

STRUCTURAL MOTIFS IN THE ARRANGEMENT OF  
THE 64 *GUA* IN THE *ZHOUYI*

The order in which the 64 *gua* appear in the *Zhouyi* (Figure 1) has traditionally been explained with reference to the “*Hugua* 序卦,” the penultimate of the *Zhouyi* commentaries known collectively as the “Ten Wings, *shiyi* + 翼.” In that

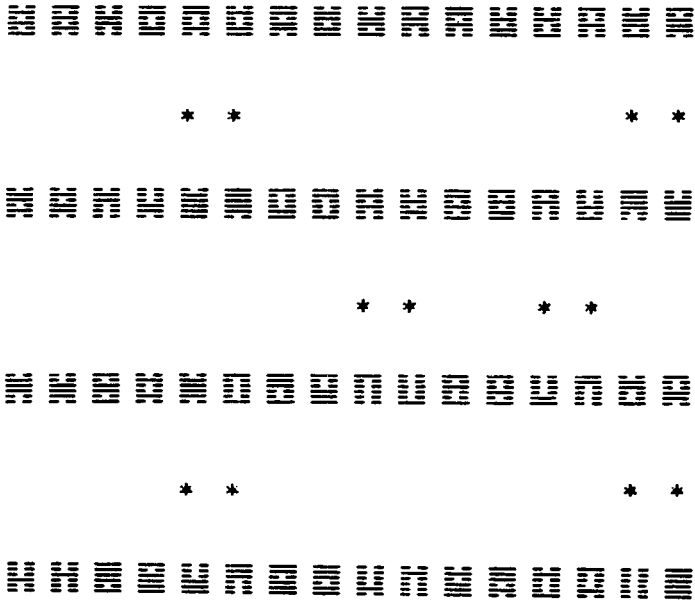


Figure 1. *Zhouyi Gua* Arrangement  
(\* *xiaoxi gua* 消息卦)

text, the sequence is described as a progression of archetypal situations which is set in motion by the natural reproductive analogy ascribed to the first two *gua*, *Qian* 乾 ☰ and *Kun* 坤 ☷. “*Hugua*” opens with the words, “There was heaven and earth; thereafter, the myriad things were born.”<sup>1</sup> *Qian* is associated with heaven, and by analogy with the father; *Kun* is similarly earth and the mother.<sup>2</sup> “*Hugua*” continues, “That which fills [the space] between heaven and earth is only the myriad things; thus to *Zhun* does it pass. *Zhun* is fullness; *Zhun* is the time when things are first born.”<sup>3</sup> *Zhun* 屯 ☳ is the third *gua*, and in the remainder of the text, each *gua* is presented in the *Zhouyi* order. Each is said to follow from its predecessor and denote a state that recurs in human experience.

Within the post-“Ten Wings” commentary tradition, exegetes discovered motifs in the *Zhouyi* order of *gua* that point toward a latent, purposeful structure beyond the “*Hugua*” rationale. Most recently, the present writer and Thomas J. Cunningham have suggested that statistical seasonal considerations may have been imposed upon the *gua* arrangement.<sup>4</sup> The purpose of this paper is to discuss several consistent sub-patterns in the overall *gua* sequence that imply the act of putting the 64 *gua* in their received order involved a range of calculated decisions.

Two specific features pertinent to the *Zhouyi*'s *gua* arrangement were noted in the commentary of Yu Fan 虞翻 (t. 仲翔), who lived during the Three Kingdoms (220-265 A.O.).<sup>5</sup> Yu drew attention to the fact that pairs of *gua* like the first two, *Qian* and *Kun*, were opposite to one another in their complement of single – and bipartite — lines (*yao* 爻). In the *Zhouyi* order there are six other *gua* that are displayed in this relationship, which Yu termed “roundly encompassing *panglong* 旁通.”<sup>6</sup> Those are *Yi* 頤 ☶ and *Daguo* 大過 ☱, *Kan* 坎 ☵ and *Li* 離 ☲, *Zhongfu* 中孚 ☱ and *Hiaoguo* 小過 ☱. The remaining *gua* are paired, as in the case of and *Zhun* ☳ and *Meng* ☱, with the *gua* that stands in an inverted relationship which Yu called “*fandui* 反對.”

