THE TWENTY-EIGHT LUNAR MANSIONS OF CHINA (Part Two: A Possible Relationship with Semitic Alphabets)

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THE TWENTY-EIGHT LUNAR MANSIONS OF CHINA

(Part Two : A Possible Relationship With Semitic Alphabets)

中国の二十八宿

(第二部　セム文字群類との関係の可能性)

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Abstract : This paper, a continuation of an earlier comparative study of the Chinese, Babylonian, Arabian, and Indian lunar mansion systems, attempts to demonstrate a systematic relationship between the earliest forms of the Chinese characters used to denote the Chinese mansions, along with the star patterns associated with each mansion, and the elements of various Semitic alphabets. The research thus approaches the problem of the origin of the Semitic alphabets and provides a new theory which not only accounts for the particular design and arrangement of the elements (letters) of those alphabets, but also points to another relationship: between the ancient forms of the Chinese characters／star patterns and the twelve signs used in astronomy／astrology to denote the twelve major constellations found along the celestial equator (the ecliptic). The research provides an indication of some kind of early contact between the peoples of the Far and the Middle East. However, at the same time, it provides a partial explanation for various points of similarity not necessarily based on contact and diffusion, but rather on a common understanding of the movements of the moon throughout the (solar／lunar) year by peoples far removed from each other.

Key Words : China, Middle East, Lunar Mansions, Alphabet, Zodiac

Ⅰ. INTRODUCTION

1. The Purpose of the Research

The purpose of the research presented in this paper is: (1) to further clarify the nature of the Chinese lunar mansion system, (2) to relate that system to the Semitic alphabetic writing systems, and (3) to present a new theoretical framework within which the origin of writing systems may be investigated. With the intention of showing certain differences between (1) the early Chinese characters involved versus the early forms of the Semitic letters and (2) the Chinese star patterns (associated with each of the Chinese mansions) versus the early forms of the Semitic letters, I present two charts.

2. The Representation of Semitic and Chinese Sounds

In the body of this paper and in the various charts presented, I represent certain sounds associated with the Semitic languages in a rather non-standard fashion, for typographic reasons. As regards these sounds, the following symbols are used: T, D, S, and Z denote emphatic forms of [t], [d], [s], and [z]; H denotes a pharyngeal fricative; K and G denote uvular plosives; t and d denote dental fricatives; h denotes an uvular fricative; 3 denotes an uvular or velar fricative; s denotes a palato-alveolar fricative; ' denotes a glottal fricative, as in Hebrew ' (aleph) and Arabic ' (alif); and ^{3} denotes a pharyngeal fricative, as in Hebrew ^{3} (ayin) and Arabic ^{3} (ayn).

As for the Old Chinese reconstructions presented in this paper, for typographic reasons, only the consonants are reliably distinguished. They were taken from the Gakushu Kenkyusha's *Gakkyu Kanwa Daijiten (1987)* and are based, primarily, on the language of the "Book of Poetry" (used around 1000 BC). It should be noted that the reconstructions have been added to assist in any preliminary inquiry into a possible correspondence between Chinese and Semitic sounds.

II. THE SEMITIC ALPHABETS AND THE CHINESE LUNAR MANSION SYSTEM

1. The Origin of Semitic Alphabetic Writing

The origin of the Semitic alphabets, including the Southern (and certain Northern Semitic alphabets from which the Roman alphabet is ultimately derived), remains problematic. Perhaps the most popular theory relates the Semitic letters to the Sinai script which is thought to be derived from the abridged forms of certain cursive Egyptian hieroglyphs. Yet, in spite of the similarity in the shapes of many of the Sinai symbols and the Egyptian hieratic symbols, only eight of the Egyptian hieroglyphs (as selected by Jensen and noted in his book *Die Schrift*), out of twenty-two, match the Semitic letters in terms of the supposed original meanings of the letters: ox, house, (leaf of a) door, water, fish, eye, opening (mouth), and head, and only three come close to matching the Semitic letters in terms of their sounds:

Egyptian			Semitic	
ox	'H	::	'	*ox*
rope	H	::	H	*fence*
water	mw	::	mem	*water*

If the primary motivating factor was the desire to represent sound by the use of

conveniently abridged Egyptian symbols (already used by the Egyptians exactly for that purpose), why would the Semites borrow any specific group of Egyptian-based symbols and almost totally ignore their Egyptian sounds? Even though there are cases where one people borrow the script of another people and attach their own sounds (the Japanese have done so), it is extremely unusual to see so few of the original sounds being borrowed (the Japanese attempted to maintain almost all the original sounds Chinese characters they borrowed, in addition to the "native" pronunciations). On the other hand, in terms of the preservation of the earlier meanings of the originally ideographic／pictographic characters or hieroglyphs which came to be used to represent sound, we would expect to see those meanings fade from memory (as the Japanese came to forget the original meanings of their Chinese character-based kana syllabary elements.) However, in the case of the Sinai／Semitic alphabetic scripts, it was meaning that was slightly better preserved than sound.

What we are left with is the fact that it is primarily the shape of certain elements of the Sinai script which seem to match the shape of certain Egyptian hieratic symbols. This phenomenon is something which may be more easily understood if we consider the possibility to the existence of a system of symbols, common to the Egyptians, Semites, and perhaps even the Chinese, from which these various peoples derived some degree of inspiration in the development of their various writing systems.

