Divining from the Game *Liubo*: An Explanation of a Han Wooden Slip Excavated at Yinwan

尹灣漢墓<<博局占>>木牘試解

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Although many boards with the TLV design for the game *liubo* 六博 have been discovered at Han archaeological sites, the rules of the game during the Han dynasty are unclear. In 1952, Lien-sheng Yang tried to reconstruct the rules through a series of historical documents, the most useful being a formula for the game composed by Xu Bochang 許博昌 (a. 156-141 BCE), a Han expert player.[1] The formula, in the format of a palindrome, states:

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\begin{align*}
Fang & \quad pan & \quad jie & \quad dao & \quad zhang, \quad zhang & \quad pan & \quad jie & \quad dao & \quad fang; \\
Zhang & \quad jiu & \quad qu & \quad xuan & \quad gao, \quad gao & \quad xuan & \quad qu & \quad jiu & \quad zhang. \\
Zhang & \quad dao & \quad jie & \quad pan & \quad fang, \quad fang & \quad pan & \quad jie & \quad dao & \quad zhang; \\
Zhang & \quad jiu & \quad qu & \quad xuan & \quad gao, \quad gao & \quad xuan & \quad qu & \quad jiu & \quad zhang.
\end{align*}
\]

方雜揷道張，張雜揷道方，
張究屈玄高，玄究究張，
張道摘脰方，方摘揷道張，
張究屈玄高，玄究究張。[2]

Identifying *fang* 方 as the Vs of the TLV design, *zhang* 張 as the Ts, and *qu* 屈 as the Ls. Yang conjectured that a *liubo* player may start at the open end of an L, move his men to the corner of a square marked by a V, and reach a T at the centre of the board via a diagonal line (Fig.1).

In 1964, Lao Gan proposed a different reading of Xu's formula.[3] According to his interpretation, the Ls, Vs, and four points on the board were various conditions for specific moves, with the Ls serving as starting points; a player was allowed to attack opposing chessmen in the open Ts and the four points, but not those protected by the closed Vs (Fig.2). Dividing the board into four squares, Lao identified Xu's *fang* 方 as the domain to the immediate right of the player making a move, *zhang* 張 as the domain to the right of that player, *xuan* 玄 as the domain to the far left, and

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[1] The formula, in the format of a palindrome, states:...[3] Lao Gan's reading involves dividing the board into squares and identifying specific domains based on the player's moves and positions. Fig.1 Diagram showing Lien-Sheng Yang's explanation of the game *liubo*
gao 高 to the immediate left. Lao then suggested that a liubo player would try to find ways of moving his pieces from the fang to the zhang domain, where he could reach the gao through the xuan.

Since Xu's formula is a highly condensed palindrome, it was not easy to confirm Yang and Lao's theories until a wooden slip containing instructions for divination was excavated from Tomb No. 6 (dated 10 BCE) at Yinzhan 尹週, Jiangsu, in 1993.[4] The 23×7 cm slip has characters and diagrams on both sides. The verso bears a diagram resembling the TLV design (Fig. 3) and a chart consisting of five rows and ten columns (Fig. 4). The diagram includes the character fang 方 at the centre, the characters nanfang 南方 at the top, and Chinese chronograms (traditionally known as celestial stems and terrestrial branches) on at least one, and often on both sides of each design line.[5] The rightmost chart column lists events that require divination — marriage, travel, disease, and death. The first characters on the chart’s top row are divination signs, reading from right to left:

Fig. 2 Diagram showing Lao Gan’s explanation of the game liubo

Fig. 3 TLV design on upper section of verso of Han wooden divination slip from Yinzhan.

Fig. 4
Fig. 4 Transcription of the TLV divination on lower section of verso of Han wooden divination slip from Yinwan (directly below Fig. 3)
There are similarities and differences between the TLV diagram and the wooden slip used for divination.

The ancient Chinese used the TLV diagram for divination, as noted in the context provided.

For example, the TLV diagram shows a sequence of Chinese chronograms that may be interpreted by moving through the chart. The sequence begins at a specific point and moves through a series of positions, as indicated in the diagram.