Lai Zhide 來知德 (t. 矣鮮, 1525-1604) was also interested in these two features of the order and believed that the two relationships could help explain why certain words appeared in the texts appended to the *Zhouyi*'s *gua* and *yao*.<sup>7</sup> Lai went on to point out several other features of the *gua* order. Two of those pertained to the fact that the *gua*

in the *Zhouyi* have traditionally been presented in two sections. The “Former Section of the Classic, *Shangjing* 上經,” contains the first 30 *gua*; the “Latter Portion of the Classic, *Hiajing* 下經,” contains the last 34.<sup>8</sup>

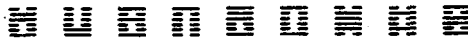
The first feature Lai noted was that the “Former Section” ends with four of the linear opposite *gua*: *Yi* ䷗ and *Daguo* ䷌, *Kan* ䷜ and *Li* ䷔. Lai felt these four *gua* had been juxtaposed because *Yi*, with four bipartite lines enclosed by two single lines, was similar in form to the two three-line *gua* that comprise, top and bottom, *Li*. This three-line *gua* ䷔, which is also named *Li*, has one bipartite line between two solid lines. Likewise, *Daguo*, having two bipartite lines at either end of four single lines, had in Lai’s thinking the same general shape as the three-line *gua* *Kan* ䷜, two of which make up the six-line *gua* of the same name.

At the end of the “Latter Section” a similar pattern emerged. The last two *gua* in the series are *Jiji* 既濟 ䷾ and *Weiji* 未濟 ䷿, whose upper and lower three-line *gua* are in both cases either ䷔ or ䷔. Just before these two *gua* come the last two of the linear opposites, *Zhongfu* ䷗ and *Hiaoguo* ䷌. *Zhongfu*, with solid lines surrounding bipartite, was taken by Lai to have the same form as *Li*, and *Hiaoguo*, with bipartite lines bordering single lines, to have the form of *Kan*. Lai’s explanation for this phenomenon was couched in lines bordering single lines, to have the form of *Kan*. Lai’s explanation for this phenomenon was couched in terms of the symbolism attached to *Li* and *Kan*. Whatever the reason, however, the reinforcement of the three-line *gua* motif through repetition suggests that the principles of *gua* selection at these two points in the order were not random.

Lai also offered an explanation for the division of the *Zhouyi* into two sections of unequal length. In his opinion, Wen Wang 文王, the progenitor of the Zhou Dynasty, treated the inverted *gua* pairs as single six-line units when he established the *Zhouyi* order.<sup>9</sup> That is, if the second pair of *gua* *Zhun* and *Meng* 蒙, and all others in invert pairs are counted as one unit and the eight linear opposites – each of which are identical whether viewed from top to bottom or bottom to top – are counted individually, the result would be 18 units in the “Former Sec-

tion” and 18 in the “Latter.” This unit count evens out because the “Former Section” contains six of the linear opposite *gua* and the “Latter Section” only two. The unit count approach is illustrated in Figure 2.

Former Section



Latter Section

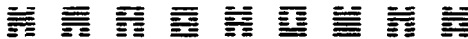


Figure 2. Consolidated *Gua* Series

In the commentary tradition, the solid lines are associated with the concept of *yang* 陽 and the bipartite lines with *yin* 陰. *Yang* expresses the tendency toward life and the maximization of any phenomenon in Chinese thought; daylight and summer are *yang*, for example. *Yin*, associated with night and winter, expresses the opposite tendency toward death and decay.<sup>10</sup> If we adopt the convention of portraying the positive and negative associations of solid and bipartite lines by assigning them numerical values of +1 and -1 respectively, we can construct a graph of the 36 stations in Lai's consolidated *gua* sequence that will reveal several other structural principles in the *Zhouyi gua* arrangement.

The procedure will be to use the balance of positive against negative values for either individual *gua*, in the case of the eight *gua* that are the same read top to bottom or bottom to top, or for the complement of solid



linear-value pairing was, along with the two types of pairing noted by Yu Fan, a conscious mechanism in the ordering of the *Zhouyi's gua*.

A second structural pattern may be related to a line in one of the "Ten Wings," the "*Hici* 系辭:" "*Yang gua* have more *yin*; *yin gua* have more *yang*. What is the reason for this? *Yang gua* are odd; *yin gua* are even."<sup>11</sup> The passage continues in manner that has suggested to later commentators its author had the eight three-line *gua* in mind: "What qualities and actions make this the case? *Yang* is one lord and two people; this is the *dao* of the lord. *Ying* is two lords and one people; this is the *dao* of the small person."<sup>12</sup> Following the implication of "one lord and two people" and "two lords and one people," later commentators accepted that three-line *gua* with one solid and two bipartite lines (☱ ☱ and ☲ ☲) were *yang* while those with two solid and one bipartite (☱ ☲ and ☲ ☱) were *yin*. The *gua* with three *yang* (☰) and three *yin* (☷) were held to be *yang* and *yin* by definition.