2. The Study of the Movements of the Moon

The fact that different scripts maintain inventories of elements with similar shapes, but different sound values, does not necessarily imply that the phonological inventories of the languages associated with the different scripts have changed after the scripts were borrowed (although this is indeed possible). Rather, it may be explained by the utilization of a common set of symbols ultimately derived from an appreciation of something visually available to all peoples inhabiting this planet: the moon, and its movements through a specific set of stars that may be grouped together for reasons that are clear to all astronomers. The primary reason involves the fact that the moon is visible for 27-28 continuous nights and invisible for two nights (lunar months last 29 and 30 days, alternately) in a cycle that has lasted presumably for millennia. Would it not be natural to note the positions of the moon during those 27 to 28-day periods of visibility throughout a year and attach some order to the stars that repeatedly fall within the twenty-eight areas of the sky in which the moon is visible?

As noted in an earlier paper (Kelley, 1991), this is exactly what the Chinese, Babylonians, Arabs, and the Indians did. These peoples identified the same bright (alpha) stars (and many associated, but less-bright stars) in twenty-eight locations along the celestial equator. Although the starting position of the elements of the various lunar mansions systems were different, each of the twenty-eight mansions matched in terms of their location along the ecliptic, with most being within 23 degrees north or south of that celestial equator. It may therefore be useful to quote from Mayers' *The Chinese Reader's Manual*, in which he expresses a common misconception: "As for the grouping of their stars [in the Chinese lunar mansion system], and the names assigned to each group, though arbitrary, they cannot be deemed more arbitrary than the system which has obtained in western nations, and which has as little foundation either in reason or nature as the Chinese arrangement." (1874: 378)

One possible error in Mayers' view of the Chinese system was that he associated the Chinese lunar mansion system only with the days of any one lunar month. Indeed, each day of a Chinese lunar month is named in accordance with the arrangement of the elements of the Chinese lunar mansion system, and, as noted by Mayers: "It is further noted that in modern Chinese calendars the constellations 房 (No.4), 虛 (No.11), 昴 (No. 18), and 星 (No.25) invariably correspond with the Christian Sabbath or Sunday, and are denoted by the character 密." What Mayers may have missed, however, was something not overlooked by Saussure who noted that the Chinese traditionally associate those four mansions with the following phenomena: No.4 with the Autumn Equinox, No.11 with the Winter Solstice, No.18 with the Spring Equinox, and No.25 with the Summer Solstice. (1967: 89) The positions of these four Chinese mansions may thus be more reasonably connected with the sun as it relates to the four primary junctures of each solar year, and not only with the "Sun" of Sunday. It appears that the Chinese, early on, were as interested in the solar year as they were in any lunar year and always made great efforts to coordinate the movements of both the moon *and* the sun in their lunar mansion system. In fact, I would go so far as to suggest that the primary purpose of the Chinese lunar mansion system was to mark twenty-eight junctures in the *solar* year; the moon was used because stars are mostly visible during the night. It would be impossible to utilize the sun for obvious reasons, except at dawn or dusk. If so, then the 28 mansions may have originally marked out 28 solar weeks (of 13 days each), giving a solar year of 364 days. When calendars were converted to a system which emphasized 13 months of 28 days each, (also giving a year of 364 days), the original purpose of the mansion system may have

been forgotten and the 28 elements of the mansion system came to be associated merely with the days of some fictional lunar month. It is fictional because a true lunar month is always alternately 29 and 30 days (or nights) long, giving 59 days for any two-month lunar period. In the end, it must be realized that the moon is just as significant as, if not more significant than, the sun, when it comes to marking out a solar year.

The fact that the Chinese chose to begin their system (mansion No.1) when the moon appeared in Virgo (where alpha Virgo, Spica, is visible), that the Arabs began theirs when the moon appeared in Aries (where alpha Aries, Sheraton, is visible), and that the Indians began theirs when the moon rose in Taurus (where the Pleiades and Alcyone are visible) were certainly not matters of chance. The Arabs were probably preserving a Greek tradition, whereby the year began when the sun rose in Aries, (which occurred roughly between 1830 BC and 50 BC). And, the Indians may have preserved a tradition similar to the Assyrian's, who placed great significance on the conjunction between the moon and the Pleiades; they named this conjunction *Makhur-ili*, the 'meeting of the gods', and converted this name into the name of their twelfth month. I must also note the interesting relationship among Chinese mansion No. 1, Arabic mansion No. 14 and Indian mansion No. 12. First, they all contain the alpha star, Spica. In the Indian mansion system, this mansion is named *citra*, and is related to *caitra*, the name of the first month (now, Western March-April) in the Indian calendar. In the Arabian system, the name of this mansion is *simak-al-a'zal*, which means the 'pillar of the beginning of time', but now marks the mid-point of the Arabian lunar mansion system.

