.E.) in the collections of the British Library, based on the maps of Chen Zhuo 陳卓 (fl. third century C.E.); British Library catalog number Or.8210/S.3326. In the chart of the circumpolar region, for example, the only "unitary figure" recognizable to non-Chinese will be Ursa Major. Xiaochun Sun and Jacob Kistemaker, *The Chinese Sky during the Han: Constellating Stars and Society* (Leiden: Brill, 1997), 28.

> If one rejects the attempt to resolve the discrepancy discussed above, there remains, as far as I can see, only one way out of the dilemma, which entails the following explanation. In ancient times the Chinese gave many constellations original names as groups of stars, recognized as such, including some clearly distinguishable as figures in the sky, and that the Babylonians had independently embraced those having the same or nearly the same extension. The Chinese would then have become acquainted with Babylonian astrology, probably before the accession of Darius (468–550 B.C.E.), and at that time adopted the received figures as their own as best they could, while maintaining the ancient native Chinese names and underlying ideas. A legacy of this amalgamation is found in Sima Qian's *Shi ji*.

Bezold offers no evidence in support of his conjecture that Babylonian astrological principles and practices were adopted wholesale by the presumably intellectually supine Chinese. His imagined scenario of the wholesale replacement of age-old Chinese traditions by a foreign scheme, in no way superior and transmitted by a handful of merchants, magicians, or charioteers, simply beggars the imagination.[11] Given Bezold's poor grasp of Chinese astral omenology and its long history, the superficiality of supposed parallels in the "Treatise," and his mistranslations and misconceptions, his conclusions cannot be taken seriously. Bezold was clearly in the grip of an *idée fixe* regarding the ineluctability of Babylonian influence on China. His understanding of the process of cultural diffusion in the absence of conquest or forced conversion is also simplistic; after all, Buddhism did not supplant pre-existing Chinese traditions but found a place alongside them.

Irreconcilable Systems

Even a cursory perusal of works on Mesopotamian astral divination discloses fundamental features that are wholly foreign to the Simas' authoritative account of astral prognostication in the "Treatise."[12]

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11. There is no comparison with the success of the Jesuit astronomers in the Qing dynasty. Jesuit mathematics and calendrical science, which *were* demonstrably superior, coexisted with traditional Chinese astral prognostication, and their ecliptic-focused astronomy did not entirely supplant the traditional Chinese polar-equatorial focus. The Jesuits had great admiration for Chinese instrumentation, even if they found Chinese positional astronomy "backward." Ironically, polar-equatorial orientation in astronomy is now the norm, whereas the Jesuits' ecliptic focus persists only in astrology.

12. Francesca Rochberg, *The Heavenly Writing: Divination, Horoscopy, and Astronomy in Mesopotamian Culture* (Cambridge: Cambridge University Press, 2007); David Brown, "Astral Divination in the Context of Mesopotamian Divination, Medicine, Religion, Magic, Society, and Scholarship," *East Asian Science, Technology, and Medicine* 25 (2006), 69–126.

In Mesopotamia there are:

(i) the 360° circumference of the sky and base-20 number system;

(ii) the ecliptic (zodiacal) orientation;

(iii) astral omens attributable to individual anthropomorphic divine agents (astrolatry);

(iv) metaphorical language suggestive of human motives and behavior used to characterize interactions among celestial bodies;

(v) apotropaic rituals and direct appeal to the astral god to avert evil consequences;

(vi) provoked omens to call forth a response from the god;

(vii) "nativities" and horoscopic astrology;

(viii) astral omens for ordinary individuals;

(ix) the Moon is of singular importance with respect to the ruler, etc.

