

The Astronomy and Astrology of the Yijing

by M T Rogers, December 2023

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Introduction and Abstract

This is a supplementary paper attempting to illustrate and demonstrate some of the astronomy and astrology of ancient China, and how the relationships between the various natural cycles of change may be used to interpret the hexagrams of the Yijing. This combination of astronomy and astrology is introduced in the paper *Reconstructing the Symbols*,¹ and is central to the following two papers *Recomposing the Statements*² and *Reimagining the Day*.³ The reader will need to be familiar with the first of these which investigates the symbols of the trigrams, and then derives the two arrangements of hexagrams. The main first part of the current paper may help to explain, demonstrate and update the discussion on some of the hexagram names at the end of *Reconstructing the Symbols*, and then further assist the reader with the following papers. Familiarity with the basic principles of *Recomposing the Statements* is required to follow the subsidiary second part of the current paper, which is a more detailed interpretation of parts of the hexagram and line statements for *Feng* 豐 (55).

While in these other papers the symbols and statements of the hexagrams are related to the complex astronomical and astrological relationships between the revolutions of the main planets, the description and depiction of the dynamic cycles with static literary media is difficult. The astrologers from the beginning of the dynasties ca. 2000 BC must have had the same or greater difficulty, so they might have had some method or simple analog device to help them visualize and determine the relationships between the cycles.

This paper will attempt to summarise the relevant features of ancient Chinese astronomy and astrology, and then suggest an analog device which may be used to represent the planetary relationships, with a template for its construction included in the appendices. The design of the markings on the device has been through many iterations, but it is mainly the divisions and perhaps the associated numbers which are important, rather than the symbols and characters used to name the divisions. Although it is roughly based on one of the oldest remnants of a similar device from 165 BC, it is not suggested that this particular artifact was used at this time for Yijing astrology, and it remains unknown when the device might first have originated over the previous two millennia or for what purpose. But whether by intention or by coincidence, it is a simple and effective way to calculate the astronomically based cycles and demonstrate the proposed astrological interpretations of the hexagrams.

Months are always counted from the winter solstice and numbered according to the twelve astronomical and astrological stations. The view of the sky is imagined from above the dome of heaven and looking down, but note that this may be a later convention and that remains prior to ca. 400 BC depict the actual view of the sky in reverse, from the earth below and looking up. Note also that although the astronomical and astrological divisions of the sky seem to have been preserved for millennia afterwards, their relation to the solar year as well as the seasonal orientation of the Northern Dipper is only applicable ca. 2300 BC. Even by the Xia dynasty and certainly by the Shang ca. 1500 BC, the theory that still continued in the Han ca. 200 BC could no longer match the actual observations due to precession of the equinoxes.

In all English word translations of the hexagram and line statements including *Feng* 豐 (55), the Chinese text is originally from the Scripta Sinica database,⁴ and the meanings are based on a consideration of the Karlgren GSR,⁵ the Mathews dictionary⁶ and Unihan database⁷ definitions, and the English translations by Shaughnessy⁸ and Legge.⁹ The appendices include a table of the Jupiter stations and lunar mansions with translations of their names, and figures of the two arrangements of the hexagrams correlated with the stations and mansions.

Part I: The Astronomy and Astrology of the Yijing

The Stars and Planets

Viewed from above the north pole of heaven ca. 2300 BC, the celestial equator including the ecliptic is a circle of fixed stars with the Sun, Moon and other planets moving anticlockwise (Fig. 1). The circle of fixed stars is primarily divided into quadrants with the solstices and equinoxes of the solar year at the middle of each quadrant, so that the quadrants mark the four seasons. Then the stars are divided into twenty-eight constellations or asterisms with seven in each quadrant, also known as lunar “mansions” or “lodges,” approximately marking the daily movement of the Moon and numbered anticlockwise. The stars are also divided into twelve equal stations with three stations in each quadrant, marking the solar months approximately corresponding with the lunar or synodic months, and also approximately marking the yearly movement of Jupiter. The stations usually associated with the years of Jupiter but also with the solar months have ancient names consisting of two characters and are numbered anticlockwise.¹⁰

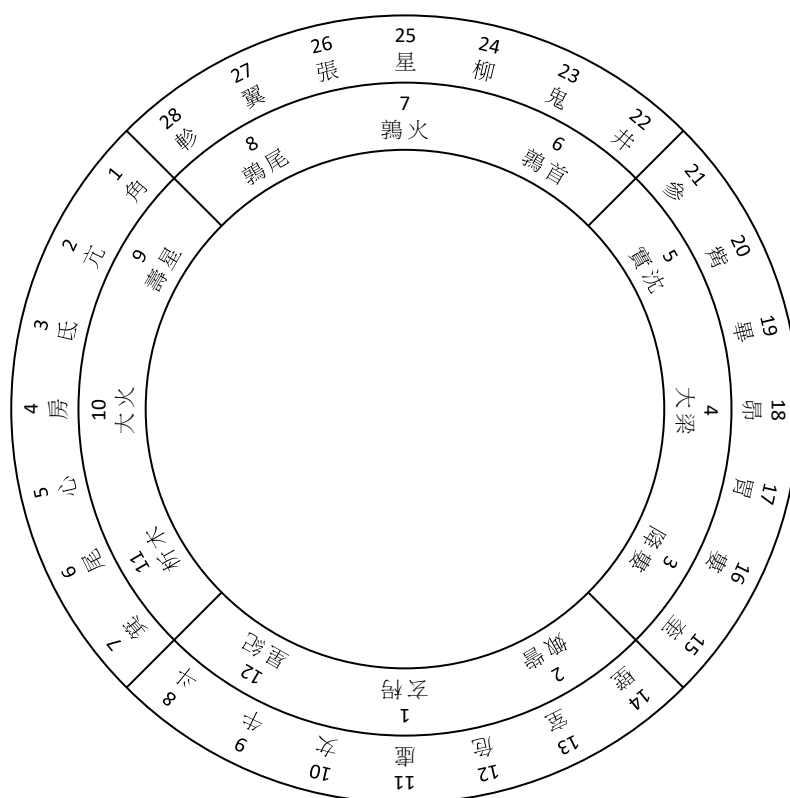


Figure 1. The astronomical anticlockwise division of the fixed stars into four quadrants, twenty-eight mansions and twelve stations. For the solar year, the first mansion marks the beginning of autumn, and the first station contains the winter solstice.

Astronomically the Sun moves anticlockwise around the circle of fixed stars, but if an observation of the Northern Dipper is taken each evening at dusk around 18:00, then at the winter solstice the handle of the dipper points north, rotating clockwise to point east at the vernal equinox, south at the summer solstice, and west at the autumnal equinox. Therefore astrologically there is also a clockwise revolution of the Sun around

the fixed stars each year (Fig. 2), so that the locations and quadrants of the astronomical equinoxes are reversed, and the twelve stations are alternatively numbered clockwise with the twelve cyclical signs or *zhi* 支 “branches.”¹¹ The four seasons of the astrological quadrants are correlated with the compass points, with the *si xiang* 四象 “four images” of the mythical animals and colours,¹² and with the four stages of change.¹³ Note that the names of the anticlockwise stations (App. I Tab. 1) appear to have been assigned backwards in a clockwise order when considered as stages of a cycle such as the months of the year. This then must also be the case with at least some of the names of the lunar mansions, since mansion *Lou* 婁 (16) falls in station *Jiang Lou* 降婁 (3) which shares the same name.

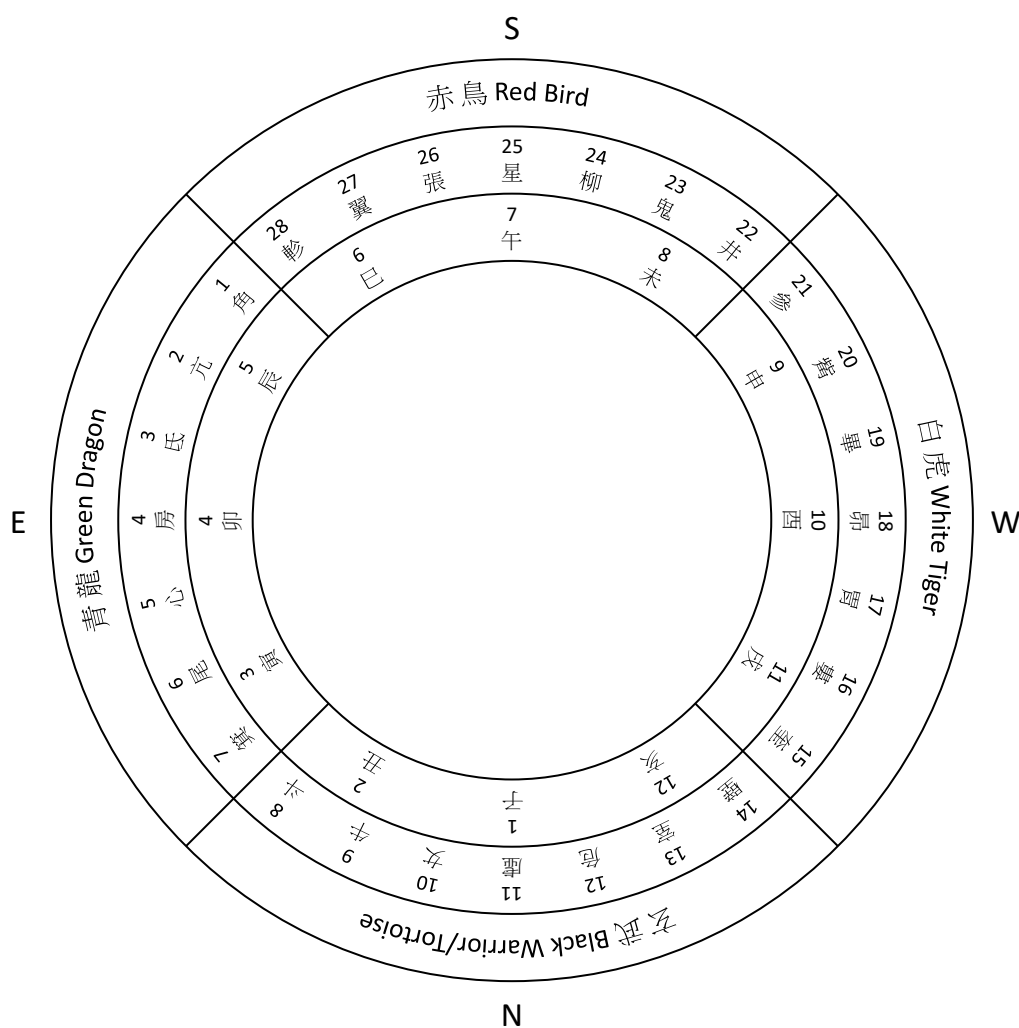


Figure 2. The astrological clockwise division of the fixed stars into four quadrants, twenty-eight mansions and twelve stations, correlated with the compass points and the four images.

