

## Chapter 4 *Guti* sub-grammar

### 4.1 General description of the raw corpus

This chapter deals with the scansion of verse lines of the *Guti* genre; *Guti* genre is a cover term that loosely refers to the various literary subgenres appearing between ca. 200 BC and 700 AD. Both *Shijing* and *Chuci* appeared before 221 BC, i.e. during what is known as the pre-*Qin* era. The year 221 BC, when Emperor *Qin* united all the individual states that had been constantly at war into the first autocratic feudal empire in the Chinese history heralds a new Chinese literary era in that the next nine hundred years or so forms the third stage in the development of classical Chinese verse, namely, *Guti*. At the same time, it needs to be pointed out that the *Guti* era is characterized by a diversity and fluidity of literary styles that gradually evolved during each dynasty from *Qin* all the way into early *Tang*, which witnesses the birth and prepares for the boom of the *Jinti* genre<sup>1</sup>. The *Guti* genre plays an important role in the evolution of classical Chinese verse from the early, primitive form to the more mature, developed one, culminating in the rise of the *Jinti* genre, acclaimed as the peak achievement of classical Chinese verse.

The *Guti* period, spanning over nine hundred years, covers a large number of dynasties, the major ones including *Han* (206 BC – 220 AD), *South-North* (420 – 589 AD), *Sui* (581 – 618 AD), and early *Tang* (618 – ca. 700 AD). Accordingly, the *Guti* genre is actually a mixture of different subgenres, which nonetheless display a clear and coherent pattern of evolution. For example, verse composed at the initial stage, in the *Han* dynasty, still bears features clearly inherited from its predecessors, *Shijing* and *Chuci*, such as the preference of 4-syll lines and the use of ‘*xi*’. By comparison, verse composed towards the end of this period exhibits a significant uniformity which is reinforced in the following *Jinti* genre, in particular, the exclusive use of 5- and 7-syll lines and the total absence of function words or interjections. Still, the *Guti* verse may be suggested to display some distinct features of its own, for example, the relatively restricted (compared with *Shijing*) but still diverse (compared with the following *Jinti* genre) line length and considerable liberty in verse length.

It is presumably due to this diversity that there is no one single anthology of *Guti* verse; instead, what is extant today is a number of collections compiled largely under the rubric of the major dynasties mentioned above with the annotation that they all belong to the general genre of *Guti*. Most of such collections are popular with modern speakers. Some of the verse pieces composed during the *Han* dynasty known as *Yuefu* (‘Music Bureau’) were originally accompanied by tunes, but as with other verse that was intended to be sung at the time of their composition, recitation remains the only feasible performance style for modern speakers.

The current corpus comprises of 68 poems, altogether 843 lines, randomly selected from the above-mentioned collections. The selection is random in the sense that no criteria such as authorship or theme is applied. A special point is made of achieving a

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<sup>1</sup> As a matter of fact, the *Guti* genre, literally meaning ‘Old Style’, is named as such not so much because it displays a distinct style as because it precedes, and hence is old compared to the *Jinti* genre, literally meaning ‘New Style’. Indeed, the name ‘*Guti*’ was devised only at the early *Tang* dynasty – the last stage of this transitional literary period when ‘*Jinti*’ was making its debut.

well-balanced sampling across the major subgenres corresponding to the major dynasties during this literary period.

## 4.2 Methodological issues and preview of the sub-grammar

The analytical methods adopted below in developing the sub-grammar and grounding the metrical harmony are the same as those for *Jiuge* (cf. Section 3.2.1 of Chapter 3) and here we will only reiterate two points. First, following the weak assumption suggested there, only the constraints, but not necessarily the rankings, are directly imported from the sub-grammars developed so far. Second, to enhance its readability, the section on the sub-grammar is organized according to the line type in terms of syllable numbers, and analytically non-crucial cases are presented alongside the crucial ones to lend the study a descriptive dimension.

The *Guti* sub-grammar turns out much simpler than that of either *Jiuge* or *Shijing*, largely because in many cases, the lines are scanned in a uniform way that is indifferent to the grammatical structure of the line. Markedness constraints from the constraint pool such as BINMAX, BINMIN, \*IP-FINAL-MONOFT and ALIGNR (Ft, IP) are invoked and ranked accordingly. Furthermore, some verse lines at the early stage of the *Guti* period contain ‘*xi*’ passed over from *Chuci*, which however, unlike ‘*xi*’ in *Jiuge*, is treated as a normal interjection by the modern speaker. Consequently, GOODFTINTERJ rather than GOODFT‘*xi*’ is imported from the constraint pool. Finally, the scansion of 8-syll *Guti* lines of a particular grammatical structure calls for the introduction of ANCHOR to accommodate the boundary matching between the grammatical and prosodic structures.