The Chinese situation reveals something of great significant as regards the age of the system. At the present time, the moon and the sun appearing in Virgo (in Chinese mansion No.1) signals the time of the Autumn Equinox (September 21, 22), a significant juncture in the solar year. Yet, as mentioned by Saussure (1967), the Autumn Equinox occurred (circa 2357 BC) very near the border of mansion Nos. 3 and 4. Taking into account the "precession of the equinoxes" and the inequality in the size of each mansion, the most recent period when the Autumn Equinox fell in mansion No.4 was between 2700 BC and 2100 BC, and the approximate time it occurred in conjunction with beta Scorpio (the major star in mansion No.4) was around 2550 BC. Saussure's figure of 2357 BC, and my own of 2100 BC, are quite close, as to the time of the Autumn Equinox at the border of Mansion Nos. 3 and 4. Personally, I think the time of the origin of the Chinese system is close to 2100 BC and fell within the period of the reign of Emperor Yao (堯), the (mythical?) creator of the Chinese calendar. His reign, from 2077 BC to 1977 BC, is only

some 200 years before that of the Emperor Chung K'ang (仲康), whose reign has been verified by Chou and Pang (see Fagan, 1989) as being between 1880 BC and 1868 BC. My own figures were obtained using the "Astronavigator" computer program, with the help of my colleague, Akira Minakata. They are rather imprecise, but still, I think, good enough to suggest a general starting point. This point may also mark the start of another system, found some distance to the west.

3. Taurus the Bull, Alpha the Bull, and the Numbers 1 and 1000

Taurus refers to a heavenly 'bull' or 'ox'. The original model of the bull was most likely not the common, domesticated variety of bull people generally see and think of today; it was probably the giant wild auroch, which existed in the forests of Germany up to the time of the Roman Empire (and perhaps until much later) and stood an impressive eleven feet (others say six feet) high at the shoulders. (Wells, 1961: 78) As mentioned in my earlier paper (Kelley, 1991), it may not be a matter of chance that all the Semitic alphabets begin with a symbol associated with a 'bull'. I also mentioned that it also may not be a matter of chance that the modern Arabic alphabet contains exactly 28 letters. Further, I noted that the twenty-two letters of the Hebrew (northern Semitic) alphabet are used to denote 28 separate numbers. Letters 1 through 9 have the following values: 1, 2, 3, 4, 5, 6, 7, 8, 9; letters 10 through 18 have the following value: 10, 20, 30, 40, 50, 60, 70, 80, 90; letters 19 through 22 represent numbers: 100, 200, 300, 400; final forms of letters 11, 13, 14, 17, and 18 represent numbers: 500, 600, 700, 800, 900; and a special form of letter 1 represents the number 1000. The following may clarify this arrangement:

The Alphanumeric Order of the Letters in Three Alphabets

Letter #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Arabic:	'	b	j	d	h	w	z	H	T	y	k	l	m	n	s	3	f	S	K	r	s̲	t	t̲	h̲	d̲	D	Z	³
Hebrew:	'	b	g	d	h	w	z	H	T	y	k	l	m	n	s	³	p	S	K	r	s̲	t	k_2	m_2	n_2	p_2	S_2	$'_2$
Greek:	a	b	g	d	e	u̲	z	ē	th	i	k	l	m	n	ks	o	p	k_2	r	s	t	u	ph	kh	ps	ō	s_2	a

In the alphanumeric use of the Arabic alphabet, we see that letter 1 represents the number 1, but that the letter ³ayn (=Hebrew letter 16) represents the number 1000. It may be that we see an explanation for the Greek expression "the Alpha and the O-mega" ('the beginning and the end') by looking at the Arabic alphanumeric system; o-mega is merely the long version of Greek letter 16. We may also be seeing the "beginning and the end" points of another system: an ancient lunar mansion system, beginning with a "bull" (the

original meaning of the symbol which became the first letter and the number 1) and also ending with a bull, which became the last letter in the alphanumeric system of the Hebrews and Greeks.

It is interesting to note that in the Ras Shamra cuneiform alphabet (used between the 14th and 13th centuries BC and associated with the Ugarit Semitic people), which provides the earliest example the Semitic order of the letters, we see 29 signs, beginning with one thought to represent the sound *'(a)* and ending with three signs thought to represent the sounds *'(e)*, *'(u)*, and *s*. Besides the 29 cuneiform symbols found in the preserved formal alphabetic arrangement of the symbols, there is one other symbol (perhaps denoting the sound ʕ) which brings the total to 30 symbols. The following chart indicates the order and values of the letters in their formal order (R.-Sh,=Ras Shamra):

The Formal Order of the Letters in Three Alphabets

Letter #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
R.-Sh.:	'a	b	g	ẖ	d	h	w	z	H	T	y	k	s̲	l	m	d̲	n	Z	s	p	S	K	r	t̲	G	t	'e	'u	s_2
Arabic:	'	b	t	t̲	j	H	ẖ	d	d̲	r	z	s	s̲	S	D	T	Z	ʿ	3	f	K	k	l	m	n	h	w	y
Hebrew:	'	b	g	d	h	w	z	H	T	y	k	l	m	n	s	ʿ	p	S	K	r	s̲	t						