The same astrological clockwise revolution is similarly derived for all other planets including the Moon and Jupiter,¹⁴ based on the orientation of the Northern Dipper when the planet is setting on the western horizon. The astronomical anticlockwise revolutions of these other planets thus have clockwise astrological correlates with the same four stages of change in the same quadrants as the astrological seasons of the solar year. The twelve clockwise stations are usually known as the solar stations although they can also designate the clockwise stations of Jupiter.

Because the periods of the sidereal revolutions of the planets around the sky are different, there are synodic cycles between successive conjunctions. There are approximately thirteen sidereal revolutions of the Moon for each sidereal revolution of the Sun, which produces twelve synodic months, where the light of the Moon waxes until “full” at opposition and then wanes until “new” at conjunction. The synodic month has an astrological cycle additional to that of the two sidereal cycles, with the middle of the four stages of change correlated with the four lunar quarters. Then there are twelve sidereal revolutions of the Sun for each revolution of Jupiter producing eleven “synodic” years, but with the four stages of the astrological cycle reversed in the synodic cycle, so that the year is “full” at conjunction and “new” at opposition.¹⁵

The Han Cosmic Board

The arrangement combining the astronomical and astrological divisions of the fixed stars is depicted on the lid of the lacquer clothes case from the tomb of Zeng Hou Yi ca. 400 BC,¹⁶ and especially on one of the artifacts from the early Han tomb of Xiahou Zao d. 165 BC known as the “six-ren cosmic board” (Fig. 3).¹⁷ This device consists of two parts, a square fixed base with the mansions and the clockwise stations or branches including the stems arranged around the outside, and a round top piece with the mansions and anticlockwise stations or months around the edge, with the Northern Dipper in the middle. The round plate is fixed onto the square base with a pin through the middle so that it can rotate. As discussed by Harper, it does have an astronomical use in that it can show the orientation of the Northern Dipper and the mansions for any time of the day and year.¹⁸ But it can also be used very effectively to represent the astrological relationships between the planetary cycles, whether this be for interpreting the hexagrams of the Yijing or for other hemerological purposes such as constructing an almanac.

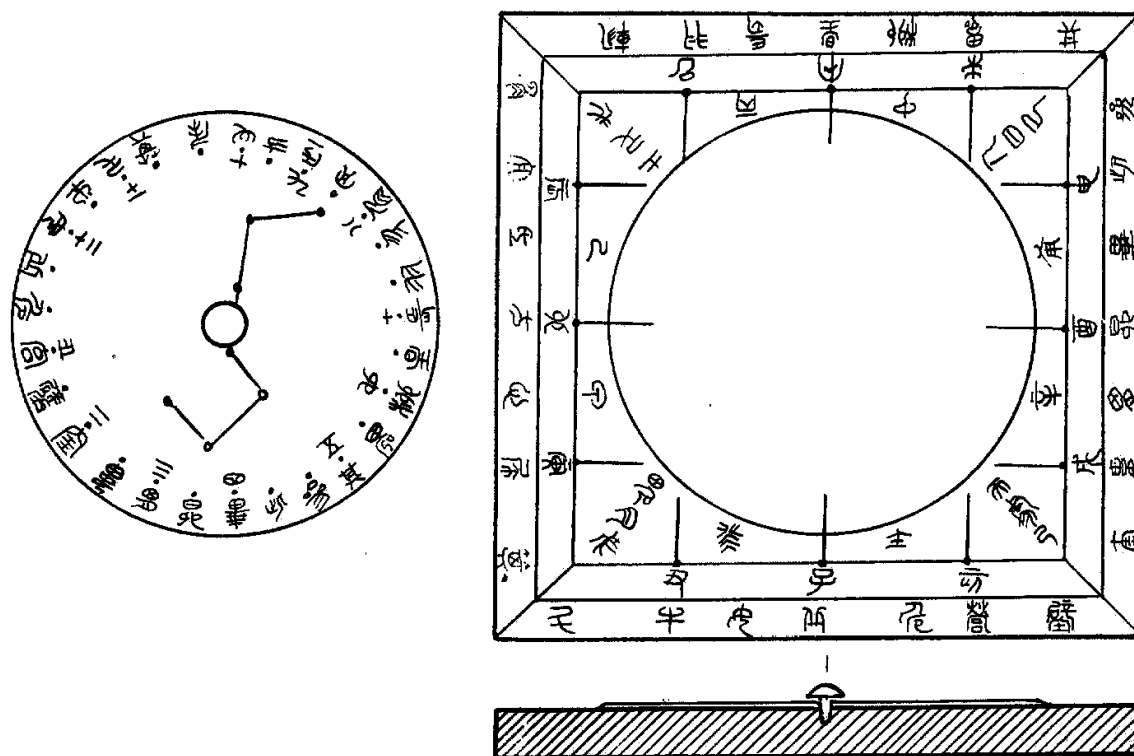


Figure 3. The six-ren cosmic board, after Kaogu 1978.5: 340, drawing by Li Xiating.

The Yijing Cosmic Board

The important features of the Han cosmic board are that it has almost the same arrangements of twenty-eight mansions and twelve stations on the two pieces, with the base piece fixed and the other rotating on top. The astrological significance of these divisions is that they are correlated with the four stages of change, and the name or label of the mansion or station is not particularly important, only its position and stage in the clockwise cycle of change. While there might have been a more direct connection with the names in ancient times, today it is easier to identify the four stages of change by adding the associated colours of the quadrants. The first stage of change in the eastern quadrant is associated with the Green Dragon, followed by the Red Bird in the south, the White Tiger in the west, and the Black Warrior or Tortoise in the north. The colours of these “four images” thus identify a clockwise cycle of change which waxes through green to red, and then wanes through white to black.

Based on the Han cosmic board, the proposed Yijing cosmic board (Fig. 4) has a fixed bottom plate with the compass points, mansions and clockwise stations, and a rotating top plate with the mansions and anticlockwise stations. Although the bottom plate is square the divisions are still arranged in circles for more ready alignment with the same divisions around the edge of the circular top plate. The middle of the top plate has an approximately scaled and oriented figure of the Northern Dipper, and although this has some astronomical use it is mainly decorative and has no astrological purpose apart from indicating the first quadrant. The four stages of change for the clockwise astrological quadrants on both plates are lightly shaded with the colours of the four images.

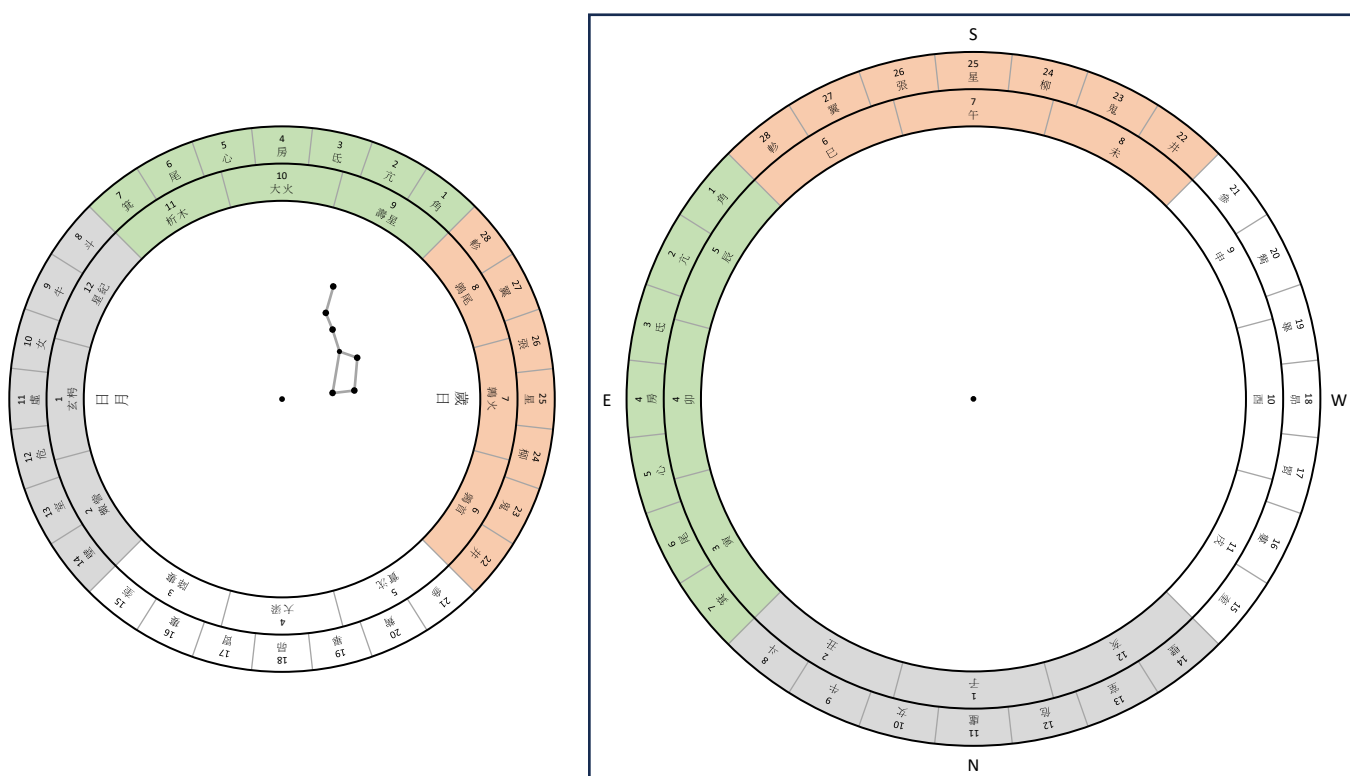


Figure 4. The Yijing cosmic board. Both the top and bottom plate are marked with the divisions of the sky into the twenty-eight mansions and twelve stations, with the four quadrants shaded with the colours of the four images. Irrespective of the naming or numbering of the divisions, the astrological movement of the planets around the plates is always clockwise.