In contrast, consider the peculiarities of Chinese astronomy and astral prognostication which are not found in Mesopotamian astral divination:

(i) the 360° circumference of the sky divided by 365.25 days yields a Chinese *du* 度 (~ angular degree) of 0.986°;

(ii) the resolutely polar-equatorial orientation of astronomy with equatorial positions of bodies given in *du* and polar distance in feet *chi* 尺 and inches *cun* 寸;

(iii) the absence of any role for the ecliptic and no trace of a zodiac;

(iv) 28 lodges whose extension is measured along the equator;

(v) the paradigmatic role of the Milky Way as the analogue of the Yellow River in astral-terrestrial correspondences;

(vi) the role of the same Sky River in Sima Qian's innovative binary macro-astrology, based on *yin-yang* principles;

(vii) astral omenology is carried out exclusively by and for the State;

(viii) the *yin-yang* and Five Elemental-Phases interpretive paradigm;

(ix) prognostication based on the all-important *materia vitalis* (*qi* 氣), the essence of all things, including celestial bodies;

(x) no divinization of *xing* 星 "astra," no appeals to the gods or provoked omens; and the list goes on.

At the same time, during the Former Han Dynasty trade along the "Silk Routes" was thriving, prompting Emperor Wu 武帝 (r. 141–87 B.C.E.) to dispatch Zhang Qian 張騫 in 138 B.C.E. to explore the Western Regions. Central Asian sections of the routes flourished from 114 B.C.E. on as a result of Han expansion into the area. If ever there was a time prior to contact with Indian astronomers when Chinese astronomy ~ astral prognostication ought to have been receptive to outside influences, the Western Han dynasty was it. And yet Chinese astral omenology remained essentially impervious to external influences. Later, this is equally true of prognostication based on the "long export" of planetary resonance periods common in India and Western Asia, despite the prominent roles of Sogdians, Sasanians, and other Central Asians as intermediaries in Tang China.[13] In spite of all the above, Joseph Needham initially found Bezold's analysis sufficiently persuasive to repeatedly endorse the study, most explicitly as follows:

> It seems safe to conclude . . . that on the whole the Chinese nomenclature of the constellations represents a system which grew up in comparative isolation and independence. Such, too, was the mature conclusion of Bezold . . . who pointed out that it does not exclude the transmission of a body of Babylonian astrological lore to China before the 6th century, which, as we saw above,[14] seems rather probable. Nor would it militate against the belief that certain basic ideas were transmitted about a thousand years earlier, e.g., the planispheric "roads" which led to the system of the *hsiu* [28 lodges], the use of the gnomon, the recognition of the position of the pole and the equinoctial points, and so on.[15]

By 1978, however, although Needham was expressing himself more cautiously he was still reluctant to relinquish the idea of diffusion:

> The entire Chinese sky was mapped in constellation patterns totally different from those of the Middle East and Europe—a fact testifying to the independent rise of ancient Chinese astronomy. It is likely, then, that what passed from Mesopotamia to China in about the first millennium B.C.E. was nothing more than the conviction of the possibility of a system of divination using the stars.[16]

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13. David W. Pankenier, *Astrology and Cosmology in Early China: Conforming Earth to Heaven* (Cambridge: Cambridge University Press, 2013), 436.

14. Needham, *Science and Civilisation in China*, 2:354.

15. Needham, *Science and Civilisation in China*, 3:273.

16. Colin A. Ronan and Joseph Needham, *The Shorter Science and Civilisation in China* (Cambridge: Cambridge University Press, 1978), 1:196.

Subsequently, noted scholars like Roy Andrew Miller and Edward H. Schafer also uncritically accepted Bezold's flawed study as authoritative.[17] In contrast, Otto Neugebauer was harshly critical of Needham's claim of Babylonian influence.[18] As for the twenty-eight lodges, recent study by David Pingree and Patrick Morrisey "argues strongly against a common origin or even association" of the twenty-eight Chinese *xiu* with the Indian *nakşatras*.[19] F. R. Stephenson's study of stellar nomenclature, with "reference to the *Shi ji* and later star lists, shows that correspondence between Chinese and Babylonian-Greek names for constellations is rare, emphasizing their independent origins."[20] More recently, John M. Steele wrote:

> Historically and textually, I see no evidence Chinese celestial divination originated in Babylonia; nevertheless, in both cultures the heavens were used to provide portents, and in both cases these portents were at times exploited for political purposes . . . there were clear differences between how the Babylonians and the Chinese conceived of celestial measurement . . . this would make [transmission] harder and does, I think, place the onus on historians claiming the transmission of Babylonian astronomy to China to explain how this problem was overcome.[21]

The initial presumption of diffusion to China of Babylonian astrology owed its appeal to a felt-need to account for "late-developing" Chinese astronomy. But in the decades since Needham wrote, numerous pertinent archaeological discoveries have been made. For example, it is now clear that the Taosi 陶寺 altar platform (c. 2100 B.C.E.) designed for solar observations is roughly contemporaneous with the earliest date proposed for the famous Babylonian MUL.APIN compendium of (presumably) late-Sumerian astronomical lore.[22] Moreover, 1,000 km southeast

17. Roy A. Miller, "Pleiades Perceived: From Mul.Mul to Subaru," *Journal of the American Oriental Society* 108.1 (1988), 4; Edward H. Schafer, *Pacing the Void: T'ang Approaches to the Stars* (Berkeley: University of California Press, 1977), 10.

18. Otto Neugebauer, *A History of Ancient Mathematical Astronomy* (Berlin, Heidelberg, and New York: Springer, 1975), 1073; Liu Qiyu 劉起釪, "Yaodian Xi He zhang yanjiu" 堯典羲和章研究, *Zhongguo shehui kexue yuan lishi yanjiusuo xuekan* 中國社會科學院歷史研究所學刊 2 (2004), 64ff.

19. David Pingree and Patrick Morrisey, "On the Identification of the Yogatārās of the Indian Nakşatras," *Journal for the History of Astronomy* 20 (1989), 246.

20. F. R. Stephenson, "Chinese and Korean Star Maps and Catalogs," in *The History of Cartography*, ed. J. B. Harley and D. Woodward, Book 2, *Cartography in the traditional East and Southeast Asian societies* (Chicago: University of Chicago Press, 1994), 528.

21. John M. Steele, "A Comparison of Astronomical Terminology and Concepts in China and Mesopotamia," ("Origins of Early Writing Systems" Conference, October, 2007, Beijing). http://cura.free.fr/DIAL.html#CA; accessed on November 8, 2013.

22. Pankenier, *Astrology and Cosmology in Early China*, 17.

of Taosi, the orientation of the Yaoshan 瑤山 and Huiguanshan 匯觀山 altars and burial platforms belonging to the Liangzhu Culture 良渚文化 (c. 3000 B.C.E.) may reflect a similar motive a millennium earlier.[23]

It is not my purpose here to deprecate the work of others. But Carl Bezold's claim of transmission and Joseph Needham's endorsement of the diffusionist thesis continue to be cited, despite being *dépassé*. Given the authoritative influence of their opinions it seemed worthwhile to clearly demonstrate the inaccuracies lest the uninitiated continue to be led astray. Chinese astronomy and astral prognostication "give the appearance of having grown up in comparative isolation and independence," quite simply because they did.

中國的占星術是否起源于巴比倫?

班大為

摘要

本文探討巴比倫星占術是否傳入早期中國的問題。二十世紀初, 有一位有名的亞述文明學者在其研究中聲稱中國的占星術起源于古代美索不達米亞。這種說法雖然沒有被仔細推敲, 但從那時起至今, 一直被視為定論。本文首次對傳入說的證據進行了探討。

Keywords: Astral omenology, Babylonia, transmission to China
占星術，巴比倫，傳入中國

23. Zhejiang sheng kaogu yanjiusuo, *Yaoshan* 瑤山 (Beijing: Wenwu, 2003). For the remarkable, roughly contemporaneous, Yangshao 仰韶 "cosmological" burial at Puyang 濮陽, see Pankenier, *Astrology and Cosmology in Early China*, 337.