The fact that the Ras Shamra alphabet included thirty signs (instead of twenty-eight) may be related to the fact that although the moon is invisible for two days, those two days were nevertheless counted in certain early versions of a lunar mansion system. Also, note that all ancient Southern Semitic alphabets (with the exception of the Thamudenic, which had two very slightly variant forms of the symbol which represented the sound [b]) maintained an inventory of precisely twenty-eight letters, just as the modern Arabic alphabet does. What may have been the crowning intellectual achievement of the Semitic people may have been the realization that the sounds of the earliest Semitic language(s), which maintained a phonological inventory of some 29 consonants, could be represented by 28(-30) symbols perhaps already available to them because of their own or others' (Egyptian/Sumerian/Chinese?) previous astronomical studies. We must keep in mind that the Semites, at least the Arab variety who are Muslims, preserve the lunar calendar in its purest form (i.e. almost completely disassociated from any solar junctures); we see that the Muslim calendar year includes twelve months of, alternately, 29 and 30 days each, which yields a lunar year of 354 days (=6 months × 29 days + 6 months × 30 days). The Hebrews, on the other hand, like the Chinese, have consistantly attempted to keep their lunar calendar more in line with the solar year. Both Semitic groups appear to have

forgotten any connection between the lunar mansions and their alphabets. However, the persistence of awareness of the alphanumeric use of the letters of the Semitic alphabets is interesting, as is the long recognized relationship between the study of the moon and the origin of mathematics (primarily by women) in many cultures. As regards any connection between the Chinese lunar mansion system and the Chinese numerals, I do not think it is a matter of chance that the reconstructed names of Chinese mansions 19 through 27 (and, perhaps the reconstructed name for the active element in No.18, **niet*, meaning 'sun') correspond in certain instances with the reconstructed names of certain Chinese numerals. It is interesting to note that the character for No. 21 is actually used, as a variant, to represent the number '3'. The following correspondences appear:

Mansion No. & Name			Number Name & Value	
(18)19	(*niet)*piet	::	*yiet	1
21	*ts'em	::	*ts'em/*sam	3
22	*tsieng	::	*sied	4
24	*liog	::	*liok	6
27	*Diek	::	*(dh)iep	10

After a consideration of the factors listed above, I decided to compare the earliest forms of the Chinese and Semitic symbols/letters involved with the lunar mansion systems, using the two Chinese lunar mansions occurring in the constellation Taurus as beginning and end points. Because the symbols associated with the Zodiac are also presumed to be of Semitic origin, and because early on I noted some similarities with the earliest forms of the Chinese characters for the lunar mansions, I have also included these in the comparisons. Lastly, since I came to believe that the origin of the Semitic alphabets rested primarily on the arbitrary associations made, by some ancient people(s), about the stars that belong to each lunar mansion, which resulted in the association of certain specific (although imaginary) shapes or configurations with each star group, I decided to include the standard star patterns associated with each Chinese lunar mansion within the scope of my research.

Ⅲ. DISCUSSION

1. A. Comparison of the Chinese Characters and the Semitic Letters

The results of a comparison of (1) early forms of the Chinese characters used in the naming of the Chinese lunar mansions and (2) early forms of letters constituting the

various Semitic alphabets are presented in the form of a chart in Appendix I. I begin with these data because they were among the first collected and noted in my research. As mentioned above, I also noticed a similarity between the early forms of the Chinese characters and certain signs used to denote the twelve major constellations in the Western zodiac system; and so, I have included various forms of the twelve signs in the Appendix I chart.

The early forms of the Chinese characters, along with the reconstructed, Old Chinese pronunciations of the characters (used from roughly 1400 BC to 1000 BC), were taken from the Gakushu Kenkyusha's *Gakkyu Kanwa Daijiten* (1987). As regards the Chinese characters, we see that there is usually one component of the characters (or radical, if you will) which matches the Semitic letters in shape. It is usually this same component which matches the corresponding star pattern. In choosing between components, I attempted to select, primarily, only those that served to indicate the pronunciation of the character, as in the case of the character for mansion No.25, where we see two components: the top one representing the sun and the bottom one representing life. Since it is the later one which indicates the sound of the character as a whole, it has been listed. In Appendix I, the ancient Chinese characters presented are of two types: (on the left) those found on the Oracle Bones (1400-1200 BC), and those found on ancient Bronzes (also 1400-1200 BC).

The Semitic letters, representing various Northern and Southern Semitic alphabets, were taken from Diringer's *The Alphabet* (Third Edition) and from the *Encyclopaedia Britannica* (1968 Edition) under the heading of "Alphabet", a section which was written by Atkinson and Whatmough. The Northern Semitic letters include, primarily, letters from the Punic alphabet, which is one variety of Phoenician-type alphabet. The southern Semitic letters include two general types: (1) Sabaean-Lihyanic-Ethiopic and (2) Thamudenic-Safahitic, but with a subclass of interesting letters common to Lihyanic and Thamudenic.

In the comparisons, I chose the alphanumeric order of the Hebrew letters in the Northern Semitic alphabets, exemplified by the elements of the Hebrew alphabet, as a basic organizational framework. I did this, in spite of the fact that the formal Hebrew alphabet consists of only 22 letters (and reflects a reduction in the phonological inventory of certain Northern Semitic languages), because of the correspondence between the shapes of the letters used to denote three varieties of [*s*], that is: *S*, *s* and *s* (respectively), and the shapes of the old forms of the Chinese characters used to denote Chinese mansions No.5, No.8, and No.11. Although the values of the Hebrew letters 15, 18, and 21 are *s*, *S*, and *s*,

respectively (indicating a reversal of the values of letters 15 and 18), the similarity in the shapes of the Semitic and Chinese symbols seemed to suggest the overall reliability of the Hebrew order. Further, I noticed that the occurrence of Southern Semitic *S* and *Z* in the position of Chinese mansion No.17 also seemed to provide one more justification of the use of the Hebrew order.

