

# Notes on the Origins of the Hexagrams of the *Book of Change*

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Ever since the *Book of Change*<sup>1</sup> (*Yi jing* or *Zhou yi*) was introduced to the West in the late 17th century, the origins and the nature of the linear figures (*gua*) called “hexagrams”<sup>2</sup> and “trigrams” have been a puzzle to the Western sinological world. According to the traditional Chinese views, the eight trigrams were discovered or invented by the legendary emperor Fuxi. In one version Fuxi is also credited with doubling the trigrams (thus creating the sixty-four hexagrams), whereas other versions ascribe this to cultural heroes such as Shen Nong, the Great Yu, or—more commonly—King Wen of Zhou.<sup>3</sup>

The term “*gua*” does not occur in the classic itself, whereas there are some 30 occurrences in the *Ten Wings* (*Shi yi*), namely in the *Commentary to the Appended Words* (*Xi ci zhuan*) and the *Commentary to the Discussion of the Diagrams* (*Shuo gua zhuan*). According to B. Karlgren “*gua*” means both “to prognosticate by means of Achillea stalks” and “divination figures (combinations of lines)”.<sup>4</sup> As far as I have been able to determine, there are no verbal occurrences of “*gua*” in the *Book of Change*,<sup>5</sup> but the *Shuo wen jie zi* gives only the verbal sense, explained by “*shi*”,<sup>6</sup> to divine by Achillea stalks”.<sup>7</sup> It further notes that the components of the character “*gua*” are “*bu*” and “*gui*” the former meaning “to divine by tortoise-shell or bone”<sup>8</sup> and the latter being “a jade tablet as token of rank, sceptre, tessera”.<sup>9</sup> Finally, the *Yu pian* explains “*gua*” as “*zhao*”,<sup>10</sup> cracks in heated tortoise-shell or bone,

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<sup>1</sup> I use this title to refer to both the *Classic (Jing)* and the *Commentary (Zhuan)*, also known as the *Ten Wings (Shi yi)*.

<sup>2</sup> This translation was James Legge’s invention. Richard Wilhelm used the German “Zeichen” (sign). *I Ching or Book of Changes*, trans. Richard Wilhelm, rendered into English by Cary F. Baynes, London, 1987, p. 1, n. 7.

<sup>3</sup> See, e.g., Song Zuoyin, *Zhou yi xin lun*, Changsha, 1983, p. 8.

<sup>4</sup> Bernhard Karlgren, *Grammata Serica Recensa*, Stockholm, 1972 (hereafter abbreviated *GSR*), No. 879s, p. 234.

<sup>5</sup> The verbal use “*gua*” seems to stem from the *Shi guan li* Chapter of the *Yi li (Book of Etiquette and Ceremonial)*. See *Shisan jing zhu shu*, 2 vols., Beijing, 1982; Vol. 1, p. 946.

<sup>6</sup> *Shuo wen jie zi*, compiled by Xu Shen, Xianggang, 1979, p. 69.

<sup>7</sup> *GSR*, No. 336a, p. 98.

<sup>8</sup> *GSR*, No. 1210a, p. 311.

<sup>9</sup> *GSR*, No. 879, p. 234.

<sup>10</sup> *Yu pian*, 3 vols. Compiled in the 6th century by Gu Yewang. See Vol. 1, Ch. 6. This edition is included in the *Gu yi congshu* (n.p., n.d.).

prognostics, omen”.<sup>11</sup> Thus the etymology of “*gua*” suggests close connections with both principal methods of divination.

A number of theories have been set forth by sinologists as to the origins and nature of the “*gua*”. Some, like James Legge, adhered more or less to the traditional Chinese view,<sup>12</sup> while others invented fanciful explanations: the “*gua*” had evolved from an ancient writing system<sup>13</sup> (which made the *Book of Change* a dictionary!) or the “*gua*” (and/or the lines) originated in a phallic cult or a worship of the genitals.<sup>14</sup> G. W. Leibniz, when presented with an arrangement of the hexagrams attributed to Shao Yong (1011–77), read his own notation of binary arithmetic into the scheme.<sup>15</sup> Richard Wilhelm believed that the broken and unbroken lines had developed from the “yes” and “no” answers of a more primitive oracle.<sup>16</sup> In line with the explanation quoted from the *Yu pian* above, Fung Yu-lan considers the “*gua*” to be “pictorial substitutes for the cracks formed in the tortoise shell when this was heated with fire by the diviner”.<sup>17</sup>

One of the more persistent theories, the origins of which I have not been able to trace, is that the lines were based on the long and short sticks used for divination.<sup>18</sup> The oldest surviving account of how to divine with Achillea stalks does not mention stalks of varying length. More to the point, perhaps, R. Barde has suggested that the lines may be connected to counting-rods. Needham comments, “The symbols would thus have been derived from the procedures involved in the use of an arithmetic to the base 5, in which the weak or broken lines would have been rods having the value of 1, while the strong or unbroken lines would have been rods having the value of 5.”<sup>19</sup> Needham further demonstrates that arithmetic to the base 5 involves numbers that are fundamental to the numerology of the *Commentary to the Appended Words (Xi ci zhuan)*.<sup>20</sup> This is still theory, though, and Needham offers the alternative that the lines may just represent odd and even numbers,<sup>21</sup> which

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<sup>11</sup> *GSR*, No. 1145a, p. 311.

<sup>12</sup> *The I Ching: The Book of Changes*, trans. James Legge, New York, 1963, pp. 13f.

<sup>13</sup> Lacouperie and Conrady. See Iulian K. Shchutskii, *Researches on the I Ching*, trans. W. L. Macdonald and Tsuyoshi Hasegawa with Hellmut Wilhelm, London, 1960, p. 50.

<sup>14</sup> Canon McClatchie (in Shchutskii, *Researches*, pp. 23f) and Guo Moruo (see Chen Jinsheng, “‘*Zhou yi*’ *yu Zhongguo zhexue*”, *Wen shi* 14 (1982), pp. 303–39; p. 333).

<sup>15</sup> See, e.g., Joseph Needham, *Science and Civilisation in China*, Vol. 2, Cambridge, 1980, pp. 340ff.

<sup>16</sup> Richard Wilhelm, *Lectures on the I Ching: Constancy and Change* (trans. Irene Eber), London, 1980, pp. xx, 3: “An unbroken line denoted the ‘yes’ answer, a broken line the ‘no’ answer.” Cf. also *I Ching*, trans. R. Wilhelm, p. xlix.

<sup>17</sup> Fung Yu-lan, *History of Chinese Philosophy*, 2 vols., Princeton, 1973; Vol. 1, p. 379. Cf. also Qu Wanli, “*Yi gua yuan yu gui bu kao*”, *Lishi yuyan yanjiusuo jikan* 27, n.d.

<sup>18</sup> See Needham, *Science and Civilisation in China*, Vol. 2, pp. 304, 309, 342.