For astronomical purposes, the top plate represents the sky and the anticlockwise sidereal revolutions of the planets, and on the bottom plate the compass points represent the eastern and western horizon of the observer, with south as the zenith and north as the nadir. The top plate is turned clockwise to simulate the movement of the sky, so that the stars and planets rise in the east and set in the west. With respect to the Sun, the bottom plate is thus like a twenty-four hour clock dial and the clockwise stations correspond with the twelve double hours, with midnight in the middle of the first station in the north. Pointing the location of the Sun on the top plate to a particular double-hour on the bottom plate gives the orientation of the sky at that time, including the direction of the Northern Dipper and the locations of the stars that are visible to the observer.¹⁹

The board can thus be used to demonstrate the apparent clockwise revolution of the Northern Dipper at dusk throughout the year, or the astrological revolution of the Sun. When the Sun is located in the first station at the winter solstice on the top plate, and this is turned clockwise to the tenth station or double-hour of dusk on the bottom plate, the Northern Dipper on the top plate points to the north (Fig. 5.1). At the vernal equinox when the Sun is in the fourth station on the top plate and this is turned to the tenth station on the bottom plate, the Northern Dipper points to the east (Fig. 5.2). Each evening it continues to gradually rotate clockwise, completing one revolution each year.

For astrological purposes, the bottom plate represents the sky and the clockwise sidereal revolutions of two planets with a duodenary relationship between their periodicities, either the Sun and Moon (Fig. 6.1) or Jupiter and the Sun. On the top plate, the station correlated with the conjunction of the two planets is oriented to the station of the slower planet on the bottom plate. While the slower planet moves through this station on the bottom plate, the top plate shows the astrological synodic phase of the faster planet for a complete revolution around the bottom plate. Thus for the Sun and Moon (日月), the new moon in the first station on the top plate marks the revolution of the Sun on the bottom plate, and for Jupiter and the Sun (歲日), the middle of the synodic year in the seventh station on the top plate marks the revolution of Jupiter. On the Yi-jing cosmic board, the two pairs of characters for these planets are labelled opposite each other on the top plate next to the stations astrologically associated with their synodic conjunctions. Rotating these clockwise can be used to mark the movement of the slower planet around the bottom plate, with the synodic phase of the faster planet on the top plate.

There are thus effectively twelve astrological configurations as the top plate is rotated clockwise through the twelve stations on the bottom plate. But also each astrological configuration has a fixed astronomical relationship, since the actual anticlockwise location of the slower planet on the top plate is fixed relative to the bottom plate. In astrological configurations for the Sun and Moon (Fig. 6.1), the actual astronomical location of the Sun on the top plate is always in the north of the bottom plate (Fig. 6.2), while for Jupiter and the Sun, the actual location of Jupiter is always in the south. This means that on any day the astrological configuration for the Sun and Moon is the same as the astronomical configuration for when the Sun transits the nadir at midnight, and for Jupiter and the Sun, the astronomical configuration is the same when Jupiter transits the zenith meridian. The time for the latter can be determined by plotting the actual position of the Sun on the top plate against the clockwise double-hours on the bottom plate, and this is perhaps demonstrated in the text of hexagram *Feng* 豐 (55).²⁰



Figure 5.1. The astronomical location of the Sun (☀) on the top plate in the first anticlockwise station or month at the winter solstice, and turned to the tenth clockwise station of dusk at 18:00 in the west on the bottom plate. The handle of the Northern Dipper points to the north.



Figure 5.2. The astronomical location of the Sun (☀) on the top plate in the fourth anticlockwise station or month at the vernal equinox, and turned to the tenth clockwise station of dusk at 18:00 in the west on the bottom plate. The handle of the Northern Dipper points to the east.

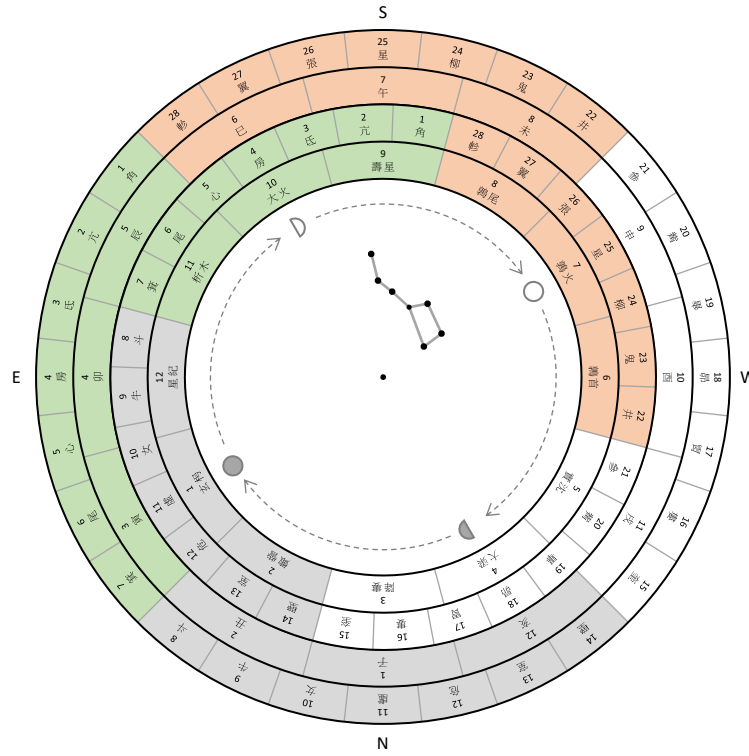


Figure 6.1. The astrological third month of the year at the beginning of spring, with the lunar quarters included on the top plate. The new moon on the top plate is turned clockwise to the position of the Sun in the third station on the bottom plate, and the top plate shows the synodic phase for a clockwise sidereal revolution of the Moon around the bottom plate. The Northern Dipper has no astrological significance.

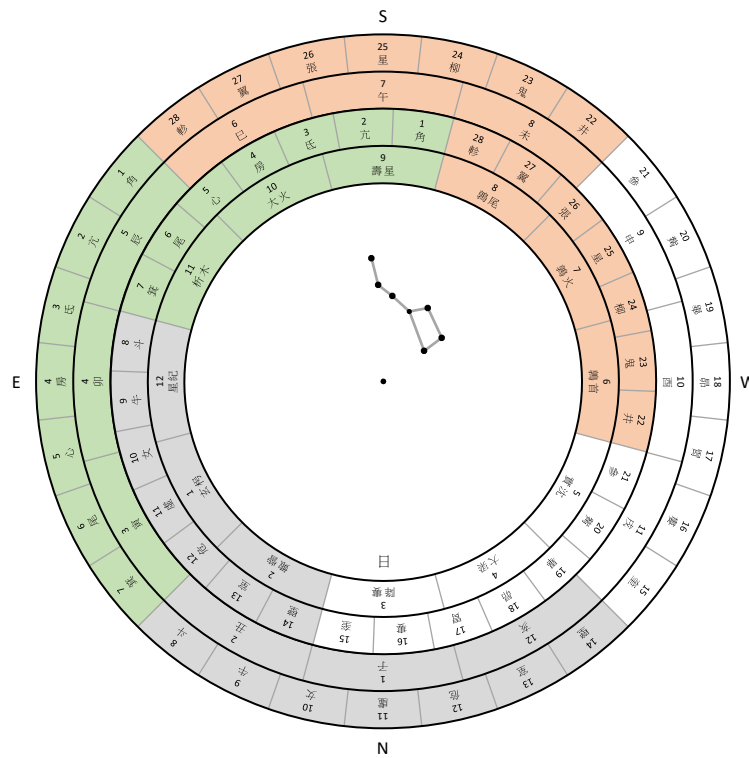


Figure 6.2. The astronomical third month of the year at midnight. The Sun (☐) in the third station on the top plate is turned clockwise to the time of the first station in the north on the bottom plate. This is the same as the astrological configuration (Fig. 6.1), but now the mansions and stations on the top plate indicate the orientation of the stars and the Northern Dipper at midnight.

The Yijing Astrology Board

The dual use of the cosmic board for both astronomy and astrology perhaps explains why the mansions and stations can be present on either or both of the plates. In astronomy these divisions mark the actual anti-clockwise revolutions of the planets on the top plate, and in astrology the imaginary clockwise revolutions on the bottom plate. Either use does not require both plates to have both the mansions and stations, and in each use the function of the other plate is different and not directly related to the fixed stars. In astronomy the bottom plate represents the view of the observer and in astrology the top plate represents the synodic phase for two planets. Therefore the Yijing cosmic board can be used solely as an astrology board by simplifying the top plate (Fig. 7) so that it only has the four quadrants labelled with *yuan heng li zhen* 元亨利貞, which are the first four words of the Yi and always correlated with the four stages of change.²¹ This top plate is in some respects similar to that of the “nine-palace cosmic board,” also from the tomb of Xiahou Zao in 165 BC,²² but the divisions on the bottom plate of the nine-palace board are different from the stations and mansions of the six-ren board.

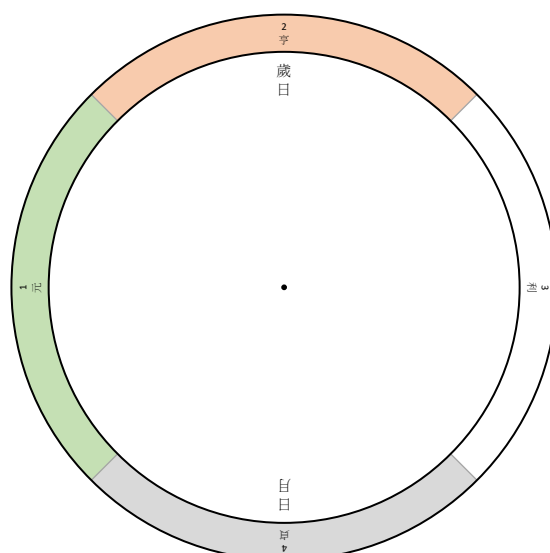


Figure 7. The simplified top plate showing the synodic phases for an Yijing astrology board, with the four quadrants shaded with the colours of the four images, and with the four stages of change labelled clockwise with *yuan heng li zhen* 元亨利貞. The astrological conjunction of the Sun and Moon which marks the months on the bottom plate is correlated with the middle of the fourth quadrant, and the conjunction of Jupiter and the Sun which marks the years is correlated with the middle of the second quadrant.

The Sun and Moon

Astrologically the twenty-eight mansions on the bottom plate provide for the approximate counting of days in a solar calendar. Starting at mansion *Wei* 危 (12) for the first month containing the winter solstice and counting thirty-one days clockwise arrives at mansion *Niu* 牛 (9) to begin the second month, then counting thirty days clockwise for the next two months arrives at mansion *Xin* 心 (5) beginning the fourth month, containing the vernal equinox. The months at the solstices and equinoxes will thus all have thirty-one days so that a year consists of 364 days. Note that there is some evidence in the Shang oracle bone inscriptions for the prior existence of a solar calendar with consecutive months of thirty days, which was then developed into a lunar calendar by the end of the Shang with alternating months of twenty-nine and thirty days to more closely follow the synodic month.²³ The solar calendar remained in use with the lunar calendar because each lunar month contained the midpoint of the corresponding solar month until an intercalary month was required,²⁴ approximately twice every five years. Thus all lunar months except the intercalary months are associated with one solar month, and any particular lunar month can be approximately treated as a solar month with the same counting of days around the mansions, since these also coincide approximately with the daily sidereal revolution of the Moon.