The chart diverges from the general Hebrew arrangement, however, in two cases: (1) when a symbol representing a different Semitic sound, just above or just below one, such as Hebrew letter 18, *resh*, seems to match another one (such as Hebrew letter 19, *Koph*) in shape, both are listed on the same line, and (2) when there is phonological justification, as in the cases of Hebrew letters 7 (*z*) and 21 (*s*), which we know can be derived from d and *t*, respectively, and in cases of what may be simple alternation (such as among *s*/*S*/*s*, or *h*/*H*/*h*), the letters are listed on different lines. Both cases seem to reflect some influence by a Ras Shamra-type system (regarding the order of the letters). On the other hand, it may also reflect the overall reduction of the Northern Semitic phonological inventories.

The listing of letters representing S and m (Chinese No.5) and *s* and *t* (Chinese No.11) on the same line are significant also from the viewpoint of the Chinese characters; Chinese No.5, **siem*, and the earliest form of the character for 'scorpion' (now = the number 10,000), **miuam*, suggest the same *s*/*m* alternation. In the case of Chinese No.11, the shape of the Semitic letters is so very close to the early Chinese forms for 'mountain', **san*, and for 'tooth', **t'ieg*, as to suggest an *s*/*t* alternation of a similar type. These characters, although not presented, are easily found in the Gakushu Kenkyusha dictionary mentioned on the last page.

Also of interest is the correspondence, in terms of their shape, between the zodiac signs and (1) the Semitic letters and (2) the early Chinese characters. Thus, I proceeded to add letters (and zodiac signs) on the basis of the apparent agreement in shape among a few (but significant) signs, starting with Chinese mansion No.19 and the Semitic sign for 'aleph.

2. A Comparison of the Chinese Star Patterns and the Semitic Letters

The Chinese star patterns associated with each mansion became available only in the later stages of the research. In fact, it only gradually dawned on me that there may be some connection between the shapes of the Semitic letters and such patterns. When the diagram (Diagram 1) was found in a copy of the Chinese Almanac, *T'ung Shu* (1986

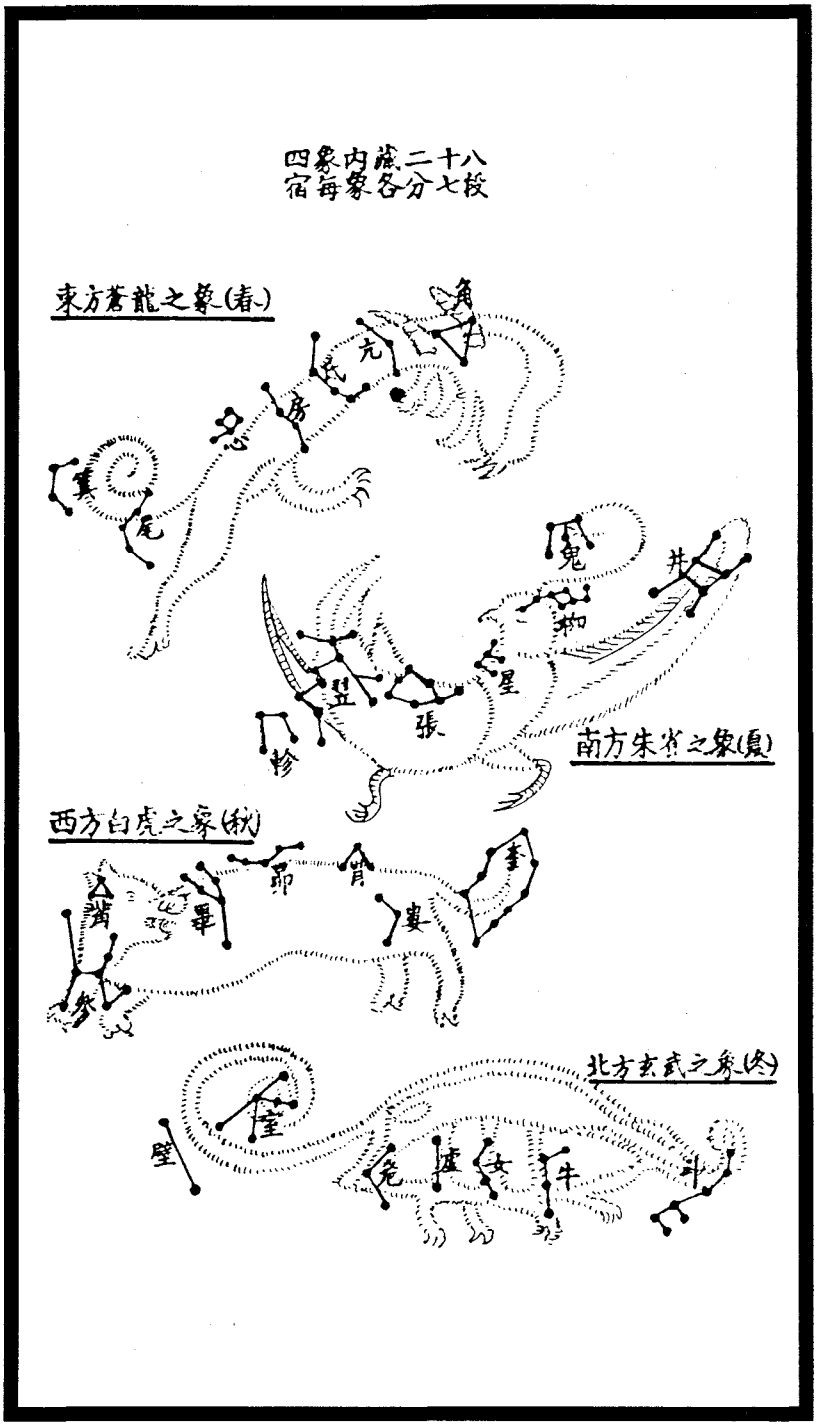

Diagram 1: The Four Arrangements of the 28 Lunar Mansions (Palmer, 1986 : 168)