<sup>19</sup> *ibid.*, p. 343. Cf. also Needham, *Science and Civilisation in China*, Vol. 3, Cambridge, 1959, p. 140, note b.

<sup>20</sup> See, e.g., Wilhelm, *I Ching*, pp. 310ff.

<sup>21</sup> Needham, *Science and Civilisation in China*, Vol. 2, p. 343, note b, “... the unbroken lines

was also the opinion of Arthur Waley: “The 64 hexagrams merely represent the scores of odd and even arrived at as a result of this process (i.e. the shuffling and counting of the stalks).”<sup>22</sup>

Wang Ningsheng has argued most convincingly in favour of this theory. Wang bases himself on ethnographic studies of minority nationalities of Yunnan and Sichuan provinces, and he offers several examples of divination by numbers. Particularly the Yi nationality of Liangshan, Sichuan, has a method of divination that closely resembles the plant stalk divination of the *Book of Change* as we know it. The diviner divides a bundle of stalks at random, removes one group, and counts through the other to see if an odd or even number of stalks remains. As this is done three times, there are eight possible combinations of odd and even, i.e. eight possible answers to the divination inquiry.<sup>23</sup>

In 1978 Zhang Zhenglang at the Jilin University Conference on Palaeography advanced the theory that certain groups of numerals carved on a wide variety of artifacts are to be understood as representations of the hexagrams and trigrams of the *Book of Change*.<sup>24</sup> During the 1980s several articles on the subject were published in the Chinese archaeological periodicals and elsewhere.<sup>25</sup> New evidence was discovered, old material re-examined in the

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stood for odd numbers and the broken ones for even

<sup>22</sup> Arthur Waley, “The Book of Changes”, *Bulletin of the Museum of Far Eastern Antiquities* 5 (1934), pp. 121–42; p. 140.

<sup>23</sup> See Wang Ningsheng, “Ba gua qiyuan”, *Kaogu* 4 (1976), pp. 242–5; p. 243.

<sup>24</sup> Zhang’s lecture was entitled, “The Ancient Method of Divining with Yarrow Stalks and Wen Wang’s Elaboration of the *Zhou yi*” [Gudai shi fa yu Wen Wang yan *Zhou yi*]. His arguments were first published as “Shi shi Zhou chu qingtongqi mingwen zhong de Yi gua”, *Kaogu Xuebao* 4 (1980), pp. 403–15. This article was later translated into English by J. R. Ching, S. Davis, S. R. Weld, R. D. S. Yates, and H. W. Huber, “An Interpretation of the Divinatory Inscriptions on Early Chou Bronzes”, *Early China* 6 (1980–1), pp. 80–96. Earlier, Li Xueqin had suggested that “this type of numerical word ... leads one to think of the ‘nine’ and ‘six’ of the *Zhou yi*”. See *Wenwu cankao ziliao* 11 (1956), pp. 16f.

<sup>25</sup> Zhang Yachu and Liu Yu, “Cong Shang Zhou ba gua shuzi fuhao tan shifa de ji ge wenti”, *Kaogu* 2 (1981), pp. 155–63 (translated by E. L. Shaughnessy as “Some Observations about Milfoil Divination Based on Shang and Zhou *bagua* Numerical Symbols”, *Early China* 7 (1981–2), pp. 46–55); Chen Quanfang, “Zhouyuan chutu tao wen yanjiu”, *Wenwu* 3 (1985), pp. 63–75, 96; Zheng Ruokui, “Anyang Miaopu beidi xin faxian de Yin dai ke shu shiqiji xiangguan wenti”, *Wenwu* 2 (1986), pp. 46–51, 62; Shaanxi Zhouyuan Kaogudui, “Fufeng xian Qijia cun Xi Zhou jiagu fajue jianbao”, *Wenwu* 9 (1981), pp. 1–7; Zhao Quan, Zhong Shaolin and Bo Rongjin, “Jiagu wenzi qi ke chu tan”, *Kaogu* 1 (1982), pp. 85–91; Xu Xitai, “Zhouyuan chutu bu ci xuan shi”, *Kaogu yu wenwu* 3 (1982), pp. 59–63; Shaanxi Zhouyuan Kaogudui and Zhouyuan Qishan Wenguan suo, “Qishan Fengchu cun liang ci faxian Zhou chu jiagu wen”, *Kaogu yu wenwu* 3 (1982), pp. 10–22; Rao Zongyi, “Yin dai Yi gua ji youguan zhan bu zhu wenti”, *Wenshi* 20 (1983), pp. 1–13; Jao Tsung-yi [Rao Zongyi], “The *Yi-kua* in the Shang Dynasty and Various Problems Pertaining to Divination: Abstract”, *Early China*, Supplement 1 (1986), pp. 32–3; Luo Xizhang and Wang Junxian, “Zhouyuan Fufeng diqu chutu Xi Zhou jiagu de chubu renshi”, *Wenwu* 2 (1987), pp. 17–25; Xiao Nan, “Anyang Yinxu faxian ‘Yi gua’ bu jia”, *Kaogu* 1 (1989), pp. 66–70; Cao Dingyun, “Yinxu Sipanmo ‘Yi gua’ bu gu yanjiu”, *Kaogu* 7 (1989), pp. 636–41; Zhang Wu, “Zhou yi’ yaiyi de xin shouhuo, xin tedian, xin qushi”, *Zhongguo zhexueshi yanjiu* 1 (1985), pp. 110–16.

Table I

	1	2	3	4
1:	36	21.4%	70	20.8%
2:	0		0	
3:	0		0	
4:	0		0	
5:	11	6.5%	14	4.2%
6:	64	38.0%	130	38.7%
7:	33	19.6%	67	20.0%
8:	24	14.2%	51	15.2%
9:	0		4	1.2%

Table II

	1	2
1:	37	38.9%
2:	0	
3:	0	
4:	0	
5:	0	
6:	49	51.6%
7:	0	
8:	5	5.3%
9:	4	4.2%

light of the new insight, and the arguments were developed.

The material consists of oracle bones (scapulae and plastrons), bronze vessels, pottery moulds and vessels, a jade seal, a ceramic spindle whorl, and bone and horn arrowheads, the majority of which dates back to late Shang and Western Zhou. In his 1980 article Zhang published thirty-two such groups of numerals.<sup>26</sup> His investigation shows that only the numerals 1, 5, 6, 7, and 8 occur.<sup>27</sup> Column 1 in Table I above shows Zhang's tabulation of the frequency of occurrence. In Column 2 I have expressed these figures in percentages. Column 3 shows the material I have gathered from the articles mentioned in note 25 (including Zhang's material).<sup>28</sup> These figures are expressed in percentages in Column 4.