Suppose an astrologer is writing an almanac for the fourth month of the year in the middle of spring, and they would like to know the astrological indications for the waxing first quarter of the lunar month, on the eighth day from the new moon (Fig. 8). They would rotate the top plate clockwise until the new synodic month points to the position of the Sun in the fourth station in the east on the bottom plate, then count eight days clockwise around the mansions to arrive at the south of the bottom plate. This configuration of Sun in the east and Moon in the south represents the eighth day of the fourth month, and there are three indications from the various cycles displayed on the plates which the astrologer needs to consider. Firstly there is the position of the Sun in the east on the bottom plate, which is waxing at the vernal equinox in the middle of the first quadrant. Secondly there is the position of the synodic Moon in the south on the top plate, similarly waxing at the first quarter. Thirdly there is the position of the sidereal Moon in the south on the bottom plate, culminating in the middle of the second quadrant. The astrologer would note that both the Sun and synodic Moon are in the middle of the first stage of change, and perhaps decide that this is compatible with the middle of the second stage of change for the sidereal Moon. *Yuan* 元 and “greatness” is correlated with the first stage of change, while “excess” could be associated with the culmination of the second stage, and also with the repetition of “greatness” in the main cycles. The astrologer might then forecast that “greatness exceeds” with a fortunate prognostication for this part of the month.

Now consider approximately the opposite of this configuration, the waning third lunar quarter at the autumnal equinox, around the twenty-second day of the tenth month (Fig. 9). The new synodic month on the top plate is now pointed to the tenth station in the west on the bottom plate, and counting the days around the mansions again arrives at the south of the bottom plate. The Sun and synodic Moon are both waning in the middle of the third stage of change, which as the opposite of *yuan* is “smallness,” although the sidereal Moon is still “exceeding” in the middle of the second stage. The astrologer might now forecast that “smallness exceeds” with an unfortunate prognostication if the third stage of change was not considered favourable with the second stage. Finally consider the same tenth month but fourteen days earlier at the waxing first quarter on the eighth day, with the Sun still in the west but the Moon in the north. The third stage of the waning year in autumn which is “small” is now opposed to the first stage of the waxing synodic month which is “great.” But since the third stage of the former is favourable with the fourth stage of the sidereal month which limits and “restrains,” the astrologer might counsel that it is fortunate if “the great restrains the small.”

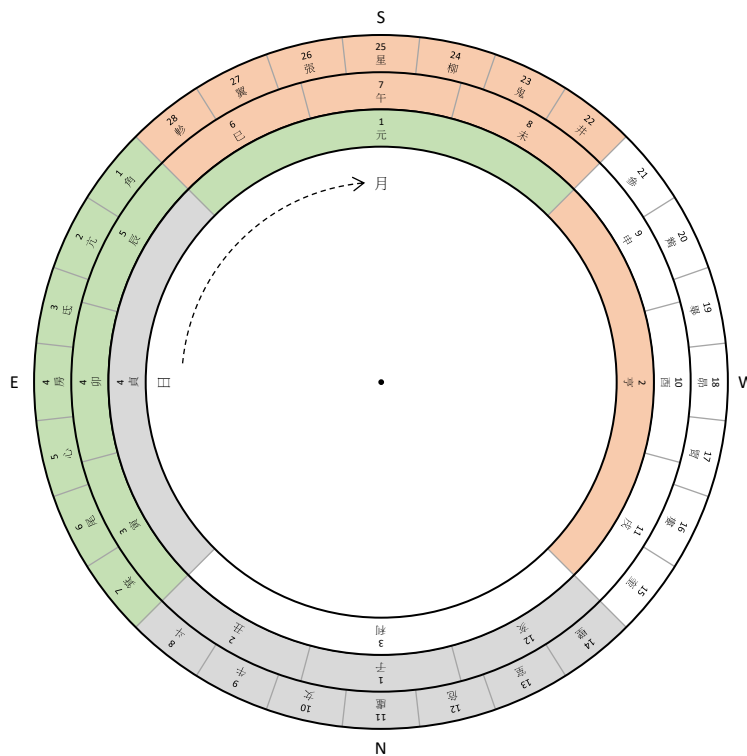


Figure 8. “Great Exceeding.” The fourth month of the year in the middle of spring with the new synodic month on the top plate pointing to the Sun (日) in the fourth station *Mao* 卯 (4) in the east on the bottom plate. On the eighth day of the month at the first quarter the Moon (月) has moved eight mansions around the bottom plate to *Xing* 星 (25) in the south, and to the middle of quadrant *Yuan* 元 (1) on the top plate.

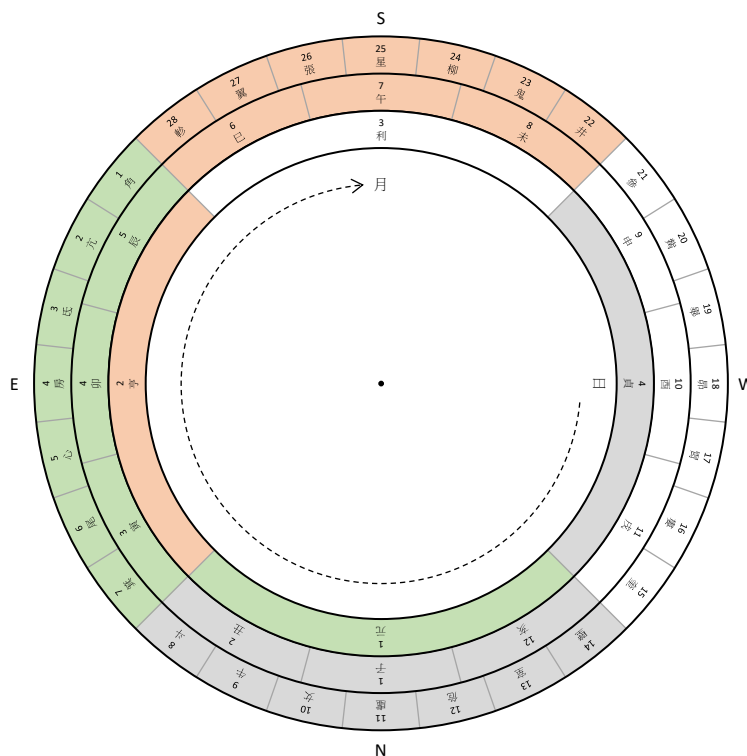


Figure 9. “Small Exceeding.” The tenth month of the year in mid-autumn with the new synodic month on the top plate pointing to the Sun (日) in the tenth station *You* 酉 (10) in the west on the bottom plate. On the twenty-second day of the month at the third quarter the Moon (月) has moved twenty-two mansions around the bottom plate to *Xing* 星 (25) in the south, and to the middle of quadrant *Li* 利 (3) on the top plate.

By correlating the primary and secondary arrangements of hexagrams (App. II) to the stations and mansions on the bottom plate, the above examples have named the four hexagrams which are linked in pairs by their names.²⁵ In the south of the secondary arrangement representing the sidereal revolution of the Moon, there are two hexagrams named *Da Guo* 大過 (28) “Great Exceeding” and *Xiao Guo* 小過 (62) “Small Exceeding” after the waxing and waning of the synodic month at the vernal and autumnal equinoxes. Then there are two hexagrams with names which similarly share the second term *xu* 畜 which can be a pun meaning both “accumulate” and “restrain.” Before the southwest in the primary arrangement representing the sidereal revolution of the Sun, there is the hexagram *Xiao Xu* 小畜 (9) “Small Accumulating” (or “Small Restraining”), and after the northwest in the secondary arrangement for the sidereal Moon, there is the hexagram *Da Xu* 大畜 (26) “Great Restraining” (or “Great Accumulating”) (Fig. 10). These are named after the waxing of the eighth synodic month, two months before the autumnal equinox but with similar relationships for the first quarter.

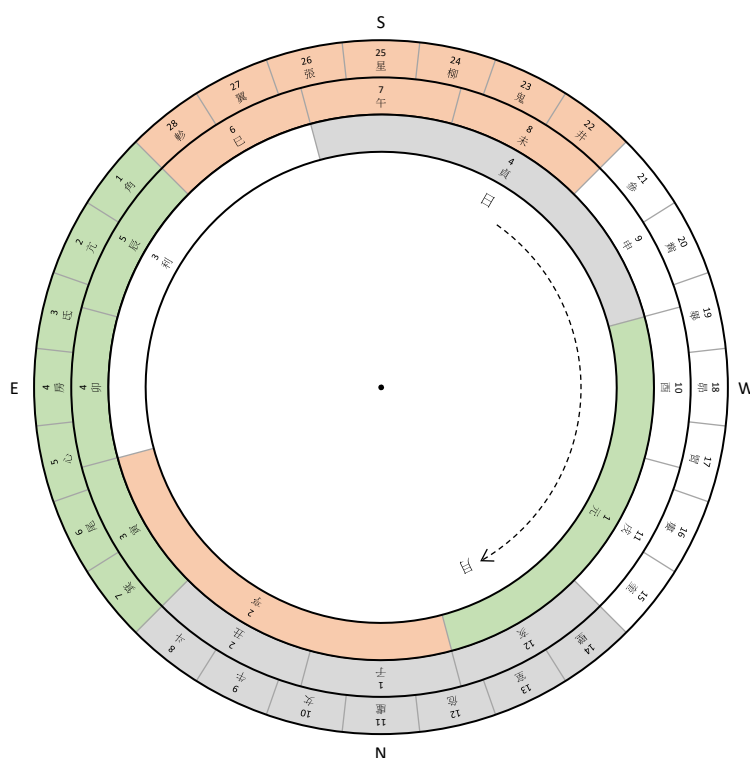


Figure 10. “Great Restraining (of the) Small Accumulating.” The eighth month of the year at the end of summer with the new synodic month on the top plate pointing to the Sun (日) in the eighth station *Wei* 未 (8) before the southwest on the bottom plate. The second ten-day week of the month is the location of hexagram *Xiao Xu* 小畜 (9) “Small Accumulating” in the primary arrangement. At the beginning of the second week on the eleventh day of the month shortly after the first quarter, the Moon (月) has moved to mansion *Shi* 室 (13) after the northwest on the bottom plate. This is the location of hexagram *Da Xu* 大畜 (26) “Great Restraining” in the secondary arrangement.

