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

Zeng Lanying (Lillian L. Tseng) 曾藍瑩

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 In 1952, Lien-sheng Yang tried to reconstruct the rules through a series of historical documents, the most useful being a formula for the game composed by Xu Bochang 許博昌 (a. 156-141 BCE), a Han expert player.[1] The formula, in the format of a palindrome,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:

Fang pan jie dao zhang, zhang pan jie dao fang;
Zhang jiu qu xuan gao, gao xuan qu jiu zhang.
Zhang dao jie pan fang, fang pan jie dao zhang;
Zhang jiu qu xuan gao, gao xuan qu jiu zhang.
方畔揭道張, 張畔揭道方;
張究屈玄高, 高玄屈究張。
張道揭畔方, 方畔揭道張;
張究屈玄高, 高玄屈究張。[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 at 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

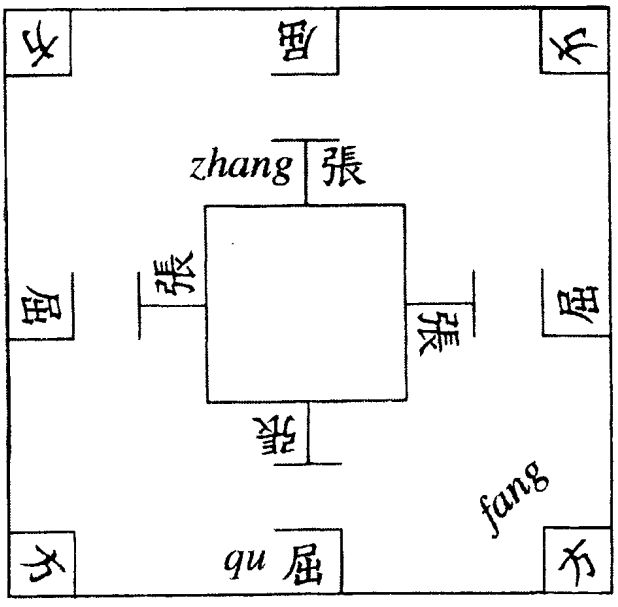
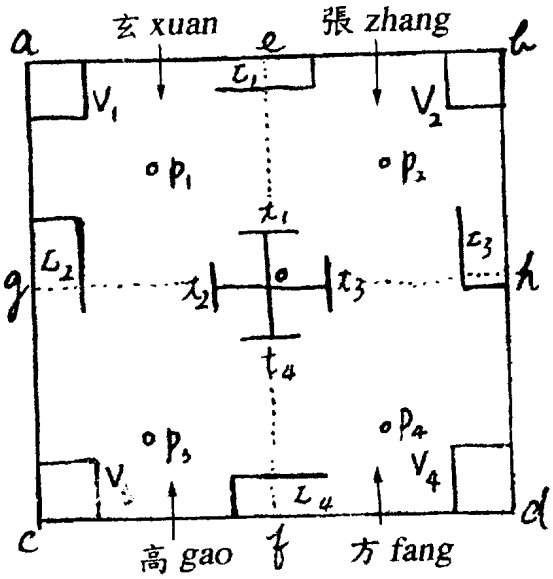


Fig.1 Diagram showing Lien-Sheng Yang's explanation of the game *liubo*

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 Yinwan 尹灣, 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*