Edition), I became truly interested in this aspect of the research. The diagram shows the star patterns associated with the 28 mansions, grouped into four super-constellations: the top constellation is known as the Azure Dragon (from the right, mansion No.1 through No.7), the next down is known as the Vermilion Bird (from the right, mansion No.22 through No.28), then the White Tiger (from the right, mansion No.15 through No.21), and lastly the Somber Warrior (from the right, mansion No.8 through No.14). The four constellations, known as the four 'arrangements', represent the four divisions of a (solar) year, in the following order (top to bottom): Autumn, Summer, Spring, and Winter.

Please notice that the compiler of this almanac, in Chinese, notes the seasons in the following order (from top to bottom): Spring, Summer, Autumn, and Winter, which is simply wrong. Their proper order (listed above) is easy to identify, if we know the location of each mansion in the sky. This error probably accounts for the rather strange top-to-bottom arrangement of the four super-constellations. Nevertheless, the star patterns serve as the basis for the star patterns presented in the Appendix II chart. These patterns were supplemented somewhat by the star patterns presented in a diagram found in the Shogakkan *Kanwa Jiten* (1963 Edition) on p.94 of its appendix section. The diagram presented in that book also places the Chinese lunar mansions within a more easily understandable astronomical framework. The slight variation in the patterns that are seen in that book are included in the Appendix II chart. What is missing, in the present paper, is any indication of the Semitic Star patterns (associated with the Arabic lunar mansion system). My belated decision to investigate this aspect, and my relative isolation from such research materials, has resulted in this major shortcoming in this paper. Hopefully, I can obtain these patterns and include them in my next paper on this subject.

As can be seen from an inspection of the Appendix II chart, a slightly different set of Semitic letters and zodiac signs emerge. One conclusion is that the zodiac signs seem to be more closely associated with the Chinese characters than the Chinese star patterns. Also, in spite of the fact that the shape of certain early forms of the Chinese characters appear to be related to the Chinese star patterns (note mansion Nos. 19, 22, and 6), this is not always the case. The Semitic letters themselves reflect about the same level of similarity, whether compared to the characters or the star patterns, but seem to tend toward greater similarity with the Chinese characters.

Ⅳ. CONCLUSIONS

Among the Northern Semitic alphabets, the Punic-type letters show a range of graphic similarities that mark them as being particularly close to the Chinese system. On the other hand, among all the Southern Semitic alphabets, it is perhaps the Lihyanic and Thamudenic which show the greatest range of similarities. These alphabets are certainly not the oldest representatives of Semitic alphabets, but they perhaps best preserve symbols that were once included in an ancient form of a Semitic lunar mansion system.

As for the nature and age of such a system, several things should be mentioned. If its initial purpose was similar to that of the Chinese lunar mansion system, it was most likely not tied to any system of sound representation. That is to say, the naming of the elements was random. However, by chance, it may have included a range of initial (consonant) sounds that served as one basis for the development of a later system that systematically exploited the fact that the early Semitic languages had 28-29 sounds. The Ras Shamra ordering of the sounds may represent a later stage in this process, sometime after the period when the Autumn Equinox coincided with the constellation Scorpio, and Chinese mansion No.4.

The great age of the Chinese lunar mansion system has recently been attested by Fagan (1989) in his article in *Archaeology*, in which the first recorded occurrence of a solar eclipse is discussed, and in which one of the earliest references to a specific lunar mansion (No.4) is also discussed. The constellation Scorpio, containing Chinese mansion Nos. 4, 5, and 6, is of particular interest. Among the twelve major constellations found along the ecliptic and included in the Zodiac (the so-called 'circle of animals') there are seven which are associated with the following animals: ram, bull, crab, lion, scorpion, goat, and fish. Of the seven animals, only the scorpion (and its association with those stars constituting Scorpio) had a world-wide significance to ancient peoples. Apart from the peoples of North Africa, the Middle East, and India, it was recognized as a constellation throughout the Americas: by the Pawnee and Cherokee of North America, by the Maya and Aztec of Central America, and by the Inca of South America.

As for the Chinese, we see no specific constellation named after a scorpion. However, there is every indication that the ancient Chinese once knew of the scorpion of Scorpio. Chinese lunar mansion No.5 'heart' and mansion No.6 'tail' are located, respectively, in the "heart" and the "tail" of Scorpio and correspond perfectly to Arabic lunar mansion No.18 'heart' and Arabic mansion No.19 'stinger (of a scorpion)'. This can hardly be a

matter of chance. Additionally, the early form of the Chinese character for Chinese mansion No.5 **siem* 'heart' is very similar to the early form of the Chinese character for '10,000' **miuan*, which originally meant 'scorpion'.