The text mentions that the sequence can be read in Chinese, with characters like fang 方, lian 联, jie 结, dao 道, zhang 张, qu 曲, chu 除, chang 長, and gao 高. Cylindrical rods are used to represent these characters in the divination process.

The diagram illustrates how the sequence of these characters is determined, with arrows indicating the movement from one position to another. This movement is crucial for understanding the divination process.

The text also refers to Chao Yuelin, a master of divination, who is mentioned in the context of the divination process. The diagram provides a visual representation of the sequence, which is essential for understanding the divination method.

In summary, the TLV diagram is a significant tool for divination in ancient Chinese culture, and the text provides valuable insights into its usage and significance. The diagram itself is a visual representation of the sequence, allowing for a clearer understanding of the divination process.
identical in terms of the pronunciation and reference, and two are comparable in meaning. The exact matches are fang, dao, zhang and gao. The pair with identical pronunciation and reference is jie 捷 in the divination signs and jie 捷 in the formula, both containing the meaning "marker": jie 捷 refers to posts,[9] while jie 捷 suggests the things that help to raise high or to reveal.[10] The two pairs with comparable meanings are chu 足 and qu 足, lian 縫 and pan 縫. Chu and qu are exchangeable, signifying "to bend."[11] Lian and pan both include the implication "side". Pan usually indicates the bank of a river or a lake; lian, meaning "edges and corners," can be extended to represent the opposite edge of an angle.[12] The similarity between the divination signs and the liubo formula are of great significance. On the one hand, as the divination signs denote various positions in the TLV diagram, the formula words most likely had the same function of signifying positions on the game board.[13] On the other hand, the nine positions were rendered as a palindrome in the formula, which reveals that the order of the nine positions, either on the game board or in the divination diagram, could be reversible.

The second key to the riddle is exactly the order of the nine positions. As mentioned, although the nine positions are crucial to both the TLV divination practice and the liubo game, fang is the only one that can be located in the diagram and on the game board. Since the Chinese chronograms in the diagram bear a strong sense of order, arranging these dates in sequence may help in determining the other eight positions. Before doing so, it is important to note that south is located at the top of the diagram, as it was on early Chinese maps. It is also essential to know that dates in ancient China were calculated through the collocation of celestial stems and terrestrial branches; ten of the former (jia, yi, bing, ding, wu, ji, geng, xin, ren, gui) and twelve of the latter (zi, chou, yin, mao, chen, si, wu, wei, shen, yu, xu, hai) were combined to form 60-day cycles. In the diagram, the sixty days start at jiazi 甲子 at the north-western V and end with guiwei 亥未 (Fig.5). Writing errors may explain three missing days: 9 (renshen 壬申), 28 (xinmao 兑卯), and 29 (renchong 壬辰); also, 18 (xinsi 辛巳), 19 (renwu 壬午), 37 (gengzi 庚子) and 59 (renwu 壬戊) are repeated. Both kinds of errors make reading the diagram very difficult; only the order in the south-western zone is error-free and therefore fully comprehensible. Days 43 to 51 move out from the square and consecutively through a T, and L, and a diagonal line to a V before the movement is reversed for days 52 to 60. The nine moves should be what the nine signs in the chart represent (Fig.6). Most likely, fang (43) to the inside of the square; lian (44) to the outside of the square; jie (45) to the vertical line in the T; dao (46) to the horizontal line in the T; zhang (47) to the vertical stem of the L; qu (48) to the base of the L; chu (49) to the diagonal line, chang (50) to the left stem of the V; and gao (51) to the right stem of the V.