If we apply the principle of "*Yang gua* have more *yin*" and "*Yin gua* have more *yang*" with its odd-even corollary to the consolidated *gua* as graphed in Figure 2, we find that it occurs in 24 of the 26 possible cases. Accepting that the first two stations are respectively *yang* and *yin* by definition, all other *gua* or consolidated pairs that have a surplus of *yin* – and are thus "*yang gua*" – are placed in odd-numbered stations (3, 5, 9, 11, 13, 15, 17, 21, 23, 29, 35). There is one exception – station 26. Likewise, except for station 25, all stations with a surplus of *yang* lines, hence, "*yin gua*," are even-numbered (4, 6, 8, 14, 16, 18, 20, 22, 28, 32, 34). Five at the 0 sum *gua* (7, 19, 27, 31, 33) are placed in odd-numbered stations and five in even (10, 12, 24, 30, 36).





The exceptions to the odd-even principle are stations 25 and 26, which were also exceptions to the positive-negative pairing principle discussed above. Stations 25 and 26 are respectively the sole unpaired +4 unit coupled with a -2 unit. Together they are a mirror image of stations 13, the sole unpaired -4 unit and 14 (+2). These two pairs thus form a pair of opposite values that spans a 12-station interlude. In the commentary tradition, the two *gua* that make up station 13, *Bo* 剝 ☶ and *Fu* 復 ☱, and those that make up station 25, *Guai* 夬 ☱ and *Gou* 姤 ☱, are four of the 12 *gua* know as *xiaoxi gua* 消息卦. These 12,

marked with an asterisk in Figure 1, are associated earliest with an alternate *gua* ordering scheme preserved in a graph known as the “*Guaqitu* 卦氣圖.”<sup>13</sup> The *xiaoxi gua* are regularly distributed as every fifth *gua* in the “*Guaqitu*” in the following order: ☰ ☷ ☱ ☲ ☳ ☴ ☵ ☶ ☱ ☲ ☳ ☴. Because the convention of pairing inverted and opposite *gua* was adopted for the *Zhouyi*, the *xiaoxi gua* could not be distributed in this order therein. Although commentators alluded to the implied qualities of these 12 *gua* in glossing the texts of the *Zhouyi*,<sup>14</sup> no coherent theory was advanced to explain their positions in the overall arrangement of *gua*. In the consolidated arrangement, however, the placement of the *xiaoxi gua* that comprise station 13 and those in station 25 are accorded singular treatment: they are paired with a neighboring unit whose value is + or -2 and then with each other. The desire to achieve symmetry in this pairing may have caused the arranger to override the *yin-yang*/odd-even consideration only in the case of stations 25 and 26.

In addition, the arrangement is structured so that *Fu*, the *xiaoxi gua* associated with the time of the year just after the winter solstice, occurs at the point where the graph reaches its lowest on-balance point in station 13. Therefore, from the vantage of the consolidated *gua*, 2 of the *xiaoxi gua* begin the *Zhouyi* series, 2 occur after a lapse of 12 stations at station 13, and 2 more after another 12 at station 25. Aside from their placement in unique pairs, then, these 6 of the 12 *xiaoxi gua* divide the consolidated sequence into 3 equal parts.

Several inferences might be drawn from these findings. The first is that whoever placed the *gua* in this order sought to carry the pairing of *gua* apparent in the linear opposite and inverted relationships of all 64 *Zhouyi gua* into a numerical pairing based on unit values. Linear opposites *Qian* and *Kun* are a pair in both the 64 and 36 *gua* sequences; *Zhun* and *Meng*, *Xu* 需 ☱ and *Song* 訟 ☳ are paired with each other in the *Zhouyi* and are paired as the third and fourth consolidated units having respective values of -2 and +2 in the 36 *gua* rendition. In addition, as in this latter case, the consolidated pairs are generally placed so that the negative value appears first, in the odd-numbered position associated with *yang*. Among the six exceptions to these rules, stations 13 and 14 and 25

and 26 seem to establish yet another layer of significance in the arrangement by focusing attention on the seasonal associations of the *xiaoxi gua*. If the assertion made by Schulz and Cunningham that the *Zhouyi gua* order reflects seasonal considerations in its arrangement is correct, whoever established the arrangement would have had to break the pattern of numerical opposition in order to achieve net upward or downward on-balance movement in the overall sequence. Nevertheless, the breach was achieved in a manner that preserved opposition across the sequence in the numerical opposition of 13 and 14 (-4, +2) and 25 and 26 (+4, -2).