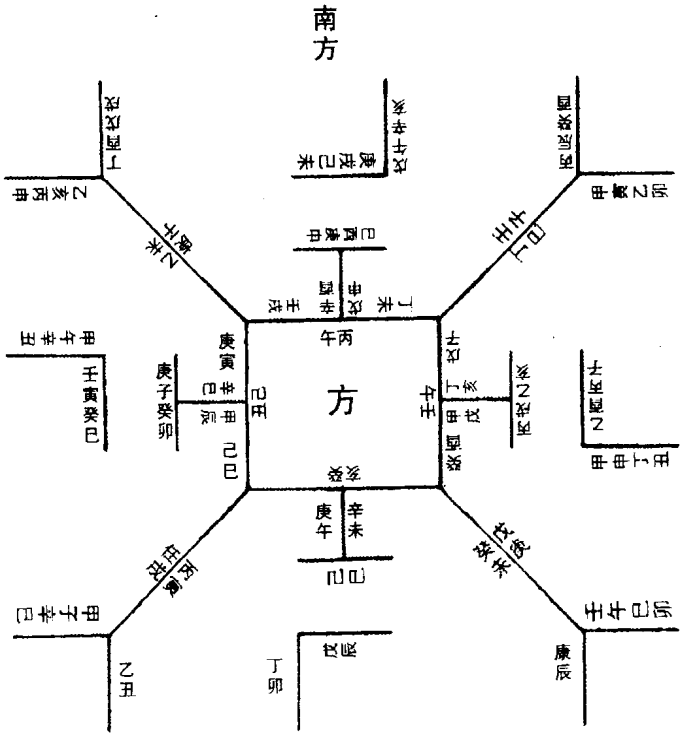


Fig. 3 TLV design on upper section of verso of Han wooden divination slip from Yinwan.

Fig. 4

•占取婦嫁女	•問行者	•問擊者	•問病者	•問亡者
方家室終生産	今日宜至過	疑未可知	日有瘳	不出可得？？
廉婦有疾不終生	後一日至留日更期	輕易解	恐不起	居口遠？
楊婦妬不終生	疾日夜不留	治急	病匿幼中	日夜不留
道婦見善室人	來而未至	事急	直久不死	何物人見亡
張婦强梁有子當家	行者有意	有決	聞	難得：復亡
曲婦惠謹少言語	行者有意	治急	病引	留見止必得
詘婦不終生	行者有所	見深難決	外内相引	不得
長婦有儲事	遠反未至	毋罪	直久什一生	欲還未敢也
高婦當家難難	行者留	久毋傷	直久遠人口死	難得人將賣之

Fig. 4 Transcription of the TLV divination on lower section of verso of Han wooden divination slip from Yinwan (directly below Fig. 3)

fang 方, *lian* 廉, *jie* 楬, *dao* 道, *zhang* 張, *qu* 曲, *chu* 詘, *chang* 長 and *gao* 高. Where columns and rows cross, one finds the oracles for making predictions.

While it is certain that the TLV diagram on this wooden slip was used for divining, exactly how is unknown. As the authors of **Slips from the Han Tomb at Yinwan** speculated, the divination signs in the charts may represent various positions in the TLV diagram; when practising divination, one would look for an oracle in the chart based on the sign of the intended day in the diagram.[6] More specifically, to learn if the day *guihai* 癸亥 is suitable for a marriage ceremony, as explained by Li Xueqin, one would first search for the day in the diagram — locating it in the north of the central square and obtaining its sign *fang* 方 — then explore where the column identified as *fang* 方 intersected with the row for marriage.[7] The oracle at that point — family would be sustained and children would be born — insinuates that it would be auspicious to hold the marriage on the day *guihai*. Li's explanation appears comprehensive, but except for *fang*, the positions of the eight signs in the TLV diagram are uncertain. The practice of the TLV divination remains yet a riddle.

The first key to the riddle is the signification of the signs at the top of the chart.[8] The nine signs strongly resemble the nine words used in Xu's *liubo* formula — four are exact matches, one is