Based on the moving pattern found in the south-western zone, we are able to rectify the written errors listed earlier. In the south-eastern zone, for instance, if we replace the repetitive days along the T — 18 (xinsi 辛巳) and 37 (gengzi 庚子) — with the missing 28 (xinmao 兑卯) and 29 (renchong 壬辰), the days from 26 (jichou 己丑) to 34 (dingyou 丁酉) would form successive nine chronograms. In the north-western zone, likewise, if we replace the repetitive 19 (renwu) inside the square with the missing 9 (renshen 壬申), then the days from 9 (renshen 壬申) to 17 (gengchen 庚辰) would become another group of successive nine chronograms. The following day 18 (xinsi 辛巳), misplaced far to the north-eastern corner, should be moved back to the position beneath 17 (gengchen 庚辰). The displacement further produces continuous nine chronograms from 18 (xinsi 辛巳) to 26 (jichou 己丑). As to the north-eastern zone, after the irrelevant 18 (xinsi 辛巳) is moved elsewhere, the repetitive 59 (renwu) should be deleted. The days from 1 (jiazi 甲子) to 9 (renshen 壬申) hence become consecutive. After the corrections, the days in the TLV diagram are no longer intangible. By sharing three days located inside the square — 9 (renshen 壬申) 26 (jichou 己丑) and 43 (bingwu 丙戊) — the sixty chronograms perfectly accommodate the TLV design through the arrayal of nine days in seven groups (1-9-17, 18-26-34, 35-43-51, 52-60).[14] Since six out of the seven groups show a consistent moving path, we can further fix the first group by displacing 7 (gengwu 庚午) to the west of the position jie, and 8 (xinwei 辛未) to the west of the position lian.[15]
Fig. 6 Restoration of the Yinwan TLV divination
The recognition of the nine signs in the diagram makes the practice of the TLV divination no longer mysterious. Because the diagram contains two modes of index — chronograms and positions, a diviner is welcomed to employ either mode to meet his need. For example, if one would like to know the condition of his sick father on the day yisi 乙巳 (42), he would first search the day in the diagram, ascertaining that its position is lian; and then, he would turn to the chart for the corresponding oracle under the sign lian, learning the grim possibility that his father would be soon beyond cure. The second example is using positions as an index. If a man is to get married, and if what most concerns him is the personality of his wife-to-be, he can learn from the oracles that the sign dao would enhance his wife's being easy-going, and the sign qu would grant him a discreet wife. If he finally decides to have a discreet wife, he can locate in the diagram all the dates in the position qu — 4 (dingmao 丁卯), 21 (jiashen 甲申), 31 (jiawu 甲午), 38 (xinhou 辛丑), 48 (xinhu 辛亥) and 51 (wuwu 戊午). He can then select a suitable day among the seven for his marriage to take place. Apparently, the practice of the TLV divination is convenient but mechanical. It is in all respects an appropriation of the game liubo for ready use, not truly involved in the play of the game, but borrowing all its devices — design, terminology and rules.

The above analysis resolves the riddle of the TLV divination preserved on the Yinwan wooden slip. It also partly contributes to our understanding of the game liubo in at least two aspects. First, in Xijing zaji 西京雜記, a work attributed to Liu Xin 劉歆 (?-23 CE), Xu's liubo formula was said to be so widely known that even children around the capital Chang'an could recite it.[16] The statement is proved not groundless, because only the most well-known game rules can serve as the framework of daily practices of choosing a good day. Particularly, there are no hints, except for fang, of the nine positions in the divination diagram, which precisely confirms how familiar Han people were with the game liubo. Second, the nine moves in the divination diagram, expressed by seven groups of nine chronograms, should be the positions to which both the nine signs in the divination chart and the nine words in Xu's formula refer. And yet, whether the moving sequence in the diagram and that on the game board are identical is ambiguous, because the reciprocation in the diagram is based on series of nine, but the reciprocation in Xu's formula is units of five. Or, the ambiguity may disclose that there was more than one way to play the game in the Han period. Moreover, the sixty chronograms are arrayed along the four zones of the diagram, which, interestingly, is not far from Lao's hypothesis of the four quarters of the game board. Nevertheless, to what extent the moving path — from north-east via north-west and south-east to south-west — reflects the reality of game-playing is still obscure. These indefinite points may be further clarified by future archaeological finds.

This article, formerly published as "An Explanation of the TLV Diagram for Divination from Yinwan 尹灣漢墓<博局占>木牀試解" in WW, 1999:8, pp 62-65, has been revised by the author.