Zhang's thesis is that the numbers 2, 3, and 4 do not occur because they were at the time written with 2, 3 or 4 horizontal strokes and therefore difficult to tell apart when written in vertical columns. The main concern, according to Zhang, was whether the number was an even or an odd one, so 2 and 4 were both recorded under 6, and 3 was recorded under 1. This explains

<sup>26</sup> Zhang, "Shi shi Zhou chu...", pp. 404f (trans., pp. 81f). Cf. also Zhang Yachu and Liu Yu, "Cong Shang Zhou...", p. 160 (trans., p. 48). Zhang Yachu and Liu Yu have collected thirty-six groups but the extra four diagrams resemble the "Shou" ("head", "chief"), sometimes called tetragrams, of the *Tai xuan jing* [*The Classic of the Great Mystery*] and shall not be dealt with here. See, e.g., *The Tai Hsian Ching: The Hidden Classic: A Lost Companion of the I Ching*, reconstructed and translated by Derek Walters, Wellingborough, 1983, pp. 11ff.

<sup>27</sup> In an addendum to his article, however, Zhang reports a find where the numerals 2, 3, and 4 do occur carved on spoons of horn and bone and antler ends. Zhang says, These items represent the neolithic culture of the lower Changjiang [Yangtze] basin, and regardless of their absolute date, must, in the development of divinatory symbols, belong to the earlier types" (Zhang, "Shi shi Zhou chu...", p. 414 (trans., pp. 94f)).

<sup>28</sup> In the cases of four "digitgrams" Zhang Yachu and Liu Yu have readings that differ from those of Zheng Ruokui ("Anyang Miaopu...", p. 47; see Zheng's Table 1). I have followed Zheng Ruokui's interpretation in Column 3 but the differences are negligible. The readings of Zhang and Liu give 67 occurrences of "1", 15 of "5", 131 of "6", 68 of "7", and also 51 of "8". Zhang Yachu and Liu Yu, "Cong Shang Zhou chu...", p. 160 (trans., p. 48). Table II, which is similar, will be dealt with below (p.53).

the relatively high frequency with which these two numerals occur. Zhang further adds the occurrences of the odd numbers ( $36 + 0 + 11 + 33 = 80$ ) and the even numbers ( $0 + 0 + 64 + 24 = 88$ ) to show that there is a comparatively even distribution of odd and even numbers.<sup>29</sup> Adding the figures in Column 3 in the same manner results in 166 occurrences of odd numbers and 194 of even numbers. Expressed in percentages there are 46.1% odd and 53.9% even numbers compared to Zhang's 47.6% odd and 52.4% even numbers. Table I clearly shows that the tendency of the material examined by Zhang is the same as that of the material which later appeared. (The occurrences of "9" will be explained below.)

Unless fragmentary, these figures always occur in groups of three or six (Illus. 1, p. 47), reminiscent of the trigrams and hexagrams of the *Book of Change*. Zhang then shows how these "digitgrams" can be converted into trigrams or hexagrams according to correspondences where odd numbers equal unbroken (*yang*) lines and even numbers equal broken (*yin*) lines.<sup>30</sup>

Only very rarely are these "digitgrams" accompanied by any text. In three cases the "digitgrams" are followed by "yue" (say, call) and another character which may be a statement or the name of the "digitgram". Owing to the poor condition of the oracle bones in question, there is some disagreement as to what they say.

The first specimen says,<sup>31</sup>

(A) 7 8 7 6 7 6 yue kui (wei)<sup>32</sup> (or gui)<sup>33</sup>

According to the *Shuo wen jie zi* "kui" ("wei") means "high", "precipitous",<sup>34</sup> and is the name of a mountain,<sup>35</sup> the name of a state in the Spring and Autumn (*Chun qiu*) period (770–480 BC),<sup>36</sup> or a family name.<sup>37</sup> The "digitgram" translates into the hexagram *Wei ji* (*Not Yet Forded the River*), No. 64 in the *Book of Change*. In the paragraph "9 in the 4th line" we are informed that a Zhou prince or minister by the name of Zhen is rewarded by the

<sup>29</sup> Zhang, "Shi shi Zhou chu...", p. 406 (trans., p. 84).

<sup>30</sup> *ibid.*, p. 405 (trans., p. 83).

<sup>31</sup> See Illus. 2, p. 49.

<sup>32</sup> This is Zhang's item No. 8; cf. *ibid.*, pp. 404f (trans., pp. 810). Zhang interprets the graph as *kui* (*wei*), whereas Zhang Yachu and Liu Yu find the graph indecipherable and leave the space blank; cf. "Cong Shang Zhou...", pp. 157, 160 (trans., pp. 47f). Other scholars, though, support the interpretation of Zhang Zhenglang. See Rao Zongyi, "Yin dai Yi gua...", p. 2, and Tang Lan, "Zai jiagu jinwen zhong suo jian de yi zhong yijing yishi de Zhongguo gudai wenzi", *Kaogu Xuebao* 2 (1957), pp. 33–6; p. 33.

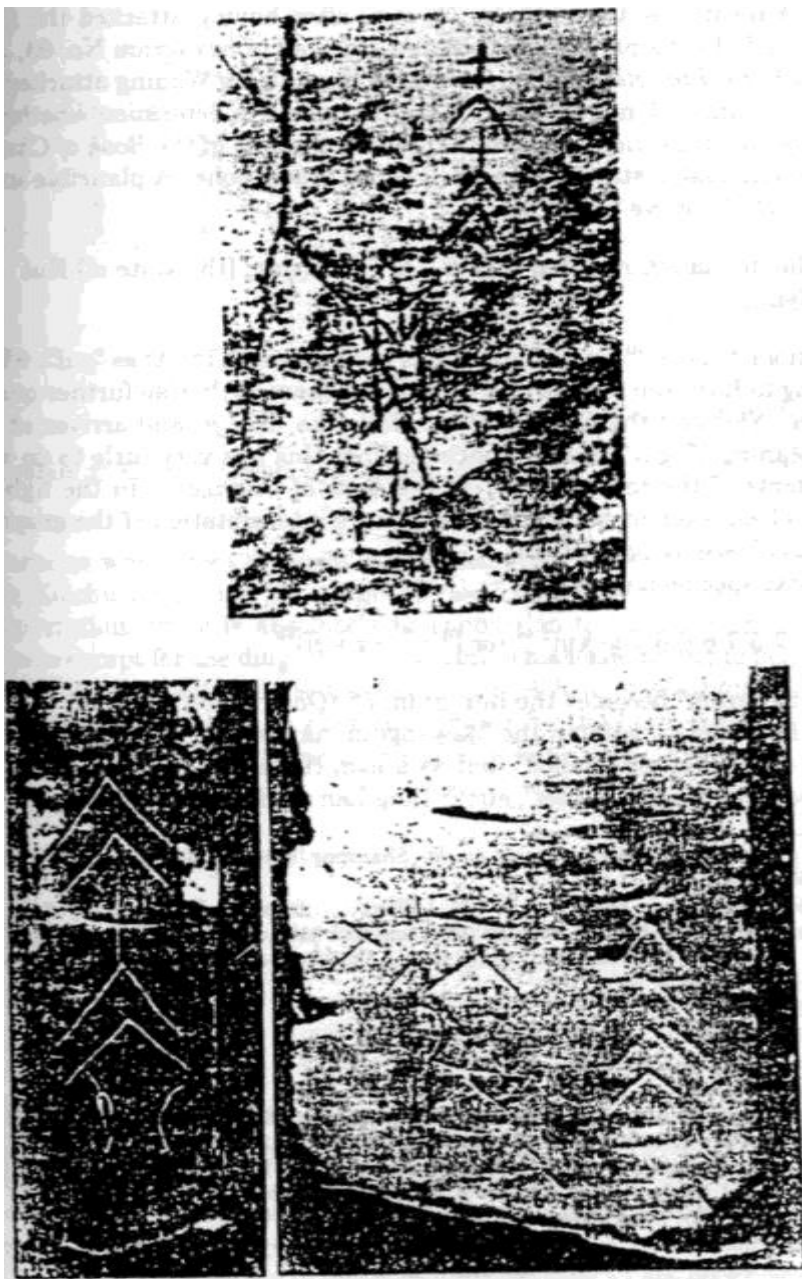
<sup>33</sup> The most recent study interprets the last graph as "gui"; cf. Cao Dingyu, "Yinxu Sipanmo...", p. 637. Since we neither possess the original bone nor a good rubbing of it, it is impossible to enter into a detailed discussion of who is right and who is wrong.