## 4.3 The *Guti* sub-grammar

As briefly mentioned in Section 4.1, *Guti* verse features a considerable degree of diversity in its line length. In our corpus, *Guti* lines range from 4 to 8 syllable long, although towards the end of the *Guti* period, 5- and 7-syll lines became overwhelmingly predominant.

### 4.3.1 BINMAX and BINMIN: evidence from 4-syll lines

4-syll *Guti* lines display three grammatical structures: [SS][SS], S[[SS]S] and S[S[SS]]. Similar to 4-syll *Shijing* lines, 4-syll *Guti* lines are exclusively parsed into (SS)(SS) irrespective of their grammatical structures<sup>2</sup>. Some examples are below:

- (1)            [tian2 chang2] [man3 su4] → (tian2chang2) (man3 su4)  
               cram intestine fill mouth  
               ‘(The food) crams his intestines and fills his mouth’.

<sup>2</sup> As in the case of 4-syll *Shijing* lines, here the input structure is not totally inconsequential: lines of different grammatical structures may induce different reading experience for the reader, measured in terms of their cognization of metrical harmony. This is discussed in Section 4.4.

- (2) *yong3* [[*cong2ci2*] *jue2*] → (*yong3 cong2*) (*ci2jue2*)  
 forever from now separate  
 ‘From now on, we separate forever’.
- (3) *shui3* [*he2* [*dan4dan4*]] → (*shui3 he2*) (*dan4dan4*)  
 water how clear/redup.  
 ‘How clear the water is’.

This scansion clearly demonstrates the modern speaker’s strong preference for binary feet and thus calls for the importation of BINMAX and BINMIN from the constraint pool. However, only 4-syll lines do not yet provide evidence for their ranking, as illustrated below<sup>3</sup>:

(4)

SSSS	BINMAX	BINMIN
☞(SS)(SS)		
(S)(SSS)	*!	*
(SSS)(S)	*!	*
(S)(S)(SS)		*!*

### 4.3.2 BINMAX >> BINMIN and \*PHP-FINAL-MONOFT >> ALIGNR (FT, IP): evidence from 5-syll lines

Evidence for the ranking between BINMAX and BINMIN comes from the scansion of 5-syll *Guti* lines, which also invokes new constraints from the constraint pool.

Altogether eight types of grammatical structures can be identified for 5-syll lines. With the exception of three lines structured as [SS]S[SS], with the interjection ‘*xi*’ being the third syllable, all 5-syll *Guti* lines consist exclusively of lexical words, which are full, bimoraic as discussed before. This bears consequences in their scansion: while lines of the structure [SS]xi[SS] are scanned as (S)(SS)(SS), all the other lines are scanned as (SS)(S)(SS), irrespective of the grammatical structure. Lines of the structure [SS]xi[SS] and some other grammatical structures are illustrated below:

- (5) [*suo3si1*] *xi1* [*he2 zai4*] → (*suo3*) (*si1 xi1*) (*he2 zai4*)  
 prt<sup>4</sup> think xi where is  
 ‘Ah, the person I think of, where is she?’
- (6) [*shan1 yue4*] [[*sui2 ren2*] *gui1*] → (*shan1 yue4*) (*sui2*) (*ren2 gui1*)  
 mountain moon with people return  
 ‘The mountain and the moon return with the person’.

<sup>3</sup> The introduction of only the constraints but not the ranking follows from the analytical methodology presented in Section 5.2 above.

<sup>4</sup> ‘*Suo*’ is a particle that may be suggested to serve to nominalize the verb following it, for example, ‘*suo si*’ (‘*si*’ meaning ‘think of’) means ‘what/whom/the person I (you...) think of’. Similarly, ‘*suo you*’ (‘*you*’ meaning ‘have’) means ‘what I (you...) have’, and ‘*suo qiu*’ (‘*qiu*’ meaning ‘desire, want’) means ‘what/whom I (you...) want’.