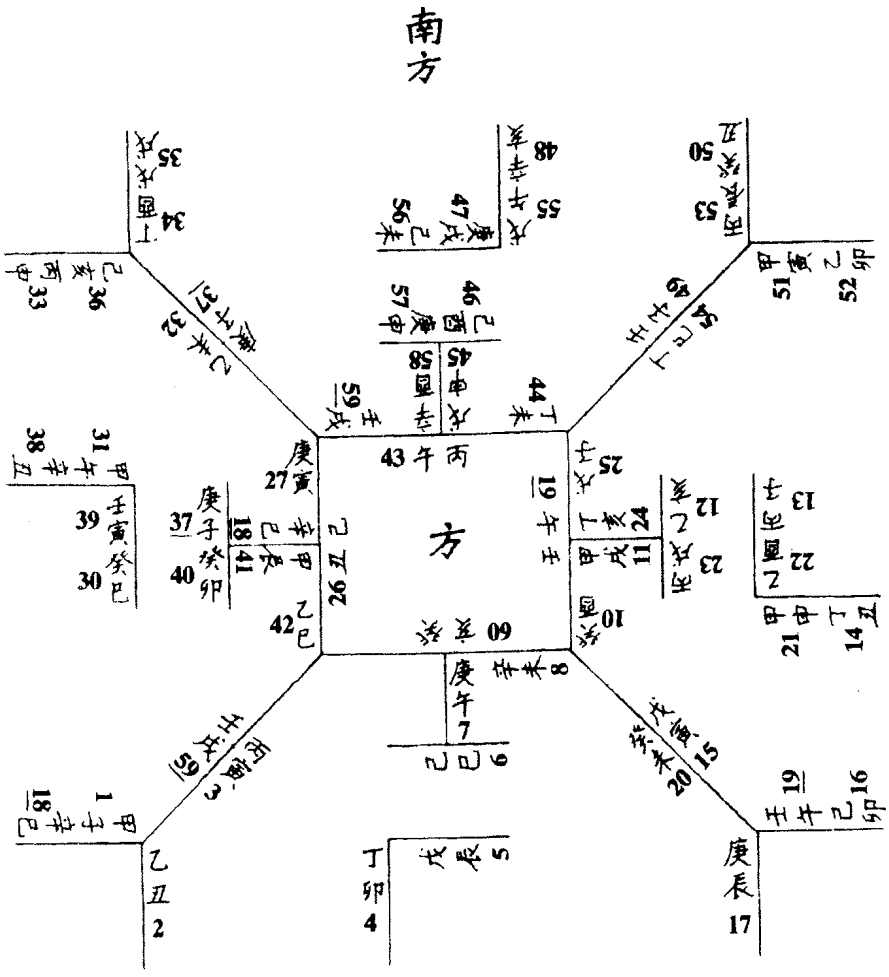
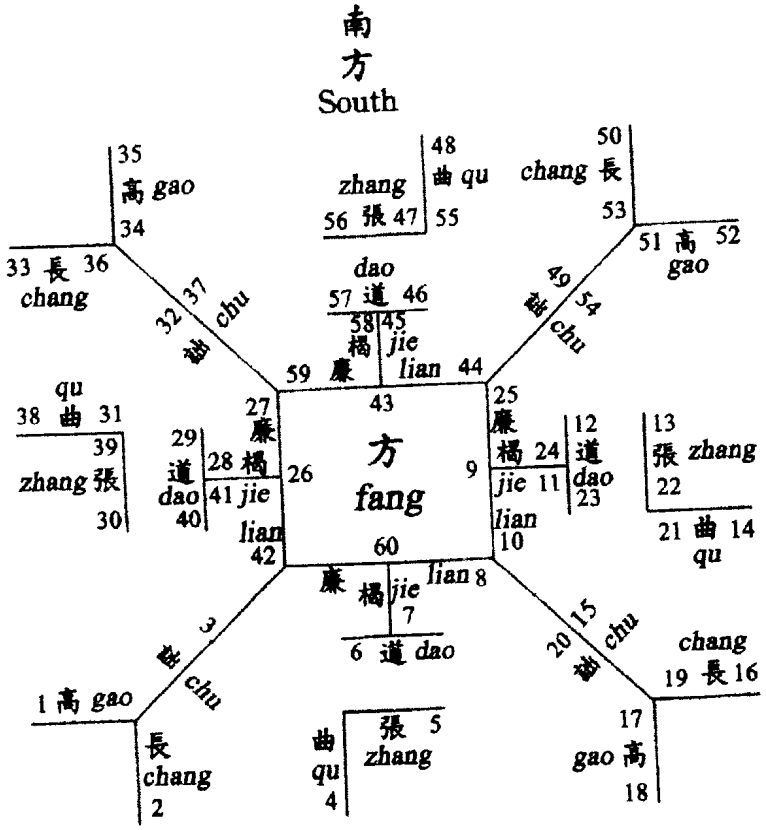