<sup>34</sup> *Shuo wen...*, p. 305.

<sup>35</sup> See *Shan hai jing jiao zhu*, Shanghai, 1983, p. 369.

<sup>36</sup> See *Gongyang zhuan*, Xi's 26th year. *Shisan jing...*, 2:2260.

<sup>37</sup> See *Zuo zhuan*, Xi's 23rd year. *Shisan jing...*, 2:1815.



*Illustration 1: (above) Kaogu 1 (1982), p. 90, Illus. 11.1; (below) Wenwu 2 (1986), p. 49, Illus. 2 and 3.*

state of Yin (lit. The Great State, *Da guo*) after having attacked the state of Guifang.<sup>38</sup> In the paragraph “9 in the 3rd line” of hexagram No. 63, *Ji ji* (*Already Forded the River*), it says that the Shang king Wuding attacked the state of Guifang.<sup>39</sup> Unfortunately, it is not possible to determine whether or not there is a connection between the state of Guifang of the *Book of Change* and the conceivable state of Kui (Wei) of the oracle bone. A plausible interpretation of (A) above would be:

[The divination resulted in] 7 8 7 6 7 6, saying, [the state of] Kui (Wei).

As mentioned above,<sup>40</sup> Cao Dingyu reads the last graph in (A) as which according to Karlgren is a variant “*gui*”, “ashamed”.<sup>41</sup> Cao further quotes the *Odes* (*Shi*) and the *Records of the Historian* (*Shi ji*) and arrives at the same meaning of “*gui*”, and he concludes that this has very little to do with the contents of the text of *Wei ji* in the *Book of Change*.<sup>42</sup> In the light of what has been said above, Zhang Zhenglang’s interpretation of the graph as “*kui*” (“*wei*”) seems preferable.

The next specimen says,<sup>43</sup>

(B) 7 5 7 6 6 6 yue kui<sup>2</sup> 44 (or [?])<sup>45</sup> (or wei)<sup>46</sup>

The “digitgram” becomes the hexagram *Pi* (*Obstruction*), No. 12, which is written *Fu* (woman, wife) in the Mawangdui manuscript.<sup>47</sup> “*Kui*” basically means “spoon”, “spoon-shaped”, but as a loan character acquired meanings like “great”, “principal”, “chief”, etc.<sup>48</sup> Tang Lan reads the last graph as <sup>49</sup>,

<sup>38</sup> See, e.g., Gao Heng, *Zhou yi da zhuan jin zhu*, Shandong, 1980, pp. 499f. Cf. also *I Ching...*, trans. R. Wilhelm, p. 251.

<sup>39</sup> Gao Heng, *Zhou yi da zhuan...*, p. 492; *I Ching ...*, trans. by R. Wilhelm, p. 247. The Mawangdui silk manuscript also contains these passages but under *Wei ji* the word “*gui*” has fallen out. Mawangdui Han mu boshu zhengli xiaozu, “Mawangdui boshu ‘*Liushisi gua*’ shiwen, *Wenwu* 3 (1984), pp. 1–8; pp. 3, 7. <sup>40</sup> Note 32.

<sup>41</sup> *GSR*, Nos. 569n, 1, p. 152. Cf. also *Shuo wen...*, p. 265.

<sup>42</sup> Cao Dingyu, “Yinxu Sipanmo...”, p. 637.

<sup>43</sup> See Illus. 2, p. 49.

<sup>44</sup> This is Zhang’s item No. 7; cf. “Shi shi Zhou chu ...”, pp. 404f (trans., pp. 81f), and Zhang Yachu and Liu Yu’s item No. 3, cf. “Cong Shang Zhou...”, pp. 157, 160 (trans., pp. 47f). Zhang and Liu also find this graph indecipherable, and Cao Dingyu finds the graph partly indecipherable but is certain that one part is “*gui*”: “Yinxu Sipanmo...”, p. 637.

<sup>45</sup> See Tang Lan, “Zai jiagu jin wen...”, p. 33.

<sup>46</sup> See Guan Xiechu, “Jilin Daxue gu wenzi xueshu taolunhui jiyao”, *Gu wenzi yanjiu* 1, pp. 2–3.

<sup>47</sup> Mawangdui boshu...”, p. 1. In two instances the Mawangdui manuscript has “*bu*” (not) instead of “*pi*”, and in three instances “*fu*”.

<sup>48</sup> *GSR*, No. 569f, p. 152. *Shuo wen...*, p. 300.

<sup>49</sup> “*Gǔi*” and the “knife radical” (No. 18). Tang Lan, “Zai jiagu ...”, p. 33. The rubbings in Tang’s article (p. 34) are completely illegible.

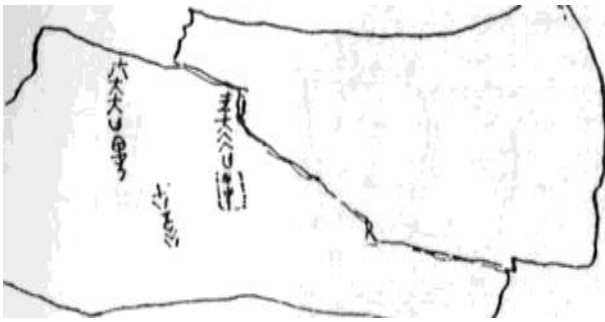


Illustration 2: Kaogu 7 (1989), p. 638, Illus. 1.