Jupiter and the Sun

The seventh station in the middle of the second quadrant on the top plate marks the sidereal position of Jupiter on the bottom plate, so that the synodic cycle with the Sun at conjunction is “full” in the middle of the second stage of change. This is perhaps because the Sun is yang or male and the Moon is yin or female, and since these are opposites the synodic month is full at opposition, but Jupiter is also yang or male, and being

the same as the Sun the synodic year is thus “full” at conjunction.²⁶ Note also that the apparent motion of Jupiter becomes retrograde at opposition for approximately four months, and since this is astrologically unfavourable it should also be correlated with the “new” synodic year in the middle of the fourth stage of change. In late 1048 BC the initial campaign by the Zhou against the Shang may have been a training exercise or was postponed by King Wu until early 1046 BC because of the retrograde motion of Jupiter.²⁷

The hexagram statement of the first hexagram *Qian* 乾 (1) consists of the four key words *yuan heng li zhen* 元亨利貞 designating the four stages of change. But in the second hexagram *Kun* 坤 (2) there are three additional words between li and zhen, *li pin ma zhi zhen* 利牝馬之貞 “li (a) female horse’s zhen.” Now *Kun* is the hexagram of the winter solstice in the north of the primary arrangement and is “female”, but “horse” is a symbol for the male trigram *Qian* and hence also for the hexagram *Qian* at the summer solstice in the south. So consider the standard configuration for the cosmic board where the quadrants of the two plates are aligned (Fig. 11). This means that the full synodic year on the top plate is pointing to Jupiter in the seventh station or year on the bottom plate in the south, half way through a revolution of twelve years and in the middle of the second stage of change. Now with respect to Jupiter which indicates a “horse” for the seventh year, the Sun at the winter solstice is “female” and at the summer solstice “male.” At the winter solstice the sidereal Sun in the north opposes Jupiter in the south on the bottom plate, and the “new” synodic Sun on the top plate is in the middle of the fourth stage of change correlated with zhen, hence there is a “female horse” and “she (is) zhen.”²⁸



Figure 11. “Female horse’s zhen.” The seventh year of the twelve-year cycle with the full synodic year on the top plate pointing to Jupiter (歲) in the seventh station *Wu* 午 (7) in the south on the bottom plate, where the hexagram *Qian* 乾 (1) in the primary arrangement represents a “horse.” At the winter solstice the Sun (日) is in the first station *Zi* 子 (1) in the north on the bottom plate where the opposite hexagram *Kun* 坤 (2) is “female,” and the synodic year on the top plate in the middle of the fourth stage of change is “zhen.”

The Arrangements of the Hexagrams

The secondary arrangement of twenty-eight hexagrams (App. II Fig. 2) represents the sidereal revolution of the Moon, so that each hexagram is approximately one day of the sidereal revolution of 27.32 days. When combined with the sidereal revolution of the Sun, some of the hexagram names suggest the phases of the synodic month of 29.53 days at certain times of the year. The text of the lines of hexagrams in the secondary arrangement may also be based on the synodic lunar phase as this changes at a fixed sidereal point for each month of the year.²⁹

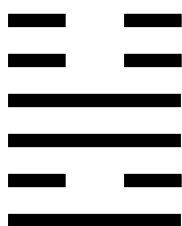
The primary arrangement of thirty-six hexagrams (App. II Fig. 1) then represents the sidereal revolution of the Sun, where each hexagram is approximately one ten-day week of the sidereal revolution of 365.25 days (the sidereal year is actually closer to 365.26 days but is assumed equal to the solar or tropical year of 365.24 days because precession of the equinoxes was not recognized in ancient China). When combined with the sidereal revolution of Jupiter of 11.86 years, the line statements of these hexagrams may be based on the synodic solar phase as this changes at a fixed sidereal point for each year of the Jupiter cycle.³⁰ Note that the sidereal revolution of the Sun is thus correlated with both arrangements of hexagrams, but in each arrangement it has a different relationship with either the Moon or Jupiter.

Since the arrangements of the hexagrams are based on the sidereal revolutions of the Sun and Moon, every hexagram can be associated with a fixed sidereal point on the circle of fixed stars. Every hexagram can thus be associated with a fixed sidereal stage of change through the divisions on the fixed bottom plate of the Yi-jing cosmic board, and the divisions on the rotating top plate can then show the variable synodic stages over successive months and years. These astrological relationships can perhaps be used to interpret the topics and injunctions of the hexagram and line statements.

Conclusion

It seems likely that in ancient China there was always this coexistence and interdependence of astronomy and astrology, but they are also separate and identifiable by their differences. The actual revolution of the planets around the fixed stars is anticlockwise in astronomy, but always clockwise in astrology. An astronomical reference such as a meridian transit must use the anticlockwise location of the planet, whereas the astrological phase or stage always uses the clockwise location. On the cosmic board, the bottom plate marks the astrological revolutions of the planets, the top plate the astronomical. Although the astrological clockwise revolution has great significance and importance, it is an imaginary correlation and not a real consequence of the movement of the Northern Dipper at dusk. The actual anticlockwise revolution often seems to be relatively less important, almost as if the main purpose is to naturally establish the periodicity of the artificial clockwise correlate. And rather than the astronomical revolutions, it is mainly the astrological correlates which might have influenced the images and text of the hexagrams and lines of the Zhouyi.

Part II: The Astronomy and Astrology of Hexagram *Feng* 豐 (55)



豐: 亨, 王假之, 勿憂, 宜日中.

Abundant: heng, (the) king arrives (at) it, do-not grieve, (the) proper sun (is in the) middle (midday).

初九: 遇其配主, 雖旬无咎, 往有尚.

Initial nine: meeting his equal lord, although (a) week (ten days) without fault, going has exalting.

六二: 豐其蔀, 日中見斗, 往得疑疾, 有孚發若, 吉.

Six second: abundant his screen, (with the) sun (in the) middle seeing (the) Dipper (eighth lunar mansion), going gains doubt (and) illness, having confidence manifesting like, auspicious.

九三: 豐其沛, 日中見沫, 折其右肱, 无咎.

Nine third: abundant his banner, (with the) sun (in the) middle seeing (the) Foam (small stars behind the handle of the Northern Dipper), breaking his right arm, without fault.

九四: 豐其蔀, 日中見斗, 遇其夷主, 吉.

Nine fourth: abundant his screen, (with the) sun (in the) middle seeing (the) Dipper (eighth lunar mansion), meeting his level lord, auspicious.

六五: 來章有慶譽, 吉.

Six fifth: coming distinction has congratulation (and) praise, auspicious.

上六: 豐其屋, 蔀其家, 闐其戶, 闐其无人, 三歲不覿, 凶.

Top six: abundant his roof, screening his home, peeping (from) his door, quietly his without people, (for) three years not seeing, inauspicious.

There is further imagery of the astrological relationships between Jupiter and the Sun in the hexagram *Feng* 豐 (55) "Abundant" which also has several astronomical references. Three of the line statements are usually interpreted as an eclipse of the Sun at "noon," where in lines two and four the Sun is obscured by a "screen" so that the stars of the eighth mansion *Dou* 斗 "Dipper" are visible, and then in line three there is the same by a "streamer" or "banner" so that the *Mo* 沫 "Foam" stars can be seen, referring to the small stars behind the handle of the Northern Dipper.³¹ Suppose that in the hexagram statement, "(the) proper sun (in the) middle" refers to the "proper" or actual Sun crossing the "middle" of the sky or the meridian at noon. Then in the lines, the "sun" is not the "proper" Sun transiting the meridian but is rather Jupiter which is a "secondary" sun because of the similar characteristics and astrological relationships. But also it is a property of the cosmic board that the astrological configuration for Jupiter and the Sun is the same as the astronomical configuration for when Jupiter transits the meridian.³² And this can only be observed at night when the Sun is approximately in the opposite quadrant of the sky, so that the light of the "proper" Sun is "screened" behind the Earth and the stars and planets are visible. Also with the opposition of Jupiter and the Sun there is the "new" synodic year in the middle of the fourth stage, and this is associated with the colour black and darkness, and can be astrologically correlated with the new moon of the synodic month when a solar eclipse is possible.

Feng in the primary arrangement (App. II Fig. 1) is located east of northeast at the beginning of the fifth clockwise station, between the second and third mansion. This astrological location must be very close to the "Foam" in line three because it is approximately behind the handle of the Northern Dipper. Note that on the Han cosmic board the handle points to the second mansion. With the other formulaic variation of a "banner" suggesting identity instead of a "screen," line three should mark the location of Jupiter in the station of *Feng* in the fifth year, and also the opposition in the eleventh year (Fig. 12.1). However, for the eleventh year consider that while the astrological clockwise location of Jupiter is the station before the northwest, the actual astronomical anticlockwise location is the station before the northeast, corresponding with the third clockwise station. This actual location of Jupiter is about one and a half stations east of the "Foam," so that when Jupiter crosses the meridian at midnight in the fifth month of the eleventh year, Foam is starting to set midway to the western horizon (Fig. 12.2).

In the second line which is the fifth month of the previous tenth year, the actual location of Jupiter is about one and a half stations west of the "Dipper" mansion, so that when Jupiter crosses the meridian at around 22:00 Dipper is rising midway from the eastern horizon. Then in the fourth line and fifth month of the twelfth year, the actual location of Jupiter is in the same station as Dipper, so that both Jupiter and Dipper cross the meridian at around 02:00. Thus the second to fourth lines are describing the rising of Dipper and the setting of Foam when Jupiter crosses the meridian in the fifth month of the tenth to twelfth years. Jupiter is then opposed to or "screened" from the Sun and the synodic year is in the fourth stage of change or dark, while the apparent motion of Jupiter is retrograde. There is furthermore a formulaic variation in line three which suggests the identity and astrological location of *Feng*.

In the lines, the ominous imagery of an eclipse-like darkness appears contradictory to the name of the hexagram which means "abundant," but this name is very suitable for the astrological location in the last month of spring at the end of the first stage of change. And when the "proper" Sun is conjunct Jupiter in the fifth month of the fifth year, both will be transiting the meridian at 12:00 noon as specified in the hexagram statement. The synodic Sun is then culminating in the middle of the second stage, like a "king" that "arrives" at Jupiter in the waxing first stage. The cyclical configuration is similar to that of *Da Guo* 大過 (28) "Great Excess" in the first quarter of the fourth lunar month, and hence the similarity in name of *Feng* 豐 (55) "Abundant."