- (7) *[wan3 feng1] [chui1 [xing2 zhou1]]* → (*wan3 feng1*) (*chui1*) (*xing2 zhou1*)  
 evening breeze blow running boat  
 ‘The evening breeze blows the running boat’.
- (8) *duo1 [[wei2 yao4] [suo3 wu4]]* → (*duo1 wei2*) (*yao4*) (*suo3 wu4*)  
 probably by medicine prt harm  
 ‘Probably (they are) harmed by the medicine’.
- (9) *xi1 [wei2 [[chang1 jia1] nü3]* → (*xi1 wei2*) (*chang1*) (*jia1 nü3*)  
 before is prostitute place girl  
 ‘(She) used to be the girl from a brothel’.
- (10) *shui2 [neng2 [wei4 [ci3 qu3]]]* → (*shui2 neng2*) (*wei4*) (*ci3 qu3*)  
 who can play this tune  
 ‘Who can play this tune’.

We temporarily leave aside cases like (5) and consider the other lines which solely contain lexical syllables. For one thing, that (SS)(S)(SS) is the optimal scansion provides straightforward evidence for the ranking BINMAX >> BINMIN, as illustrated below. The grammatical structure is unspecified due to its irrelevance.

(11)

SSSSS	BINMAX	BINMIN
☞ (SS)(S)(SS)		*
(SS)(SSS)	*!	

For another thing, the fact that all the 5-syll lines other than those structured as [SS]xi[SS] are uniformly scanned as (SS)(S)(SS) irrespective of the grammatical structures indicates that only markedness constraints are active. As an analytical expedite, in the tableaux below the input structure is unspecified unless necessity arises. First, that the potential parsing (SS)(SS)(S) is suboptimal calls for \*IP-FINAL-MONOF T. As for its ranking, evidently it does not conflict with BINMAX: both must be undominated since no candidate forms violating either of them can win. Second, consider the optimal scansion (SS)(S)(SS) versus the suboptimal one (SS)(SS)(S):

(12)

SSSSS	*IP-FINAL-MONOF T	BINMIN
☞ (SS)(S)(SS)		*
(SS)(SS)(S)	*!	*

Both violate BINMIN and thus it is immaterial whether BINMIN is ranked higher or lower than \*IP-FINAL-MONOF T.

Consider further the suboptimal candidate (S)(SS)(SS) against the optimal one (SS)(S)(SS): both satisfy \*IP-FINAL-MONOF T and what is at issue here is the degree of alignment between the right foot boundaries and the right IP boundary. This readily invokes ALIGNR (FT, IP). As for its ranking, first, the loss of the candidate form

(SS)(SS)(S) to (SS)(S)(SS) provides the crucial ranking argument for \*IP-FINAL-MONOFT >> ALIGNR (Ft, IP), as illustrated below:

(13)

SSSSS	*IP-FINAL-MONOFT	ALIGNR (Ft, IP)
☞ (SS)(S)(SS)		5
(SS)(SS)(S)	*!	4

Second, consider the suboptimal candidate (SS)(SSS), or for that matter, (SSSSS) which incurs less violation of ALIGNR (Ft, IP) than the optimal parsing (SS)(S)(SS), but violates BINMAX. Indeed, in the case of (SSSSS), ALIGNR (Ft, IP) is fully satisfied. Their loss to (SS)(S)(SS) provides the crucial ranking argument for BINMAX >> ALIGNR (Ft, IP). This is illustrated below:

(14)

SSSSS	BINMAX	ALIGNR (Ft, IP)
☞ (SS)(S)(SS)		5
(SS)(SSS)	*!	3
(SSSSS)	*!	0

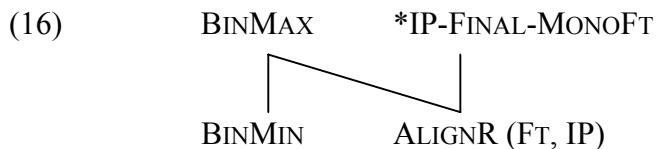
Third, BINMIN and ALIGNR (Ft, IP) do not conflict; in fact they work in the same direction: the fewer monosyllabic feet there are, the better ALIGNR (Ft, IP) is satisfied. Indeed, both the optimal candidate and the suboptimal ones which do not violate the highly ranked BINMAX are bound to have at least one monosyllabic foot, thus violating BINMIN. The non-ranking between the two is illustrated below:

(15)

SSSSS	BINMIN	ALIGNR (Ft, IP)
☞ (SS)(S)(SS)	*	5
(S)(SS)(SS)	*	6!
(S)(S)(S)(SS)	***	9

Clearly, (SS)(S)(SS) will win no matter how BINMIN is ranked with ALIGNR (Ft, IP).