Illustration 3: Kaogu yu wenwu 3 (1982), p. 60, Illus. 1.14.

a character which does not exist in any dictionary I have consulted. Finally, Guan Xiechu interprets the graph as “wei” (fear). Whichever is the right interpretation, there is absolutely no connection to the *Book of Change* in this case except for the diagram (hexagram). This leads Zhang to believe that these hexagrams belonged to the *Lian shan* (*A Row of Mountains*) instead, and that “*kui*<sup>2</sup> *kui*” was an alternative name for the *Lian shan*.<sup>50</sup>

The third specimen is found on a different bone (Illus. 3, above).  
It says,

(C) 7 6 6 7 1 8 yue qi<sup>51</sup>

In another row there are four more characters, of which according to Zhang the first two are illegible:

□ □ ji yu<sup>52</sup>

How to translate “*ji*” in this context is uncertain. As a particle of the perfect tense, “*ji*” is usually followed by a verb and not—as here—by a noun. Zhang Yachu and Liu Yu are not convinced that the graph is “*ji*” and leave the space blank. They interpret the two rows as one continuous statement:

<sup>50</sup> Cf. Zhang, “Shi shi Zhou chu...”, pp. 408ff (trans., pp. 86ff). Cf. also *Zhou lijn zhujin yi*, comm, by Lin Yin. Taipei, 1972. p. 257.

<sup>51</sup> Zhang’s item No. 11; cf. “Shi shi Zhou chu...”, pp. 404f (trans., pp. 81f), and Zhang Yachu and Liu Yu’s item No. 11, cf. “Cong Shang Zhou...”, pp. 157, 160 (trans., pp. 47f).

<sup>52</sup> Zhang, “Shi shi Zhou chu...”, pp. 404f (trans., pp. 81f). Xu Xitai (“Zhouyuan chutu...”, p. 61) agrees with Zhang.



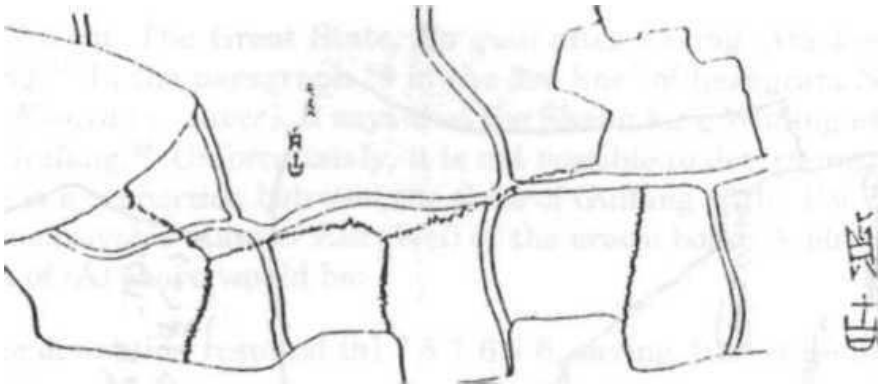


Illustration 4: Kaogu 1 (1989), p. 67, Illus. 1, 2.

7 6 6 7 1 8 yue qi ru wang  yu  
 | The divination resulted in] 7 6 6 7 1 8, saying, they present the King with ...  
 fish.

The numerals indicate the hexagram *Gu* (*Affair* or *Business*), No. 18, which is written “*ge*” (piece, item) in the Mawangdui manuscript.<sup>53</sup> There is no correspondence between either of the above solutions and the text of the hexagram *Gu* in the *Book of Change*.

The final example of a “digitgram” with appended text is from a tortoise shell.<sup>54</sup> It says,

(D) 7 7 6 7 6 6 zhen ji

The numerals turn into the hexagram *Jian* (*Increasing, Gradual*), No. 53. The phrase “*zhen ji*” is well-known from the *Book of Change*. Wilhelm translated it “perseverance brings good fortune”.<sup>55</sup> This translation can be questioned. I would prefer “the divination inquiry was auspicious”.<sup>56</sup> The text of the hexagram *Jian* says, “Marrying off the girl is auspicious, it is favourable to divine and inquire.”<sup>57</sup> While there is no direct correspondence between this oracle bone inscription and the *Book of Change*, it is undoubtedly related to some sort of divination. The examples are too few, though, to reveal any common ground shared by these inscriptions and the text of the *Book of Change*.

<sup>53</sup> “Mawangdui boshu ...”, p. 2.

<sup>54</sup> Illus. 4, above. See Xiao Nan, “Anyang Yinxi ...”, pp. 66f.

<sup>55</sup> *I Ching*..., tr. R. Wilhelm, p. 80.

<sup>56</sup> Cf. also *GSR*, Nos. 834g–i, pp. 221f. According to a passage in the *Hong fan* document of the *Shu* (*Documents*), “*zhen*” may also refer to the lower trigram of a hexagram. See B. Karlgren, *The Book of Documents*, Goteborg, 1950. pp. 31ff.

<sup>57</sup> See, e.g., Gao Heng, *Zhou yi da zhuan*..., p. 433.



Illustration 5: *Wenwu* 1 (1988), p. 59, Illus. 3.

The hexagrams as we know them are figures of horizontal lines—divided or undivided—lying one on top of the other in groups of six. We know with absolute certainty that this was what the hexagrams looked like at least as far back as AD 175. The *History of the Later Han Dynasty* (*Hou Han shu*) says, “In the third month of the fourth year [of the Xiping reign period (i.e. AD 175)], it was ordered that the *Five Classics* of the Confucianists be carved in stone and erected outside the gates of the Imperial University.”<sup>58</sup> In the centuries following the Han dynasty these stone tablets disappeared. From the Tang dynasty (618–907) onward fragments were discovered, and in the 1920s the ancient site of the Imperial University was discovered east of the present Luoyang, a discovery which greatly increased the number and size of fragments.<sup>59</sup>

A relatively large fragment of the *Book of Change* preserved at the Shanghai Museum testifies that the hexagrams of AD 175 were similar to those we know today (Illus. 5, above). The copy of the *Book of Change* written on silk, which was found at Mawangdui and dates from shortly before 168 BC,

<sup>58</sup> *The Annals of Emperor Ling* (*Ling di ji*); see *Hou Han shu*, 6 vols., comp. Fan Ye, Xianggang, 1971; Vol. 1, p. 336.

<sup>59</sup> See Fan Bangjin, “Liang kuai wei jian zhulu de ‘Xiping shijing, Shi’ canshi ji zhui jie”, *Wenwu* 5 (1986), pp. 1–6; and *idem*, “‘Xiping shijing’ de chi cun ji ke zi hang shu buzheng”, *Wenwu* 1 (1988), pp. 58–64.