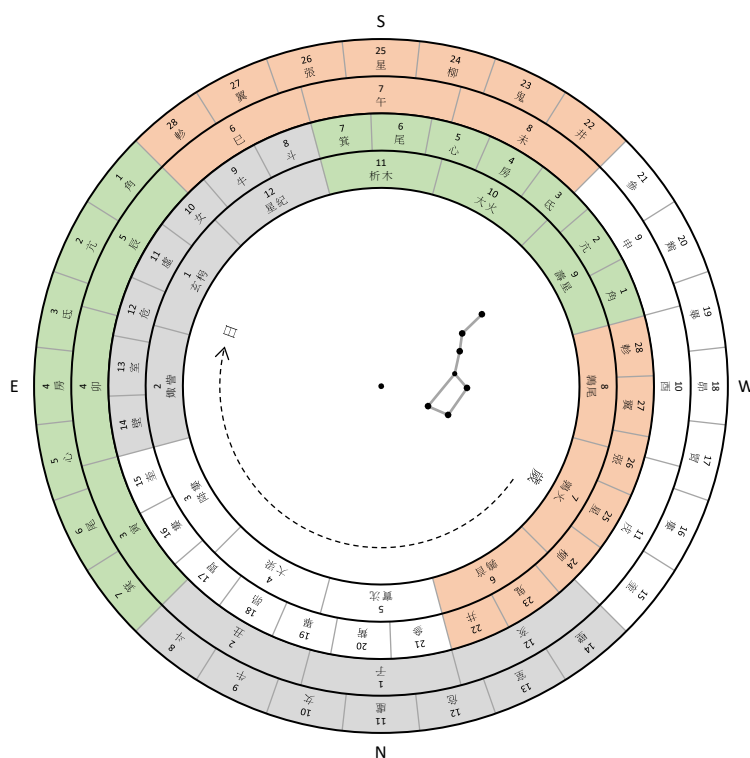


Figure 12.1. The eleventh year of the astrological clockwise twelve-year cycle with the full synodic year on the top plate pointing to Jupiter (歲) in the eleventh station *Xu* 戌 (11) before the northwest on the bottom plate. In the first week of the fifth month towards the end of spring, the Sun (日) in the fifth station *Chen* 辰 (5) before the southeast on the bottom plate is in the location of the hexagram *Feng* 豐 (55) "Abundant" in the primary arrangement. But the opposition of Jupiter and the Sun is correlated with the middle of the fourth stage of change in the synodic year on the top plate, astrologically similar to an "eclipse" of the Sun by the Moon when these are in conjunction. Note that the orientation of the top plate for the astrological configuration is the same as that of the astronomical configuration for when Jupiter crosses the meridian (Fig. 12.2).

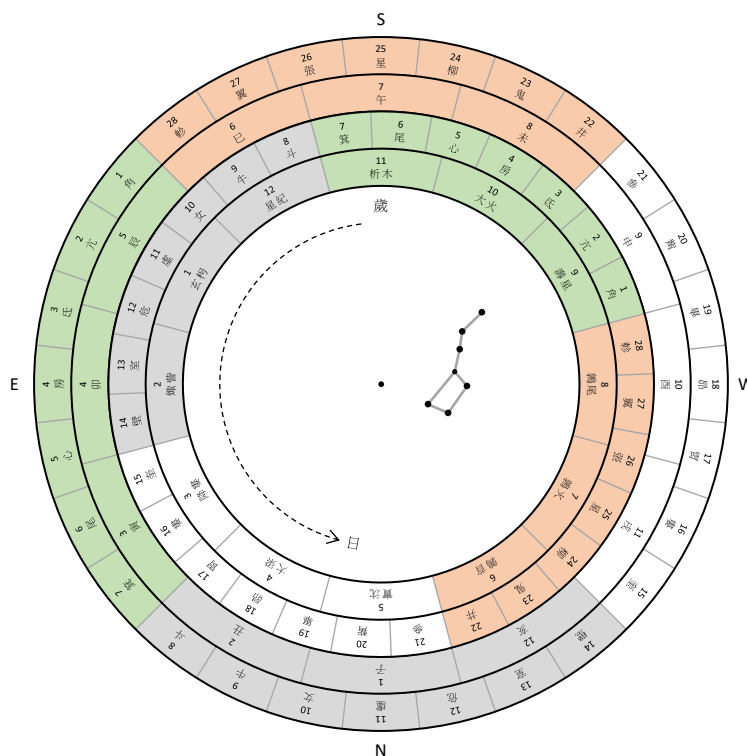


Figure 12.2. The astronomical anticlockwise location of Jupiter (歲) in the eleventh year on the top plate in the eleventh station *Xi Mu* 析木 (11), and the Sun (日) in the first week of the fifth month in the fifth station *Shi Chen* 實沈 (5). The top plate is then turned clockwise until Jupiter is crossing the meridian in the south on the bottom plate (the Sun is turned to this location at midday), and the Sun opposite in the north on the bottom plate indicates the actual time for this shortly after midnight. The *Mo* 沫 “Foam” behind the handle of the Northern Dipper located in the second mansion *Kang* 亢 (2) on the top plate is after the southwest on the bottom plate and starting to set on the horizon, while the eighth mansion *Dou* 斗 (8) “Dipper” on the top plate is after the southeast on the bottom plate and rising to the meridian. Note that the orientation of the top plate for this astronomical configuration is the same as that of the astrological configuration (Fig. 12.1).

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- ² M. T. Rogers, *Recomposing the Statements (Ci 辭) of the Hexagrams (Gua 卦) and Lines (Yao 爻) of the Zhouyi* (January 2020), <https://www.academia.edu/>.
- ³ M. T. Rogers, *Reimagining the Day (Ri 日) and the Hour (Shi 時) in the Hexagrams (Gua 卦) and Lines (Yao 爻) of the Zhouyi* (May 2023), <https://www.academia.edu/>.
- ⁴ 新漢籍全文 *Scripta Sinica Database*, Cheng-yun Liu (2014), <http://hanchi.ihp.sinica.edu.tw/ihp/hanji.htm>.
- ⁵ Bernhard Karlgren, "Grammata Serica Recensa," in *Bulletin No. 29*, by The Museum of Far Eastern Antiquities, 1-332 (Stockholm, 1957).
- ⁶ R. H. Mathews, *Mathews' Chinese - English Dictionary*, Revised American Edition (Shanghai: China Inland Mission and Presbyterian Mission Press, 1931; rpt. Cambridge, Massachusetts: Harvard University Press, 1943).
- ⁷ John H. Jenkins, Richard Cook, and Ken Lunde, ed. *Unicode Han Database (Unihan)* Vers. 15.0.0 (12 September 2022), <http://www.unicode.org/reports/tr38/>.
- ⁸ Edward L. Shaughnessy, *I Ching the Classic of Changes* (New York: Ballantine Books, 1998).
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- ¹⁰ Donald Harper, "Warring States Natural Philosophy and Occult Thought," chap. 12 in *The Cambridge History of Ancient China: From the Origins of Civilization to 221 B.C.*, ed. Michael Loewe, & Edward L. Shaughnessy (Cambridge University Press, 1999), 833-834;
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Edward H. Schafer, *Pacing the Void: T'ang Approaches to the Stars* (Berkeley: University of California Press, 1977), 76.
- ¹¹ Harper, "Warring States Natural Philosophy and Occult Thought," 833-834;
Nivison, "The Origin of the Chinese Lunar Lodge System," 205.
- ¹² Needham, *Science and Civilization in China Volume 3*, 402;
Schafer, *Pacing the Void*, 76.
- ¹³ Rogers, *Reconstructing the Symbols*, 7.
- ¹⁴ Harper, "Warring States Natural Philosophy and Occult Thought," 836;
Needham, *Science and Civilization in China Volume 3*, 402.
- ¹⁵ Part I, "Jupiter and the Sun," n. 25, 13.
- ¹⁶ Harper, "Warring States Natural Philosophy and Occult Thought," 833-836.
- ¹⁷ *Ibid.*, 839-840.
- ¹⁸ Donald J. Harper, "The Han Cosmic Board (Shih 式)," *Early China* (Society for the Study of Early China) 4 (1978-79), 4.
- ¹⁹ *Ibid.*
- ²⁰ Part II, "The Astronomy and Astrology of Hexagram Feng 豐 (55)," 15-18.
- ²¹ Rogers, *Recomposing the Statements*, 5.
- ²² Harper, "Warring States Natural Philosophy and Occult Thought," 840-842.
- ²³ David W. Pankenier, "Getting 'Right' with Heaven and the Origins of Writing in China," Chap. 1 in *Writing and Literacy in Early China*, edited by Li Feng & David Prager Branner (Seattle: University of Washington Press, 2011), 29-32.
- ²⁴ Nivison, "The Origin of the Chinese Lunar Lodge System," 208-210.
- ²⁵ Rogers, *Reconstructing the Symbols*, 15-16.
- ²⁶ Rogers, *Recomposing the Statements*, 8-9.
- ²⁷ David W. Pankenier, "Astronomical Dates in Shang and Western Zhou," *Early China* 7 (1981-82), 15-16.

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²⁸ Rogers, *Recomposing the Statements*, 9.

²⁹ *Ibid.*, 18.

³⁰ *Ibid.*

³¹ Shaughnessy, *I Ching*, n. 31.9, 303-304.

³² Part I, "The Yijing Cosmic Board," 6.

Appendices

I. The Solar Stations, Jupiter Stations and Lunar Mansions

Solar Stations ¹		Jupiter Stations ²			Lunar Mansions ³		Direction
No	支 Zhi	No	次 Ci	Meaning	No	宿 Xiu	
1	子 Zi	1	玄枵 Xuan Xiao	Dark Hollow	12	危 Wei	Roof
2	丑 Chou	12	星紀 Xing Ji	Star Chronicle	11	虛 Xu	Empty
3	寅 Yin	11	析木 Xi Mu	Split Wood	10	女 Nü	Woman
4	卯 Mao	10	大火 Da Huo	Great Fire	9	牛 Niu	Ox
5	辰 Chen	9	壽星 Shou Xing	Longevity Star	8	斗 Dou	Dipper
6	巳 Si	8	鶉尾 Chun Wei	Quail Tail	7	箕 Ji	Winnowing-basket
7	午 Wu	7	鶉火 Chun Huo	Quail Fire	6	尾 Wei	Tail
8	未 Wei	6	鶉首 Chun Shou	Quail Head	5	心 Xin	Heart
9	申 Shen	5	實沈 Shi Chen	Solidity Sinking	4	房 Fang	Room
10	酉 You	4	大梁 Da Liang	Great Bridge	3	氐 Di	Root
11	戌 Xu	3	降婁 Jiang Lou	Descending Harvester	2	亢 Kang	Neck
12	亥 Hai	2	娵訾 Ju Zi	Station Limit	1	角 Jiao	Horn
					28	軫 Zhen	Carriage
					27	翼 Yi	Wings
					26	張 Zhang	Extend
					25	星 Xing	Star
					24	柳 Liu	Willow
					23	鬼 Gui	Ghost
					22	井 Jing	Well
					21	參 Shen	Three-stars
					20	觜 Zi	Beak
					19	畢 Bi	Net
					18	昴 Mao	Pleiades
					17	胃 Wei	Stomach
					16	婁 Lou	Harvester
					15	奎 Kui	Legs
					14	壁 Bi	Wall
					13	室 Shi	House

Table 1. The twelve solar stations numbered clockwise with the twelve *zhi* 支 “branches,” the twelve Jupiter stations or *ci* 次 “places” numbered anticlockwise, and the twenty-eight lunar mansions or *xiu* 宿 “lodges” numbered anticlockwise, correlated with the four cardinal points.