If we consider the lunar mansions situated in this part of the sky, along with the Semitic letters I believe are either related to or are derived from the star patterns associated with each mansion (as I believe the early forms of the Chinese characters are), we find something of potentially great significance. First, we see an indication of an extension of the constellation of Scorpio and its constituent mansions into both Libra and Sagittarius, which, according to my methodology, would require Hebrew letters *mem* through *pe* to be related to Chinese mansion Nos. 3-7. By making these assumptions, some sense appears to emerge as to why certain Semitic letters have the shapes they have. For example, Semitic *m* (and *t*) appear to represent the two pincers of a scorpion, or, the two hooks of a balance (Libra), both of which, in Arabic, are called *zubanayn*. At the other end, Semitic *p* appears to represent the very end of a scorpion's tail, its stinger, or, the arrow of an archer (Sagittarius). This also accounts for two non-animal (and perhaps later) zodiac elements. In between, Semitic *n* appears to represent a scorpion's feelers (or its 'crown'), *S* represents a scorpion's middle (or its 'heart'), along with part of its tail. Lastly, ʒ represents a scorpion's tail, along with part of its middle. This kind of analysis is one which I recommend pursuing in future research.

As for the significance of the 'bull' or 'ox' in the Chinese system, it should be noted that Chinese mansion No. 9 also means 'ox'. It, and its Indian equivalent, No 20, Abhijit, are sometimes deleted from the Chinese and Indian mansion systems (thus making systems of 27 elements). This may have some connection with the sound [S], the position of Sādhē, and the first and last letters of the Hebrew alphanumeric system.

As far as I know, this paper is the first to suggest a connection between the letters of Semitic alphabets and the zodiac signs. This part of the research, involving the zodiac signs, was rather surprising to me. The fact that most agree more, in terms of their shape, with the Chinese characters than the Chinese star patterns is puzzling; and yet, there they are in their proper place. It suggests a relationship between the writing-numerical systems and astronomical-astrological symbolic systems of the Middle East and the Chinese writing system that has not been investigated before. There is a large set of symbols, used every day in the West (in the fields of chemistry, astronomy, mathematics, etc.), about which we actually know very little. In mathematics, we have used alphanumeric symbols for centuries, but why? Even such a simple question as why the Semites

(and others) write from right to left may be partially explained by way of an investigation of the lunar mansion system; as we view the mansions from the Earth, they appear to move throughout the year from right to left! An investigation of the charts, particularly the numbering of the mansions, yields some interesting results: using the Chinese numbering (20-28, 1-9, and 10-19), we get three general mathematical divisions (units, tens, and twenties), perhaps signifying an ancient three-part division of the seasons (as in Egypt). On the other hand, the charts clearly indicate a four-part division (of seven units each) as well, surely an indication of a four-season approach to a yearly (solar) calendar.

Admittedly, much of what has been written in this paper is extremely speculative; China and it writing system and lunar mansion system have never been considered or investigated before, in the ways I have attempted in this paper. However, it is my opinion that it is in this general direction (intellectually and geographically) that we must look to find answers to many unresolved linguistic／cultural problems associated with the Middle East and other areas.

APPENDIX I

(A COMPARISON OF ANCIENT CHINESE CHARACTERS AND SEMITIC ALPHABETIC LETTERS/ ZODIAC SIGNS)

SEMITIC ZODIAC		CHINESE LUNAR MANSION SYSTEM					SEMITIC ALPHABETIC WRITING SYSTEMS						CHINESE LUNAR MANSION SYSTEM	
Star Places	Symb	ANCIENT CHINESE SYMBOLS	4 Se	漢字名	#	Star Places	Hebrew Names	# Val.	Northern Signs	Northern Sound	Southern Signs	Southern Sound	ANCIENT CHINESE SYMBOLS	Old Names
Tau			Sp	畢	19	Tau	'âleph	1				w	畢	*piet
Ori			Sp	觜	20	Ori	bêth	2					角	*tsiueg
Gem			Sp	參	21	Ori	gîmel	3	𐤂	g z	𐤂	G	參	*ts'em
Gem	♊	井	Su	井	22	Gem	dâleth	4			𐤃	d $^{D}_{T}$	井	*tsieng
Cnc			Su	鬼	23	Cnc	hê	5	𐤄	H			田	*kiuer
CncLeo	♋♌	柳	Su	柳	24	Hya	wâw	6				d	卯	*liog
Leo			SS	星	25	Hya	zâyin	7	𐤆	z	H	z d	生	*seng
Leo	♌	張	Su	張	26	Hya	Hêth	8			𐤇	H h	弓	*tiang
Leo			Su	翼	27	Hya	Têth	9	⊕ ⊘	T T	𐤈	T D	異	*Diek
Vir	♍	軫	Su	軫	28	Crv	yôdh	10	𐤉	y			參	*tsien
Vir			Au	角	1	Vir	kaph	20	𐤊	g	𐤊	k	角	*kuk
Vir			Au	亢	2	Vir	lâmedh	30					几	*k'ang
Lib	♎	氐	Au	氐	3	Lib	mêm	40			𐤌	m t	氐	*ter
Sco			AE	房	4	Sco	nûn	50	𐤍	m	𐤍	S	方	*bieung
Sco	♏	心	Au	心	5	Sco	sâmekh	60	𐤎	S	𐤎	S	心	*siem
Sco	→	尾	Au	尾	6	Sco	³ayin	70	∪	³	𐤏	'	毛	*miuer
Sgr	♐	箕	Au	箕	7	Sgr	pê	80	(𐤐) ∪	(p) ³			其	*kieg
Sgr		斗	Wi	斗	8	Sgr	Sâdhê	90	𐤑 𐤑	s s	𐤑	T	斗	*tug
Cap	♑	牛	Wi	牛	9	Cap	Kôph	100					牛	*ngiog
Aqr	→	女	Wi	女	10	Aqr	rêsh	200	𐤒 𐤓	r K	𐤒 𐤓	r K	女	*niag
Aqr	♒	虛	WS	虛	11	Aqr	sîn	300	𐤔	s			虛	*hiag
Aqr		危	Wi	危	12	Aqr	tâw	400	𐤕	$^{T}_{d}$	𐤕	$^{T}_{d}$	卩	*ngiueg
Peg		室	Wi	室	13	Peg	=kaph	500	𐤋	K	𐤋	$^{t}_{T}$	至	*thiet
AndPeg		壁	Wi	壁	14	AndPeg	=mêm	600	𐤌	m	𐤌	m n	日	*pek
And	♓	奎	Sp	奎	15	AndPsc	=nûn	700			𐤍	T D	圭	*k'ueg
Ari		婁	Sp	婁	16	Ari	=pê	800	𐤐	b	𐤐	p	女	*lug
Ari		胃	Sp	胃	17	Ari	=Sâdhê	900	𐤑	S	𐤑	S	胃	*Hiuer
Tau	♉	昴	SE	昴	18	Tau	=âleph	1000	○	³	⊙	³ S	日	*mog