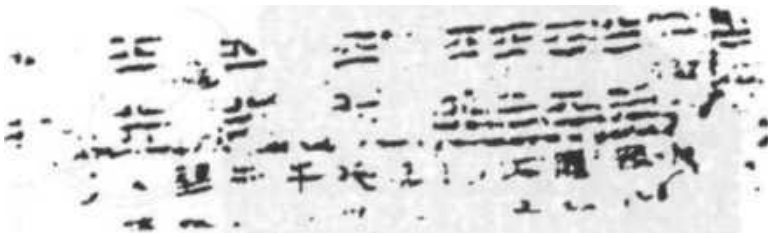


Illustration 6: *Wenwu* 3 (1984), plate between pp. 16, 17.

clearly has a different form of broken line (Illus. 6, above).<sup>60</sup> Another copy of the *Book of Change* dating from the early Han (c. 165 BC) was unearthed in 1977 in Fuyang, Anhui.<sup>61</sup> The text—written on bamboo slips—of about forty hexagrams is preserved but only three hexagram drawings have survived. Here the broken lines are written  $\wedge$  or  $\vee$ .<sup>62</sup>

The texts of these three Han editions of the *Book of Change* and the received edition have many differences, as do the names and forms of the hexagrams. A great proportion of these textual differences, though, are due to the use of loan characters and confusion as to the employment of radicals.<sup>63</sup> There can be no doubt that these two early Han copies reflect stages on the way to standardization of the *Book of Change*, and that this standardization was achieved only by carving the text in stone so that scholars from all over the Empire could make rubbings from the tablets. An important intermediate stage was, of course, the elevation to Classic in 136 BC.

The hexagrams of the Fuyang edition are conspicuously reminiscent of the “digitgrams”—at least, of those exclusively made up of the digits “1” and “6” as, e.g. Zhang’s items Nos. 4 and 5.<sup>64</sup> This, then, would suggest that the broken (*yin*) lines evolved from the numeral “6” (even) and the whole (*yang*) lines from “1” (odd). As the numeral “1” is already a whole horizontal line, it remains to be explained how the development  $\wedge \rightarrow \text{---} \rightarrow \text{---}$ <sup>65</sup> occurred.

Leaving aside for a moment these Han dynasty examples to push the investigation further back, we find sixteen “digitgrams” from the period of the Warring States (*Zhan guo*, 480-221 BC). These are written in pairs on bam-

<sup>60</sup> Yu Haoliang, “Boshu ‘Zhou yi’”, *Wenwu* 3 (1984), pp. 15–24; plate between pp. 16 and 17.

<sup>61</sup> Wenwuju Guwenxian Yanjiusuo Fuyang Han Jian Zhenglizu and Anhui Sheng Fuyang Diqu Bowuguan Fuyang Han Jian Zhenglizu, “Fuyang Han jian jianjie”, *Wenwu* 2 (1983), pp. 21–3.

<sup>62</sup> *ibid.*, p. 22. There are no illustrations and the authors reproduce the lines in both ways.

<sup>63</sup> See, e.g., Yu Haoliang’s tabulation of the hexagram names, “Boshu ...”, p. 16, and “Mawang-dui boshu ...”, pp. 1–8.

<sup>64</sup> Zhang, “Shi shi Zhou chu ...”, p. 404 (trans., p. 81).

<sup>65</sup> The broken lines of the Mawangdui edition certainly fill in well as an intermediate stage in this development.

boo splits and are not accompanied by any text.<sup>66</sup> There are altogether 95 numerals (one numeral is indecipherable) and only 1, 6, 8, and 9 occur.<sup>67</sup>

While there is a marked difference between Table I and Table II (p. 45), it is immediately obvious that there are also similarities. The high frequency of occurrences of the numerals “1” and “6” is even more apparent in Table II. At the same time the numerals “5” and “7” have disappeared, and—since both are odd numbers—we must assume that they have been recorded under “1” and “9” (the latter being on the verge of disappearing itself). This leaves two odd and two even numerals.

Neither the material collected by Zhang nor that collected by Zhang Yachu and Liu Yu includes the numeral “9”. Column 3 in Table I shows that four occurrences have been recorded besides those listed in Table II. Two occurrences of “9” were published in 1981.<sup>68</sup> These are found on two “digitgrams” among a group of seven<sup>69</sup> carved on an ox scapula:

6 9 8 1 8 6  
9 1 1 1 6 5

In the formal publication report this oracle bone is dated to Western Zhou (1027–770 BC).<sup>70</sup> Zhang dates the bone to “middle or late Western Zhou” (i.e.c. 950–770 BC).<sup>71</sup>

The other two occurrences of “9” are found on the same tortoise shell as our specimen (D) above:

6 7 1 6 7 9  
6 7 8 9 6 8<sup>72</sup>

This shell was not found *in situ*, but after careful examination Xiao Nan concludes that it may reflect a transitional phase from Shang to Western Zhou, i.e. dating to the eleventh century BC.<sup>73</sup>

An increasing proportion of these engraved objects has been excavated scientifically, but it is still difficult to achieve any accurate dating. As mentioned above, all the material quoted in Table I, Column 3, dates back to

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<sup>66</sup> See Zhang, “Shi shi Zhou chu ...”, pp. 414f (trans., p. 94), and Zhang Wu, “*Zhou yi*’ yanjiu ... ” p. 110. The bamboo splits were found in a tomb from the state of Chu at Tianxingguan in Jiangling.

<sup>67</sup> See Table II, p. 45, which is arranged in the same manner as Table I.

<sup>68</sup> See Shaanxi Zhouyuan Kaogudui, “Fufeng xian ...”, p. 4. Cf. also Rao Zongyi, “Yin dai Yi gua ...”, p. 6; Luo Xizhang and Wang Junxian, “Zhouyuan Fufeng...”, pp. 19ff; and Zhang Zhenglang, “Boshu ‘Liushisi gua’ ba”, *Wenwu* 3 (1984), pp. 9–14; p. 11.

<sup>69</sup> Only Luo and Wang have recorded all seven “digitgrams”, see Luo Xizhang; Wang Junxian, “Zhouyuan Fufeng...”, pp. 19–21 and Illus. 8.

<sup>70</sup> Shaanxi Zhouyuan Kaogudui, “Fufeng xian ...”, p. 6.

<sup>71</sup> Zhang Zhenglang, “Boshu ‘Liushisi ...’”, p. 11.

<sup>72</sup> See Xiao Nan, “Anyang Yinxu ...”, p. 66f.

<sup>73</sup> *ibid.*, p. 70.