Fig. 5 Diagram showing the sequence of Chinese chronograms in the Yinwan TLV divination.
Numbers are added by the author.
The underlined indicate the written errors that interrupt the sequence.

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* 楬 in the divination signs and *jie* 楬 in the formula, both containing the meaning "marker": *jie* 楬 refers to posts,[9] while *jie* 楬 suggests the things that help to raise high or to reveal.[10] The two pairs with comparable meanings are *chu* 詘 and *qu* 屈, *lian* 廉 and *pan* 畔. *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, you, 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 *guihai* 癸亥 [illegible](Fig.5). Writing errors may explain three missing days: 9 (*renshen* 壬申), 28 (*xinmao* 辛卯), and 29 (*rencheng* 壬辰); also, 18 (*xinsi* 辛巳), 19 (*renwu* 壬午), 37 (*gengzi* 庚子) and 59 (*renxu* 壬戌) 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* 辛卯) and 29 (*rencheng* 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 (*renxu*) 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* 丙戌) — 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]



1. 甲子 *jiazi*
2. 乙丑 *yichou*
3. 丙寅 *bingyin*
4. 丁卯 *dingmao*
5. 戊辰 *wuchen*
6. 己巳 *jisi*
7. 庚午 *gengwu*
8. 辛未 *xinwei*
9. 壬申 *renshen*
10. 癸酉 *guiyou*
11. 甲戌 *jiaxu*
12. 乙亥 *yihai*
13. 丙子 *bingzi*
14. 丁丑 *dingchou*
15. 戊寅 *wuyin*
16. 己卯 *jimao*
17. 庚辰 *gengchen*
18. 辛巳 *xinsi*
19. 壬午 *renwu*
20. 癸未 *guiwei*
21. 甲申 *jiashen*
22. 乙酉 *yiyou*
23. 丙戌 *bingxu*
24. 丁亥 *dinghai*
25. 戊子 *wuzi*
26. 己丑 *jichou*
27. 庚寅 *gengyin*
28. 辛卯 *xinmao*
29. 壬辰 *renchen*
30. 癸巳 *guisi*
31. 甲午 *jiawu*
32. 乙未 *yiwei*
33. 丙申 *bingshen*
34. 丁酉 *dingyou*
35. 戊戌 *wuxu*
36. 己亥 *jihai*
37. 庚子 *gengzi*
38. 辛丑 *xinchou*
39. 壬寅 *renyin*
40. 癸卯 *guimao*
41. 甲辰 *jiachen*
42. 乙巳 *yisi*
43. 丙午 *bingwu*
44. 丁未 *dingwei*
45. 戊申 *wushen*
46. 己酉 *jiyou*
47. 庚戌 *gengxu*
48. 辛亥 *xinhai*
49. 壬子 *renzi*
50. 癸丑 *guichou*
51. 甲寅 *jiayin*
52. 乙卯 *yimao*
53. 丙辰 *bingchen*
54. 丁巳 *dingsi*
55. 戊午 *wuwu*
56. 己未 *jiwei*
57. 庚申 *gengshen*
58. 辛酉 *xinyou*
59. 壬戌 *renxu*
60. 癸亥 *guihai*

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 (*xinchou* 辛丑), 48 (*xinhai* 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>木牘試解" in WW, 1999:8, pp 62-65, has been revised by the author.

Notes:

[1] Lien-sheng Yang, "An Additional Note on the Ancient Game *Liu-bo*", *Harvard Journal of Asiatic Studies* 15, (1952): pp 124-39.