Abbreviations:

4 Se = 4 Seasons/*SS* & *WS* = Summer-Winter Solstices/*AE* & *SE* = Autumn-Spring Equinoxes

(These are the major solar junctures, around 2357 BC.)

APPENDIX Ⅱ

(A COMPARISON OF CHINESE STAR PATTERNS AND SEMITIC ALPHABETIC LETTERS／ZODIAC SIGNS)

SEMITIC ZODIAC		CHINESE LUNAR MANSION SYSTEM				
Star Places	Symb	STAR PATTERNS	4 Se	漢字名	#	Star Places
Tau			Sp	畢	19	Tau
Ori			Sp	觜	20	Ori
Gem			Sp	參	21	Ori
Gem			Su	井	22	Gem
Cnc			Su	鬼	23	Cnc
CncLeo	♋♌		Su	柳	24	Hya
Leo			SS	星	25	Hya
Leo	♌		Su	張	26	Hya
Leo			Su	翼	27	Hya
Vir	♍		Su	軫	28	Crv
Vir			Au	角	1	Vir
Vir			Au	亢	2	Vir
Lib			Au	氐	3	Lib
Sco			AE	房	4	Sco
Sco			Au	心	5	Sco
Sco			Au	尾	6	Sco
Sgr			Au	箕	7	Sgr
Sgr			Wi	斗	8	Sgr
Cap			Wi	牛	9	Cap
Aqr			Wi	女	10	Aqr
Aqr			WS	虛	11	Aqr
Aqr			Wi	危	12	Aqr
Peg			Wi	室	13	Peg
AndPeg			Wi	壁	14	AndPeg
And			Sp	奎	15	AndPsc
Ari			Sp	婁	16	Ari
Ari	♈	∧	Sp	胃	17	Ari
Tau			SE	昴	18	Tau

SEMITIC ALPHABETIC WRITING SYSTEMS									
Hebrew Names	# Val.	Northern Signs		Northern Sound		Southern Signs		Southern Sound	
'âleph	1				w				
bêth	2			b					p
gîmel	3				z				$^{z}_{d}$
dâleth	4				H			d	
hê	5			h				h	
wâw	6								y
zâyin	7				g			G	h
Hêth	8								
Têth	9							T	
yôdh	10			y	y			y	
kaph	20							k	K
lâmedh	30			l				l	
mêm	40							m	t
nûn	50			n	l			n	r
sâmekh	60			S					
³ayin	70			³	'				
pê	80			p	p			p	b
Sâdhê	90			s				s	
Kôph	100			k	g			k	g
rêsh	200			r	l			r	l
sîn	300							s	s
tâw	400			t	t				
=kaph	500			k					
=mêm	600								
=nûn	700								m
=pê	800			p	p			b	b
=Sâdhê	900							s	s
=âleph	1000			'	S			'	

CHINESE LUNAR MANSION SYSTEM	
STAR PATTERNS	Old Names
	*piet
	*tsiueg
	*ts'em
	*tsieng
	*kiuer
	*liog
	*seng
	*tiang
	*Diek
	*tsien
	*kuk
	*k'ang
	*ter
	*biueng
	*siem
	*miuer
	*kieg
	*tug
	*ngiog
	*niag
	*hiag
	*ngiueg
	*thiet
	*pek
	*k'ueg
	*lug
	*Hliuer
	*mog

Abbreviations:

4 Se = 4 Seasons／*SS* & *WS* = Summer-Winter Solstices／*AE* & *SE* = Autumn-Spring Equinoxes

(These are the major solar junctures, around 2357 BC.)

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