Table III

	1	2	3	4	5	6
1:	15	14.7%	2	4.2%	34	33.0%
5:	5	4.9%	1	2.1%	4	3.9%
6:	39	38.2%	19	39.6%	40	38.8%
7:	26	25.5%	17	35.4%	8	7.8%
8:	17	16.7%	7	14.6%	14	13.6%
9:	0		2	4.2%	2	1.9%

roughly 1300–700 BC. To see if any development could be traced within this span of 600 years, I examined all publication reports and eliminated every case of uncertain date. This left forty-two “digitgrams” with reliable dating. I tentatively divided these into three periods:

- 1 = c. 1300–c. 1100 BC
- 2 = c. 1100–1000 BC<sup>74</sup>
- 3 = c. 1000–700 BC

Thereupon I arranged the numerals’ frequency of occurrence for each of the three periods in a manner similar to Tables I and II. The result may be seen in Table III.

Column 1 is based on the oldest material and Column 5 shows the newest. At first glance each period read in isolation shows the general tendency of Tables I and II, with the notable exception of the very low frequency of the numeral “1” in Column 3 (the somewhat problematic transitional phase). Within each period there is also an even distribution of odd and even numbers.<sup>75</sup> If we interpret the figures in terms of development from Period 1 (Column 1) to Period 3 (Column 5), the following becomes obvious: (a) the frequency of the numeral “1” increases by more than 50%; (b) “5” is stable around 4–5%; (c) “6” is stable around 39%; (d) “7” decreases to less than a third; (e) “8” is gradually decreasing; (f) “9” does not occur in Period 1 and plays no important role in Period 3.

Although there may be 300–400 years between Period 3 of Table III and the “digitgrams” of the bamboo splits tabulated in Table II, it is now possible to glimpse the connection. Throughout the periods 1–3 the number “5” plays an insignificant part and it is completely absent from Table II. During the 600 years reflected in Table III the frequency of the numeral “7” decreases

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<sup>74</sup> This group is to a large extent made up of objects found in Yin (Shang) sites that show traces of Zhou culture (or vice versa) and are thus supposed to reflect a transitional phase. See Xiao Nan, “Anyang Yinxiu ...”, p. 70.

<sup>75</sup> For Period 1, 45.1% odd and 54.9% even numbers; Period 2, 45.8% odd and 53.2% even numbers; and Period 3, 47.1% odd and 52.9% even numbers.

drastically, and it is absent from Table II. The numeral “8” gradually decreases in importance, and, together with “9”, seems to play only a marginal role in Table II. On the other hand, the numerals “1” and “6” either increase to or maintain a high frequency of occurrence during periods 1–3, which is in keeping with Table II. The step from Table II to the bamboo edition of the Han dynasty (and on to the stone tablet edition) is even easier to envisage.

We can assume that by the third and second centuries BC only two numerals were used in the formation of a hexagram, and that these represented the odd and the even numbers respectively. At the same time adherents of the cosmology founded on the Five Phases (or Elements, *Wu xing*) and the dualistic principle of *yin* and *yang* became interested in the ancient system of divination and authored the *Ten Wings* (*Shi yi*), now an integral part of the *Book of Change*. This cosmology was completely foreign to the *Classic* itself, but without it the book would never have enjoyed such a prominent status in Chinese intellectual life. It is from the hands of these anonymous philosophers that we have the earliest account of the method of divination with plant stalks.<sup>76</sup> This method of manipulating the plant stalks may result in any one of four remainders. These remainders, we are told in an important apocryphon (*wei*<sup>2</sup>), *Opening the Laws of the Hexagram Qian* (*Qian zuo du*), probably of the first century AD, are designated by the numerals 6, 7, 8, and 9. The numerals 6 and 8 indicate the *yin* (broken) lines and 7 and 9 indicate the *yang* lines. Furthermore, 6 and 9 indicate changing lines, and 7 and 8, unchanging lines.

Now if the diagrams were composed of numerals at the time when this divination method was used, it would be perfectly natural to expect these numerals to be 6, 7, 8, and 9. But this is far from always the case, to judge from the “digitgrams”. The two numerals (1 and 6) representing the odd and even numbers had already been interpreted according to the new cosmology to symbolize the dual cosmic forces, the feminine and the masculine, *yin* and *yang*. The hexagrams were thus open to the stupendous system of symbolic correlations of the *Ten Wings* and the *Apocrypha* (*Chen* and *Wei*<sup>2</sup>). The inconvenience of having only two symbols (— and --) to record the four remainders was a cheap price to pay for the rich symbolism to be gained. The practice was to write the remainders designated 7 and 8 as — and --, and make a note in front of the text to every line (*Yao ci*) that it has the potential of becoming a “6” or a “9” (in which case the text of the line should be consulted).

What method of divination was used prior to that described above cannot

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<sup>76</sup> See, e.g., Gao Heng, “Zhou yi da zhuan ...”, pp. 524f, and *I Ching* ..., tr. R. Wilhelm. This paragraph of the *Xi ci zhuan* is probably even later than the second century BC, as it is absent from the Mawangdui edition. See Yu Haoliang, “Boshu ...”, p. 17, and Zhang, “Shi shi Zhou chu ...”, p. 406 (trans., p. 84). On the other hand, the method is mentioned by Wang Chong (AD 27–c. 100) in his *Lun Heng* (*Balanced Discussions*) of AD 82–3. See *Lun heng zhu shi*, Vol. 4, Beijing, 1979, pp. 1371f.

be known. Zhang sketches a possible solution, but as his material does not include the numeral “9” it is not altogether satisfactory.<sup>77</sup> The archeological work in China continuously adds material, some of which will perhaps throw light on this question.

## Bibliography

- Cao Dingyun. “Yinxu Sipanmo ‘Yi gua’ bu gu yanjiu”. *Kaogu* 7 (1989), pp. 636–41.
- Chen Jinsheng. “‘Zhou yi’ yu Zhongguo zhexue”. *Wen shi* 14 (1982), pp. 303–39.
- Chen Quanfang. “Zhouyuan chutu tao wen yanjiu”. *Wenwu* 3 (1985), pp. 63–75, 96.
- Fan Bangjin. “Liang kuai wei jian zhulu de ‘Xiping shijing, Shi’ canshi ji zhui jie”  
*Wenwu* 5 (1986), pp. 1–6.
- Fan Bangjin. “‘Xiping shijing’ de chi cun ji ke zi hang shu buzheng”. *Wenwu* 1 (1988), pp. 58–64.
- Fung Yu-lan. *History of Chinese Philosophy*. 2 vols. Princeton, 1973.
- Gao Heng. *Zhou yi da zhuan jin zhu*. Shandong, 1980.
- Gu yi congshu* (n.p., n.d.).
- Guan Xiechu. “Jilin Daxue gu wenzi xueshu taolunhui jiyao”. *Gu wenzi yanjiu* 1 (n.d.), pp. 2–3.
- Hou Han shu*. 6 vols. Comp. by Fan Ye. Xianggang, 1971.
- The I Ching: The Book of Changes*. Tr. James Legge. New York, 1963.
- I Ching or Book of Changes*. Tr. Richard Wilhelm, rendered into English by Cary F. Baynes. London, 1987.
- Jao Tsung-yi [Rao Zongyi]. “The *Yi-kua* in the Shang Dynasty and Various Problems Pertaining to Divination: Abstract”. *Early China*, Supplement 1 (1986), pp. 32–3.
- Karlgren, Bernhard. *The Book of Documents*. Goteborg, 1950.
- . *Grammata Serica Recensa*. Stockholm, 1972.
- Lun heng zhu shi*. Vol. 4. Beijing, 1979.
- Luo Xizhang and Wang Junxian. “Zhouyuan Fufeng diqu chutu Xi Zhou jiagu de chubu renshi”. *Wenwu* 2 (1987), pp. 17–25.
- Mawangdui Han mu boshu zhengli xiaozu. “Mawangdui boshu ‘Liushisi gua’ shiwen”. *Wenwu* 3 (1984), pp. 1–8.