The two remaining stations which break the pattern of numerical pairing (though not of *yin-yang/even-odd* considerations) – 11 and 32 – might also have been employed to preserve cumulative negative and positive dynamics. Some symmetry is lent to their treatment by their clustering with zero-sum units before and after in both cases. It may also be noteworthy that the *gua* that constitute 11 are the *xiaoxi gua* *Lin* 臨  and *Guan* 觀 . The *gua* in station 32 are composed of doubled three-line *gua*, *Hun* 巽  and *Dui* 兌 , a feature that, as in the case of the prominence given *Kan* and *Li* at the ends of the Former and Latter Sections, might have singled them out for a special purpose when the arrangement was fixed.

The three features examined herein – on-balance numerical pairing of *gua* in consolidated units, consideration of *yin* and *yang* values in placing members of numerical pairs, and the symmetrical treatment accorded apparent exceptions to the first two principles – hopefully add to the stock of structural motifs handed down from Yu Fan and elaborated by Lai Zhide. Taken in sum, these regular motifs strongly suggest that the *Zhouyi* is underlain by patterns in its *gua* arrangement that were at one time known and subsequently forgotten, perhaps because they comprised esoteric teachings whose succession was interrupted, like so much early *Zhouyi* lore, with the collapse of the Han Dynasty.

ATLANTA, GEORGIA



## NOTES

1. 有天地然後萬物生焉 . Lai Zhihde, *Qinding siku quanshu zhouyi jizhu* 欽定四庫全書周易集注(Taipei: Commercial Press, 1973), 15:24a.
2. These analogies are catalogued in the "Shuogua 說卦" commentary, Lai 15:24 a-b, and are integral to the tradition for interpreting *gua* in the *Zhouyi* proper.
3. 盈天地之間者唯萬物故受之以屯 . *ibid.* 15:24a.
4. Larry J. Schulz and Thomas J. Cunningham, "The Seasonal Structure Underlying the Arrangement of Hexagrams in the *Yijing*," (Atlanta Federal Reserve Bank of Atlanta Occasional Paper, March, 1988).
5. Fragments of Yu Fan's exegesis are preserved in Li Dingzuo 李鼎祚, *Zhouyi jijie* 周易集解.
6. See Wang Qiongsan 王琮珊, *Yixue tonglun* 易學通論 . (Taipei: Guangwen, 1962). 55-58 for a discussion of *pangtong*. The term appears in the "Wenyan" commentary appended to *Qian*: "Great is . . . Its six lines move and disperse; they roundly encompass all circumstances. 大哉乾乎. . . . 六爻發揮旁通情也."
7. See Larry J. Schulz, *Lai Chih-de and the Phenomenology of Change*, unpublished dissertation, Princeton, 1982, 133-141.
8. Lai summarized his thoughts on these and other regular features of the *Zhouyi gua* order in the essay "Shangxiajing pianyi 上下經篇義," Lai, 卷首上: 1a-3a; translated by Schulz, "The Significance of the Former and Latter Sections of the Classic," *Zhouyi Network* 3 (March, 1988), 34-43.
9. Lai's belief that Wen Wang had ordered the *gua* was shared by most *Zhouyi* scholars. See Pi Hirui 皮錫瑞, *Jingxue tonglun* 經學通論(Taipei: Commercial Press, 1969) 6-11, for a discussion of traditions surrounding *Zhouyi* authorship.
0. Lai's gloss to the opening passages of the "Hici" Commentary, 13: 1a-4b, encapsulates *yin - yang* relationships traditionally ascribed to *gua* and *yao*.
1. 陽卦多陰；陰卦多陽。其故何也。陽卦奇；陰卦耦。 Lai 14:16b.
2. 其德行何也。陽一君而二民；君子之道也。陰二君而一民；小人之道也。 *ibid.* 14: 16b-17a.
3. See Schulz and Cunningham, 2-3.
4. E.g., Lai's gloss for *Fu*, 5:34a.