Notes:


[2] Xiang Xinyang 向新陽, Liu Keren 劉克任, Annotated Edition of Xijing Zaji 西京雜記校注 (上海 Shanghai:上海古籍出版社 Shanghai Ancient Books Publishing House, 1991), p. 203. As this research shows, there may be a written error in the first sentence of the formula. Considering the possible back-and-forth movement of chessmen and the format of a palindrome, the first sentence can be rearranged as "Fang pon jie dao zhong, zhong dao jie pon fang 方韓道道張, 張道韓方". When I first reported my research at the Institute of History and Philology in the Academia Sinica, Taipei, in 1998, Dr. Liu Tseng-kui urged me to include the correction of the ancient text in my 1999 article. My hesitation was due to the thought that there should be more than one way to play the game in the Han dynasty; the beginning of the formula could be a mistake made by later compilers, but what if it was one of the rules unknown to us? More confidently, however, Li Jiemin followed up the clue, proposing to correct the first sentence in his response to my
article. See Li Jiemin 李家民, "Supplement to 'A tentative interpretation of the Han dynasty wooden slip from Yinwan bearing the liubo board divination'" <<尹灣漢墓出土伴木簡試解>> 訂補. WW, 2000:8, pp 73-94.


[5] As Li Jiemin pointed out, I mistakenly included two characters-jiufan-relevant to the diagram in my 1999 article, but it does not influence the accuracy of decoding the diagram.


[8] Li Xueqin 李學勤, Slips from the Han Tomb at Yinwan 全文(台湾: 華文書局, 1983), juan 70, p. 6b.

[9] For instance, Mt. Emei was said to be the sign that marks the position of a nearby city called Quanyang (崇門為東陽之誌). See Guo Pu 古斌, "Quan shanggu sandai Qin Han sujiao Lianchao wen 全上古三代秦漢六朝文, (Beijing: 中华书局, 1998), Quan Jin wen 全晋文, juan 120. 頁268-76.

[10] In Xueqin, for example, "chong" was used to describe "bending five fingers" 順五指." Yang Jing annotated that "chun" is the same as "qi". See Wang Xianqian 王先賢, Xunzi jiedu 荀子集解 (Zhuozi jie; 荀子集解 (Zhuozi jie) (Shanghai: 上海書店, 1990), juan 1, "Quan xue" 墨學, p. 9.

[12] Jia Yi 甲乙 once used the metaphor of steps and a hall to illustrate the relation between subjects and their ruler. He said, "when the lian is far from the earth, the hall is high; the lian is close to the earth, the hall is low. When the lian is close to the earth, the hall is low. When the lian is low, then the hall is high." Here, lian can be understood as either the raised angle of the steps or the height of the steps. If latter, lian means the opposite edge of an angle. See Ban Gu 班固, Han shu 漢書 (Beijing: 中华书局, 1990), juan 48, pp 2545-54.

[13] The formula was thus a compilation of positions, instructing moves of chessmen; no verbs or adjectives, as Yang and Lao suggested, were interwoven to make the sentences comprehensive.

[14] Another article on the Yinwan diagram came out when I had delivered mine for publication by the end of 1998. As Li Jiemin already pointed out, it reads the diagram as a mathematical diagram, ignoring the corrections made as I did, but it does not penetrate the relationship between the TLV divination, the liubo game and Xu's formula. See Liu Lianxian 刘chain, "Yinwan Hanmu chutu shashu wenxian chutuan 尹湾漢墓出土 文獻文獻初探 (A preliminary investigation of the numerical texts unearthed from the Han tomb at Yinwang), A General Discussion of the Slips Unearthed from the Han Tomb at Yinwan 尹湾漢墓簡稿 (Beijing: Science Press, 1999), pp 175-86.

[15] I did not include these two corrections in my 1999 article. After Liu Lianxian had noticed the oddity of 7 (gengwu) and 8 (zixun), Li Jiemin proposed a remedy by moving only 8 (zixun) to the position lian. However, to strictly follow the moving path of the other six groups, we should also arrange 7 (gengwu) to the west of the position jie.