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<sup>77</sup> See Zhang, “Shi shi Zhou chu...”, pp. 407f (trans., pp. 85f). Zhang says, the divination method suggested here is merely a conjectural schema for the heuristic purpose of increasing our insight into those archeological materials, but I cannot enter into the question of reconstruction.”

- Needham, Joseph. *Science and Civilisation in China*. Vol. 2. Cambridge, 1980.
- . *Science and Civilisation in China*. Vol. 3. Cambridge, 1959.
- Qu Wanli. “Yi gua yuan yu gui bu kao”. *Lishi yuyan yanjiusuo jikan* 27.
- Rao Zongyi [see also Jao Tsung-yi]. “Yin dai Yi gua ji youguan zhan bu zhu wenti”. *Wenshi* 20 (1983), pp. 1–13.
- Shaanxi Zhouyuan Kaogudui. “Fufeng xian Qijia cun Xi Zhou jiagu fajue jianbao”. *Wenwu* 9 (1981), pp. 1–7.
- Shaanxi Zhouyuan Kaogudui and Zhouyuan Qishan Wenguansuo. “Qishan Fengchu cun liang ci faxian Zhou chu jiagu wen”. *Kaogu yu wenwu* 3 (1982), pp. 10–22.
- Shan hai jing jiao zhu*. Shanghai, 1983.
- Shchutskii, Iulian K. *Researches on the I Ching*. Tr. W. L. Macdonald and Tsuyoshi Hasegawa with Hellmut Wilhelm. London, 1980.
- Shisan jing zhu shu*. 2 vols. Beijing, 1982.
- Shuo wen jie zi*. Comp. by Xu Shen. Xianggang, 1979.
- Song Zuoyin. *Zhou yi xin lun*. Changsha, 1983.
- The T'ai Hsüan Ching: The Hidden Classic. A Lost Companion to the I Ching*. Reconstructed and translated by Derek Walters. Wellingborough, 1983.
- Tang Lan. “Zai jiagu jinwen zhong suo jian de yi zhong yijing yishi de Zhongguo gudai wenzi”. *Kaogu Xuebao* 2 (1957), pp. 33–6.
- Waley, Arthur. “The Book of Changes”. *Bulletin of the Museum of Far Eastern Antiquities* 5 (1934), pp. 121–42.
- Wang Ningsheng. “Ba gua qi yuan”. *Kaogu* 4 (1976), pp. 242–5.
- Wenwuju Guwenxian Yanjiusuo Fuyang Han Jian Zhenglizu and Anhui Sheng Fuyang Diqu Bowuguan Fuyang Han Jian Zhenglizu. “Fuyang Han jian jianjie”. *Wenwu* 2 (1983), pp. 21–3.
- Wilhelm, Richard. *Lectures on the I Ching: Constancy and Change*. Tr. Irene Eber. London, 1980.
- Xiao Nan. “Anyang Yinxu faxian ‘Yi gua’ bu jia”. *Kaogu* 1 (1989), pp. 66–70.
- Xu Xitai. “Zhouyuan chutu bu ci xuan shi”. *Kaogu yu wenwu* 3 (1982), pp. 59–63.
- Yu Haoliang. “Boshu ‘Zhou yi’ Wenwu 3 (1984), pp. 15–24.
- Zhang Zhenglang. “Boshu ‘Liushisi gua’ ba”. *Wenwu* 3 (1984), pp. 9–14.
- . “Shi shi Zhou chu qingtongqi mingwen zhong de Yi gua”. *Kaogu Xuebao* 4 (1980), pp. 403–15. (Tr. J. R. Ching, S. Davis, S. R. Weld, R. D. S. Yates, and H. W. Huber, “An Interpretation of the Divinatory Inscriptions on Early Chou Bronzes”, *Early China* 6 (1980–1), pp. 80–96.)



Zhang Wu. “‘Zhou yi’ yanjiu de xin shouhuo, xin tedian, xin qushi”. *Zhongguo zhhexueshi yanjiu* 1 (1985), pp. 110–16.

Zhang Yachu and Liu Yu. “Cong Shang Zhou ba gua shuzi fuhao tan shifa de ji ge wenti”. *Kaogu* 2 (1981), pp. 155–63. (Tr. E. L. Shaughnessy as “Some Observations about Milfoil Divination Based on Shang and Zhou *bagua* Numerical Symbols”, *Early China* 7 (1981–2), pp. 46–55.) Zhao Quan, Zhong Shaolin and Bo Rongjin. “Jiagu wenzi qi ke chu tan”. *Kaogu* 1 (1982), pp. 85–91.

Zheng Ruokui. “Anyang Miaopu beidi xin faxian de Yin dai ke shu shiqi ji xiangguan wenti”. *Wenwu* 2 (1986), pp. 46–51, 62.

*Zhou li jin zhu jin yi*. Comm, by Lin Yin. Taipei, 1972.

### List of Characters

chen	讖
Da guo	大國
Fan Ye	范擘
fu	婦
Fuxi	伏羲
ge	箇
Gu	蠱
Gu Yewang	顧野王
Gu yi congshu	古逸叢書
gua	卦
gui	圭
gui	媿
gui	鬼
gui	愧
Guifang	鬼方
Hong fan	洪範
Hou Han shu	後漢書
jiyu	既魚
Ji ji	既濟
Jian	漸
kui (wei)	隗
kui	魁
Lian shan	連山
Ling di ji	靈帝紀
Lun heng	論衡

Pi	否
qi	其
Qian zuo du	乾鑿度
ru wang	入王
Shanhai jing	山海經
Shao Yong	邵雍
Shen Nong	神農
shi	筮
Shi	詩
Shi ji	史記
Shi yi	十翼
Shisan jing zhu shu	十三經注疏
Shu	書
Shuo wan jie zi	說文解字
Shuo gua zhuan	說卦傳
Wang Chong	王充
wei (kui)	隗
wei	畏
wei	緯