The emergent sub-grammar at this point is:



It needs to be reminded that this sub-grammar is reached while lines of the structure [SS]S[SS] (see (5) above) are temporarily shelved. As mentioned earlier, such lines are distinct from other 5-syll *Guti* lines because they contain the interjection 'xi' and accordingly are scanned differently. We suggested back in Section 3.3.3.1 of Chapter 3 that 'xi' displays the unique flexibility in its parsing only when occurring in the *Chuci* genre, and that once out of this particular genre, 'xi' behaves like a normal interjection for the modern speaker. This holds for 'xi' in both *Shijing* and *Guti*: in these contexts, 'xi' can only be parsed as the non-head of a disyllabic foot, but neither as a monosyllabic foot on its own nor as the head of a disyllabic foot. With this in

mind, we examine whether the sub-grammar in (16) is sufficient to account for the scansion of such lines as (S)(SS)(SS). For clarity sake, the third syllable, which is ‘xi’, is marked out as S<sub>i</sub> indicating the fact that phonologically it is just like a normal interjection syllable.

(17)

[SS]S <sub>i</sub> [SS]	BINMAX	*IP-FINAL-MONOFT	BINMIN	ALIGNR (FT, IP)
☞ (S)(SS <sub>i</sub> )(SS)			*	6!
☛ (SS)(S <sub>i</sub> )(SS)			*	5
(SS)(SS <sub>i</sub> )(S)		*!	*	4
(SS)(S <sub>i</sub> SS)	*!			

As shown here, the sub-grammar fails to predict the optimal scansion for such lines. Under the current sub-grammar, (SS)(S)(SS) emerges as the winner, as in the case of 5-syll *Guti* lines containing no interjection syllables. This is actually not surprising: given the sub-grammar, (SS)(S)(SS) will always win. Carefully observe the desired winner (S)(SS<sub>i</sub>)(SS) against the unwanted winner (SS)(S<sub>i</sub>)(SS), and we notice that in the latter the interjection ‘xi’ forms a monosyllabic foot on its own, which is illegitimate because ‘xi’, as a normal interjection syllable here, is underlyingly weak. This calls into mind the constraint GOODFTINTERJ<sup>5</sup>.

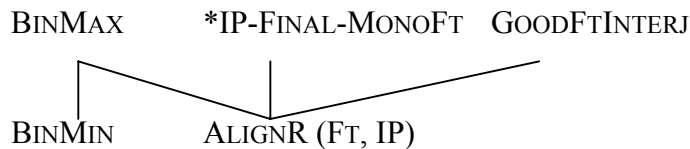
As for the ranking of GOODFTINTERJ with the other four constraints in the sub-grammar, first, the above pair of candidates provides the crucial ranking argument for GOODFTINTERJ >> ALIGNR (Ft, IP), illustrated below:

(18)

[SS]S <sub>i</sub> [SS]	GOODFTINTERJ	ALIGNR (FT, IP)
☞ (S)(SS <sub>i</sub> )(SS)		6
(SS)(S <sub>i</sub> )(SS)	*!	5

Second, this pair also shows that it is immaterial to rank GOODFTINTERJ with BINMIN, as BINMIN is violated by even the optimal candidate. Third, GOODFTINTERJ does not conflict with BINMAX: both have to be highly ranked, as no candidates violating either of them would win. Fourth, for the same reason, GOODFTINTERJ does not conflict with \*IP-FINAL-MONOFT either. Thus, the sub-grammar is updated into:

(19)



<sup>5</sup> Note that GOODFTINTERJ rather than GOODFT‘Xi’ is invoked here because of (i) although what is superficially at issue here is the parsing of ‘xi’, ‘xi’ in *Guti* behaves just like a normal interjection syllable; (ii) GOODFT‘Xi’ is specifically targeted at the parsing of ‘xi’ in the *Chuci* context. In theory, we could also say that ‘xi’ in *Guti* still has the same underlying representation as in *Shijing* or *Chuci*, but that the ‘xi’-grammar responsible for its optimal surface form in *Guti* differs from that in *Chuci*, but is the same as that in *Shijing*, where ‘xi’ also behaves just like a normal interjection syllable (cf. Section 2.3.3.2 in Chapter 2).