Notes on the Stations and Mansions

Although the clockwise and anticlockwise stations are called “solar stations” and “Jupiter stations,” this is a convention and they are more accurately the astrological and astronomical⁴ stations for all of the planets, which all move anticlockwise around the sky but have imaginary clockwise correlates. A complete list of the anticlockwise Jupiter stations and especially the meanings is difficult to find in English sources. Needham does not translate the names and Schafer calls them “rather fantastic” and that his translations “in some cases are quite tentative.”⁵ Some translations of the names of the Jupiter stations and lunar mansions by Schafer and Needham have been modified with definitions from the Karlgren⁶ and Mathews⁷ dictionaries, and there are further notes on these below.

Although the Jupiter stations are numbered anticlockwise, it appears that the meanings of the names have still been assigned in the astrological clockwise order when considered as stages of a cycle of change such as the months of the year. In particular the second station might be the end of the cycle and the twelfth station the beginning, while “wood” and “longevity” in the eleventh and ninth stations suggest the waxing of spring, opposed to “sinking” and “descending” in the fifth and third stations suggesting the waning of autumn. There is also the idea of the *rou* 柔 “soft” and the *gang* 剛 “hard,” where the winter solstice in the first station is *xiao* 杳 “hollow” and the summer solstice in the seventh station is the *shi* 實 “solid” which is “sinking” in the fifth station.

Nivison argues that the lunar lodges were originally twenty-eight equal divisions of the zodiac, but that the boundaries were periodically revised not only to incorporate divisions of the year into twelve and twenty-four but also to include the effects of precession. Thus in later times the astronomical widths of the lodges vary greatly, but the purpose of these revisions must still have been astrological rather than calendrical.⁸

Notes on Names of the Jupiter Stations

Ju Zi 嫩訾 (2) “Station Limit.” The first word does not seem to have a meaning apart from being the name of this station. Schafer appears to use two successions of variants to arrive at “Loggerhead Turtle.”

Da Liang 大梁 (4) “Great Bridge.” Schafer translates the second word as “plank-bridge.”

Shi Chen 實沈 (5) “Solidity Sinking.” Perhaps the most difficult name to give a meaning to, Schafer says it is the “name of (a) deity in Orion.” The first word also means “fruit” but the sense of the second word is “submerged.”

Notes on Names of the Lunar Mansions

Zhen 軫 (28) “Carriage.” Schafer: “axletree.” Needham: “chariot platform.”

Zhang 張 (26) “Extend.” Schafer: “spread.” Needham: “extended net.”

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¹ Joseph Needham, *Science and Civilization in China Volume 3: Mathematics and the Sciences of the Heavens and the Earth* (Cambridge University Press, 1959, rpt. 2005), 243, 403.

² Ibid.;

Edward H. Schafer, *Pacing the Void: T'ang Approaches to the Stars* (Berkeley: University of California Press, 1977), 76.

³ Needham, *Science and Civilization in China Volume 3*, 234-237;
Schafer, *Pacing the Void*, 76.

⁴ Needham, *Science and Civilization in China Volume 3*, 402.

⁵ Schafer, *Pacing the Void*, 78.

⁶ Bernhard Karlgren, "Grammata Serica Recensa," in *Bulletin No. 29*, by The Museum of Far Eastern Antiquities, 1-332 (Stockholm, 1957).

⁷ R. H. Mathews, *Mathews' Chinese - English Dictionary*, Revised American Edition (Shanghai: China Inland Mission and Presbyterian Mission Press, 1931; rpt. Cambridge, Massachusetts: Harvard University Press, 1943).

⁸ David S. Nivison, "The Origin of the Chinese Lunar Lodge System." Chap. 15 in *World Archaeoastronomy*, ed. A. F. Aveni (Cambridge University Press, 1989), 203-216.

II. The Two Arrangements of the Hexagrams

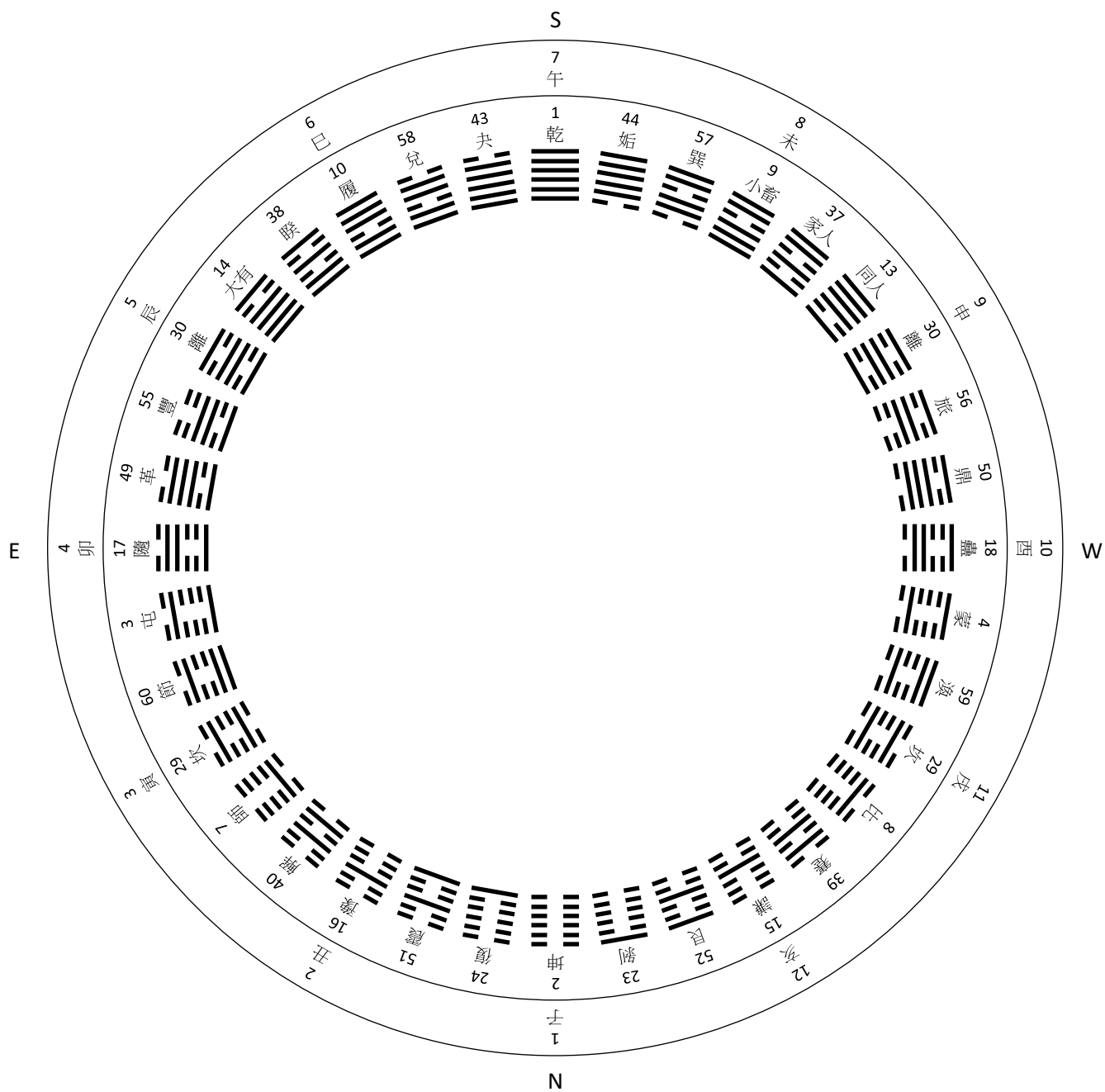


Figure 1. The primary arrangement of hexagrams correlated with the twelve solar stations and the four cardinal points.