**Romanization and Character Conversion Table**  
**“Structural Motifs in the Arrangement of the 64 Gua”**

PINYIN	SIMPLIFIED	WADE-GILES
bo	剝	p'o
daguo	大過	t'a-k'uo
dao	道	t'ao
dui	兌	t'ui
fandui	反對	fau-d'ui
fu	夏	fu
gou	姤	k'
gua	卦	k'ua
guai	決	k'uai
guan	觀	k'uan
guaqitu	卦氣圖	k'ua-ch'i t' u
jiji	既濟	chi-chi
kan	坎	kan
kun	坤	kun
Lai Zhide	來知德	Lai Chih-t'e
li	離	Li
lin	臨	lin
meng	蒙	mena
pangtong	旁通	pang-t'ung
qian	乾	Chien
shangjing	上經	shang-ching
shiyi	十翼	shih-yi
song	訟	sung
weiji	未濟	wei-chi
Wen Wang	文王	Wen Wang
xiajing	下經	hsia-ching
xiaoguo	小過	hsiao-k'uo
xiaoxi gua	消息卦	hsioo-hsi-k'ua
xici	系辭	hsi-tze
xu	需	hsu

xugua	序卦	hsu-k'ua
xun	巽	hsuan
yang	陽	yang
yao	爻	yao
yi	頤	yi
yin	陰	yīng
Yu Fan	虞翻	yu Fan
zhongfu	中孚	ch'ung-fu
zhouyi	周易	chou-yi
zhun	屯	chun

Romanization and Character Conversion Table  
 "Seasonal Structure"

PINYIN	SIMPLIFIED	WADE-GILES
bailu	白露	pai-lu
dao	道	tao
feng	豐	feng
geñ	良	ken
Gu guabian tu	古卦變圖	Ku Kua-pien-t'u
gua	卦	kua
Guaqi	卦氣	Kua-ch'i
Guizang	歸藏	Kuei-tsang
hanlu	寒露	han-lu
Huainan zi	淮南子	Huai-nan-tzu
Huang Zongxi	黃宗羲	Huang Tsung-hsi
Hui Dong	惠棟	Hui Tung
Jia Gongyan	賈公彥	Chia Kung-yen
Jiao Yanshou	焦延壽	Chiao Yen-shou
Jingxue tonglun	經學通論	Ching-hsueh t'ung-lun
Jing Fang	京房	Ching Fang
kun	坤	k'un
Lai Zhide	來知德	Lai Chih-te
Lianshan	連山	Lien-shan
Mawangdui	馬王堆	Ma-wang-tui
Meng Hi	孟喜	Meng Hsi
Pi Xirui	皮錫瑞	P'i Hsi-jui
qi	氣	ch'i
qian	乾	ch'ien
shiwu	時物	shih-wu
Shiyi	十翼	Shih-i
Shuogua	說卦	Shuo-kua
Sima Qian	司馬遷	Ssu-ma Ch'ien
sun	損	sun

tai(dai)bu	太(大)卜	t'ai-(tai-)pu
Tuan	緣	T'uan
Wang Qiongshan	王琮珊	Wang Ch'iung-shan
Wen (King Wen)	文(王)	Wen
Xici	系辭	Hsi-tz'u
Xiaoxi	消息	hsiao-hsi
Hugua	序卦	Hsu-kua
yang	陽	yang
yi	益	i
Yi hanxue	易漢學	I han-hsueh
Yijing	易經	I-ching
Yilin	易林	I-lin
Yixue tonglun	易學通論	I-hsueh t'ung-lun
Yixue xiangshu lun	易學象數論	I-hsueh hsiang-shu lun
yin	陰	yin
Yu Fan	虞翻	Yu Fan
Zheng Xuan	鄭玄	Cheng Hsuan
Zhou	周	Chou
Zhouli	周禮	Chou-li
Zhounian	周年	chou-nien
Zhoupu	周普	chou-pu
Zhouyi	周易	Chou-i
Zhouyi zhengyi	周易正義	Chou-i cheng-i
Zhuzi jicheng	諸子集成	Chu-tzu chi-ch'eng
zhun	屯	chun

**Original citations translated in text:**

豫之時義大矣哉。

睽之時用大矣哉。

道始于虛<sub>☵</sub>。虛<sub>☵</sub>生宇宙。宇宙生氣。氣有涯<sub>☷</sub>。清陽薄靡而爲天。重濁者凝滯而爲地…天地之與精爲陰陽。

陰陽之專精爲四時。

天地盈虛時消息。

昔者聖人之作易也。

蓋益易之八卦爲六十四卦。

或益之十朋之龜弗克。

掌三易之法：一曰連山，一曰歸藏，一曰周易。

言易道周普无所不備。