Obviously, the addition of GOODFTINTERJ to the sub-grammar has no effect on the lines containing no interjection syllables: in such cases, GOODFTINTERJ is vacuously satisfied.

### 4.3.3 Two IP's within one line: the case of 6-syll lines

There are five 6-syll lines in our corpus, entertaining two grammatical structures, i.e. [SS][SS]SS and [S[S[SS]]]SS. They are illustrated below:

- (20) (i) *[gong1 que4] [cui1 wei3] xi1, yi4!*  
 palace palace magnificent imposing xi exclamation  
 ‘Ah, how magnificent and imposing the palaces are. Ah!’

→ *(gong1 que4) (cui1)(wei3 xi1), (yi4)!*

- (ii) *[she4 [bi3 [bei3 mang2]]] xi, yi4!*  
 climb that north mound xi exclamation  
 ‘Ah, (I) climbed up that mound in the north. Ah!’

→ *(she4 bi3)(bei3)(mang2 xi), (yi4)!*

Two background notes are in order. First, these five 6-syll lines are all from one poem; indeed, they constitute the poem entitled ‘*wu yi ge*’, literally meaning ‘Five “yi” Lyric’, because these five lines all end in the exclamation ‘*yi*’. Second, like the other *Guti* lines containing interjection syllables, these five lines also appeared at the early stage of the *Guti* period.

Linguistically, we argue that instead of a bona fide 6-syll line, each of these five lines are actually a 5-syll line plus a monosyllabic line constituted by the word ‘*yi4*’ which we label here as an exclamation syllable. More is to be said on ‘*yi4*’ below. For the moment, three pieces of evidence may be cited to show why they are not real 6-syll lines. First, orthographically, there is an indispensable comma between the penultimate syllable, which is ‘*xi*’, and the final syllable ‘*yi4*’. Second, the two parts separated by this comma are independent of each other in terms of both syntax and interpretation. Third, when these lines are performed, a pause is obligatory where the comma occurs, and the two parts separated by this comma clearly fall under two distinct intonational contours. This suggest that prosodically, this 6-syll sequence actually comprises of two IP's, rather than one IP, as would be expected if it was indeed one single line. The reason that the 5-syll and the monosyllabic lines are collapsed together into a six-syllable sequence is, we suggest, largely for the typographical consideration of avoiding a super-short monosyllabic line constituted solely by the exclamation syllable ‘*yi4*’. Thus, taking (20) (i) to illustrate, the 6-syll sequence is in fact as follows:

- (21) *liao2 liao2 wei4 yang1 xi1,*  
*yi4!*

Having thus unveiled the true nature of these 6-syll sequences, we now need to answer two questions: first, how the parsing of the 5-syll lines can be accounted for;

second, why ‘*yi4*’ can constitute a line on its own. For the first question, as indicated in the examples above, the 5-syll lines are all optimally scanned as (SS)(S)(SS). This optimal scansion can be adequately accounted for by the sub-grammar developed so far. It is noteworthy that with the last syllable being ‘*xi*’ (again behaving like a normal interjection syllable here), GOODFTINTERJ becomes relevant, although its discriminating power overlaps with that of \*IP-FINAL-MONOFT in winnowing out (SS)(SS)(S).

(22)

[[SS][SS]]S <sub>I</sub>	BINMAX	*IP-FINAL-MONOFT	GOODFT INTERJ	BINMIN	ALIGNR (FT, IP)
☞ (SS)(S)(SS <sub>I</sub> )				*	5
(SS)(SS)(S <sub>I</sub> )		*!	*	*	4
(S)(SS)(SS <sub>I</sub> )				*	6!
(S)(SSS)(S <sub>I</sub> )	*!	*	*	**	5
(SS)(SSS <sub>I</sub> )	*!				3