II. The Two Arrangements of the Hexagrams (cont.)

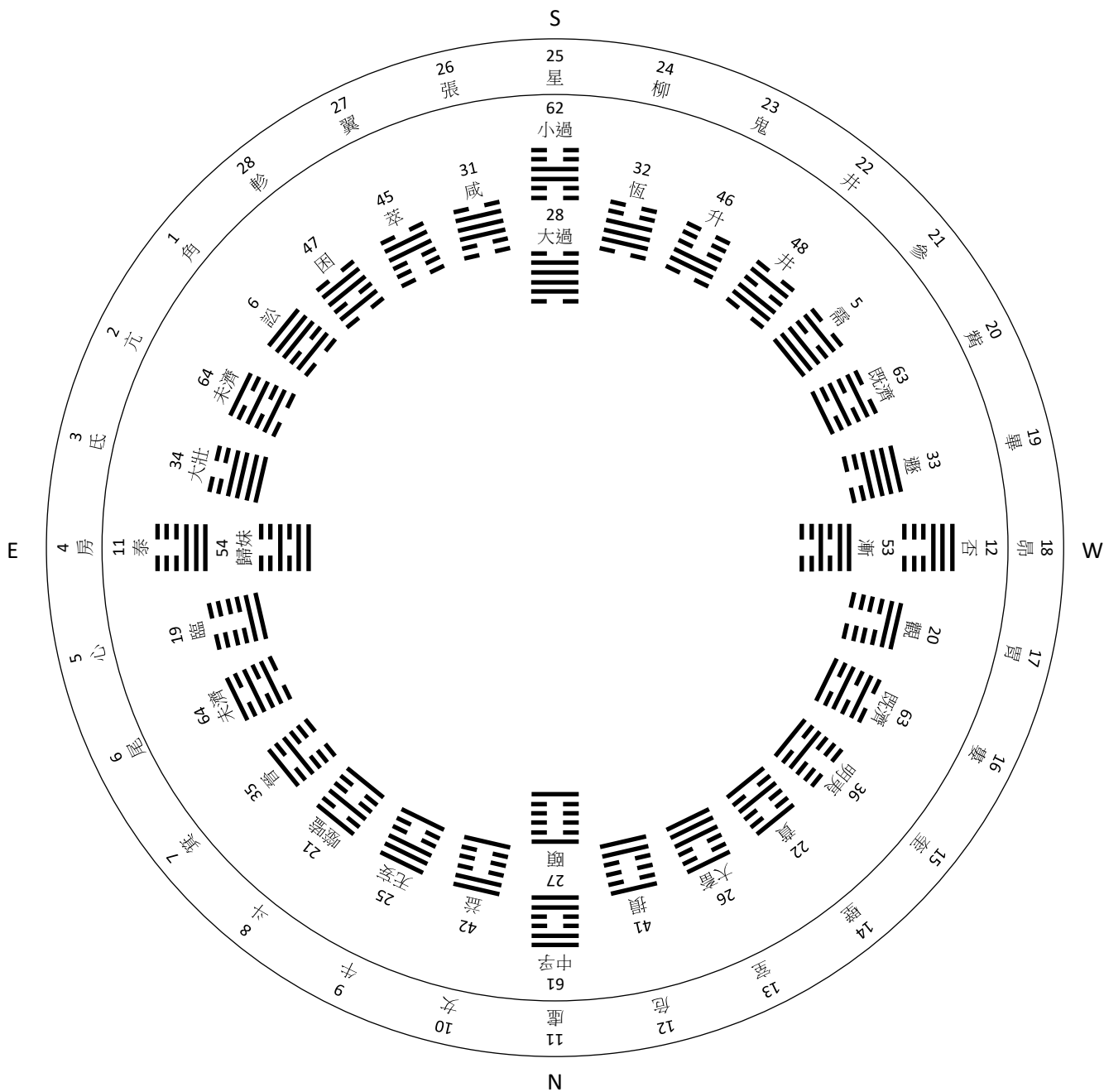


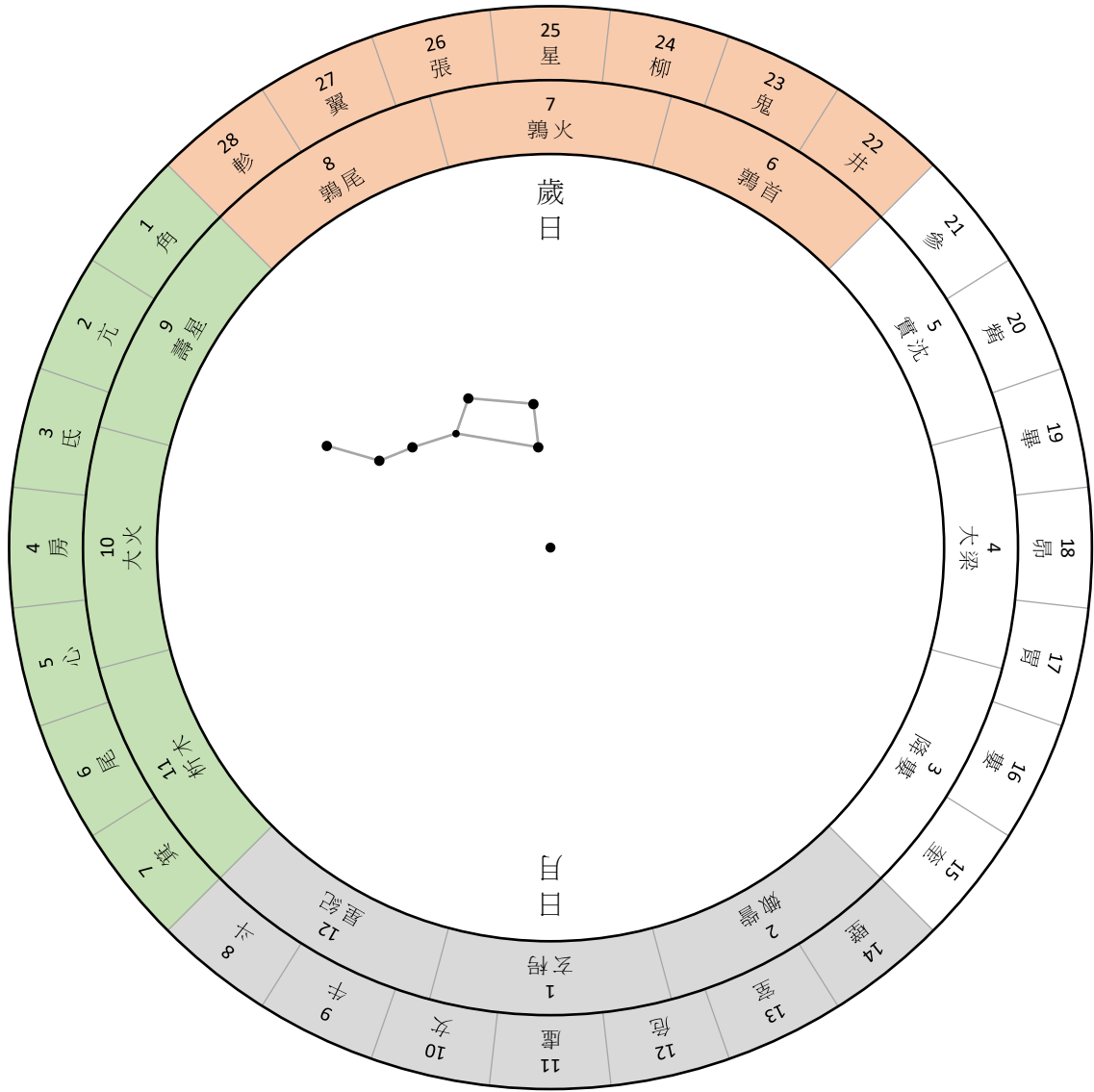
Figure 2. The secondary arrangement of hexagrams correlated with the twenty-eight lunar mansions and the four cardinal points.

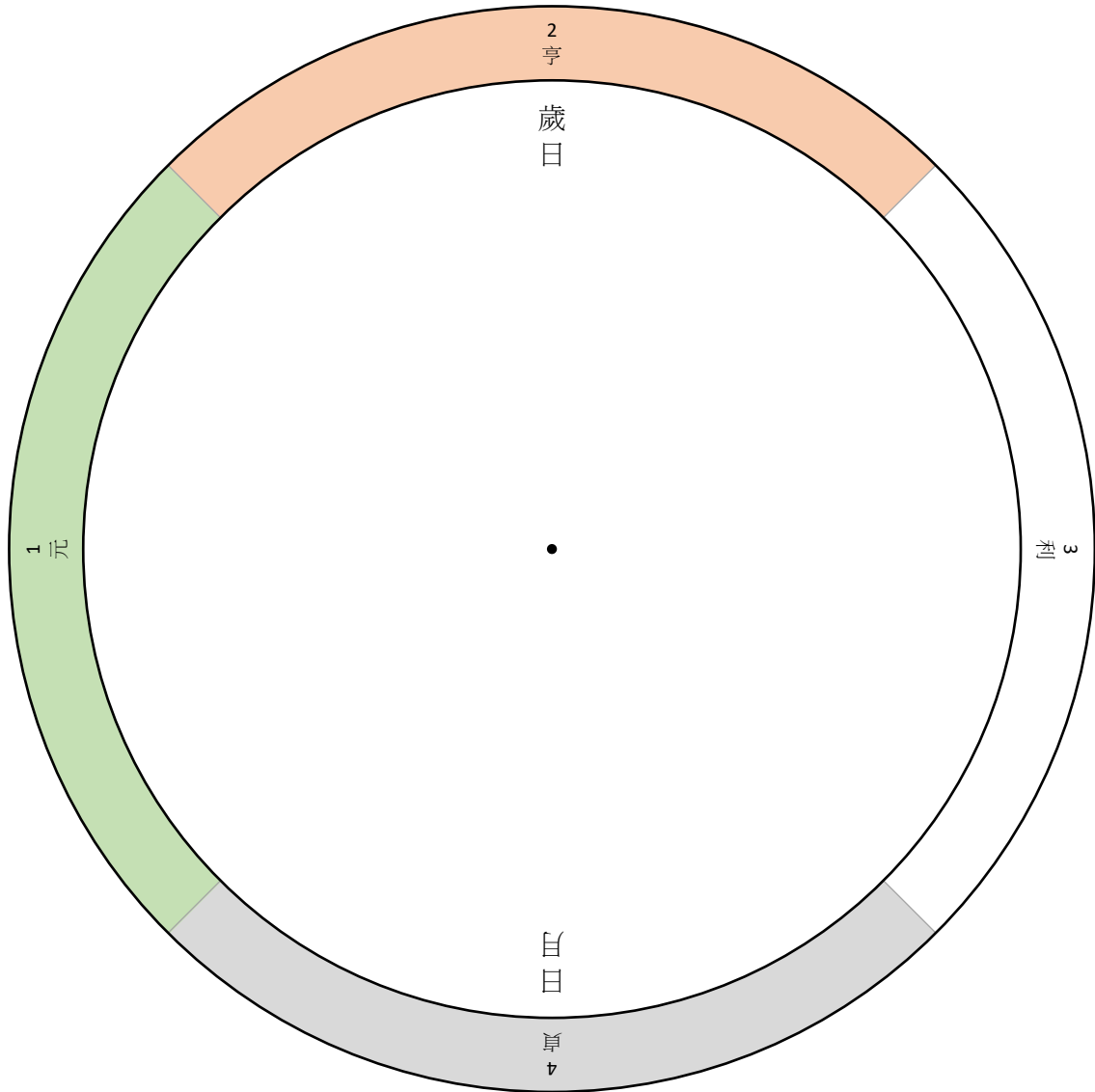
III. Template for the Yijing Cosmic Board

The design of the Yijing cosmic board is only a suggestion, and once the principles are understood it should be evident that there are many possible alternatives which could be much simpler or much more complicated. The main purpose of the board for interpreting the hexagrams is astrological, and at a minimum the bottom plate should have the twelve clockwise stations and the top plate the four clockwise quadrants. Adding the twenty-eight mansions to the bottom plate is useful for counting days and for correlating the hexagrams of the secondary arrangement. The mythical creatures or any other symbol suggesting the cyclical stage of change could be added to either plate. When used for astronomy, the mansions are not required on the bottom plate but the top plate should have both mansions and stations. Since there is also some limited astronomical application in the hexagrams such as in the text of *Feng* 豐 (55), and to approximately follow the design of the actual Han artifact, the Yijing cosmic board has the mansions and stations on both plates. The modified top plate with just the four quadrants is also included, and this can be used with the bottom plate as a simplified astrology board.

The example templates for the square bottom plate and round top plate can be printed, cut out and assembled with a paper fastener or other pin through the centre so that the top plate can rotate. It can work with paper but a more rigid printing medium such as the thickest card possible will have much better functional results and be more durable. There are only twelve configurations relevant for astrological purposes as the top plate is rotated through the twelve stations on the bottom plate, and the reader may be able to visualize these from the principles of the design alone.







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