[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 pan jie dao zhang, zhang dao jie pan fang* 方畔揭道張, 張道揭畔方." 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 李解民, "Supplement to 'A tentative interpretation of the Han dynasty wooden slip from Yinwan bearing the *liubo* board divination'" <<尹灣漢墓博局占木牘試解>>訂補, WW, 2000:8, pp 73-4.

[3] Lao Gan 勞榦, "The evolution of *liubo* and the *liubo* gaming board" 六博及博局的演變, ***Lishi Yuyan Yanjiusuo jikan*** 歷史語言研究所集刊 (Journal of the Institute of History and Philology), Academia Sinica, Taipei, 35 (1964), pp 15-30.

[4] Lianyungang Municipal Museum *et al* 連雲港市博物館等, **Slips from the Han Tomb at Yinwan** 尹灣漢墓簡牘 (Beijing: Zhonghua Shuju 中華書局, 1997), pp 21, 125-126, 162-166.

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

[6] Lianyungang Municipal Museum *et al* 連雲港市博物館等, **Slips from the Han Tomb at Yinwan** 尹灣漢墓簡牘, p. 3.

[7] Li Xueqin 李學勤, "*Boju* divination and the TLV pattern" <<博局占>>與規矩紋, WW, 1997:1, pp 49-51.

[8] Li Xueqin and the authors of **Slips from the Han Tomb at Yinwan** have noted the similarity between the two.

[9] As used in "If there is someone who dies on the road, then have him buried and erect a post 若有死於道路者, 則令埋而置楬焉." See Sun Yirang 孫詒讓, ***Zhou li zhengyi*** 周禮正義 (*Siku beiyao* edition 四庫備要本, Taipei 臺北: Chung-hwa Shu-chü 中華書局, 1983), *juan* 70, p. 6b.

[10] For instance, Mt. Emei was said to be the sign that marks the position of a nearby city called Quanyang (峨眉爲泉陽之揭). See Guo Pu 郭璞, "*Jiang fu*" 江賦, in Yan Kejun 嚴可均, ***Quan Shanggu Sandai Qin Han Sanguo Liuchao wen*** 全上古三代秦漢三國六朝文, (Beijing: Zhonghua Shuju 中華書局, 1958), ***Quan Jin wen*** 全晋文, *juan* 120, 頁2147-8.

[11] In *Xunzi*, for example, "*chu*" was used to describe "bending five fingers 詘五指." Yang Jing annotated that "*chu*" is the same as "*qu*". See Wang Xianqian 王先謙, ***Xunzi jiedu*** 荀子集解 (***Zhuzi jicheng ben*** 諸子集成本, Shanghai: Shanghai Shudian 上海書店, 1990), *juan* 1, "*Quan xue*" 勸學, p. 9.

[12] Jia Yi 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 廉遠地, 則堂高… when the *lian* is close to the earth, the hall is low 廉近地, 則堂卑." 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 (punctuated edition, Beijing: Zhonghua Shuju 中華書局, 1990), *juan* 48, pp 2254-5.

[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 document, making the corrections as I did, but it does not penetrate the relationship between the TLV divination, the *liubo* game and Xu's formula. See Liu Lexian 劉樂賢, "*Yinwan Hanmu chutu shushu wenxian chutan*" 尹灣漢墓出土數術文獻初探 (A preliminary investigation of the numerological texts unearthed from the Han tomb at Yinwan), **A General Discussion of the Slips Unearthed from the Han Tomb at Yinwan** 尹灣漢墓簡牘綜論 (Beijing: Science Press 科學出版社, 1999), pp 175-86.

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

[16] Xiang Xinyang 向新陽、Liu Keren 劉克任, **Annotated Edition of *Xijing Zaji*** 西京雜記校注 (Shanghai: 上海古籍出版社 Shanghai Ancient Books Publishing House, 1991), p. 203.