Turning to the second question posed above, namely, why ‘*yi4*’ can form a line on its own, we first need to mention that ‘*yi4*’ is semantically empty but emotionally very rich and as such not unlike the ‘*Ah-*’ or ‘*Oh-*’ in English. Apparently, in terms of grammatical category, it is an interjection. However, the reason we opt to refer to it as ‘exclamation’ here is basically phonological: we wish to show that phonologically it is different from the interjection syllables discussed so far. More specifically, we argue that like any full lexical syllables, ‘*yi4*’ is underlyingly represented as bimoraic. As such, it can form a monosyllabic foot on its own<sup>6</sup>. Indeed, that ‘*yi4*’ is underlyingly strong is also evident from the very fact that it can constitute an IP on its own. Under the assumption that the prosodic hierarchy observes the Strict Layering Hypothesis, it is only natural that a foot cannot straddle an IP boundary, which is delimited by the punctuation mark. In other words, it is impossible for a stand-alone exclamation syllable to form a foot with a neighboring syllable that is separated from it by an IP boundary<sup>7</sup>. Still with (20) (i) as an example, this is illustrated below:

(23) [(*liao2 liao2*) (*wei4*) (*yang1 xi1*)]<sub>IP</sub> [(*yi4*)]<sub>IP</sub>.

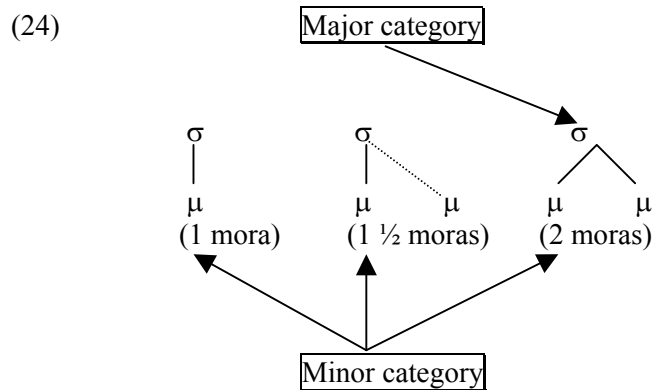
Thus, in terms of the development of the sub-grammar, 6-syll lines provide no further impetus. We wish to conclude this section by drawing attention to the distinction between the phonological representations of major and minor categories, the latter exemplified by interjection syllables in particular. We have argued that all lexical categories, namely, major categories, are bimoraic, while as far as the phonological representation of the minor category of interjection syllables is concerned, so far we have a tripartite picture: normal interjection syllables are represented as monomoraic, ‘*xi*’ (as occurred in *Chuci*) as one filled mora plus one empty mora, and exclamation

<sup>6</sup> In this connection, one would predict that a full lexical syllable is also able to form a monosyllabic foot, and an IP on its own. This is indeed true: we have seen so far abundant examples where lexical syllables form a legitimate foot on their own, and as to a lexical syllable constituting an IP, say, a verse line, alone, in theory this is perfectly possible, but in practice, this is also conditioned by semantic considerations. Obviously, only those lexical syllables expressing a self-contained meaning can constitute an IP, e.g. ‘*hao3*’ (good), or ‘*zou3*’ (go).

<sup>7</sup> That IP imposes a non-trespassable upper bound for the prosodic domain is widely agreed upon; indeed, it is formulated into a constraint IP-BOUND in Chen (2000) (also see Shih 1997).



syllables as bimoraic. We suggest that this contrast embodies the distinctive prosodic properties of major versus minor categories, as argued in McCarthy and Prince (1986) (cf. also Selkirk 1986; McCarthy and Prince 1993b). More specifically, McCarthy and Prince (Ibid.: 44) contend that ‘Stem or Lexical Word must correspond to a Prosodic Word’. Given that the prosodic hierarchy of Chinese is an impoverished one where a PrWd is argued to be co-terminous with a foot (cf. Section 2.3.6.1.1 of Chapter 2), and thus minimally bimoraic, this is tantamount to saying that lexical words are minimally bimoraic. In contrast, non-lexical words are not subject to such minimal word requirement, and thus may not necessarily be bimoraic. This contrast is directly reflected in their different phonological representations, as shown below:



#### 4.3.4 7-syll lines

7-syll lines occupy a very high percentage of the *Guti* corpus (367 out of 843), and display a large diversity in grammatical structures: altogether 21 types of structures are identified. 25 of the 367 lines contain ‘*xi*’. We refrain from presenting the full inventory of the grammatical structures here due to their irrelevance to the discussion. All of them, with or without ‘*xi*’, share the optimal scansion (SS)(SS)(S)(SS). For illustrative purpose, below we present examples of some grammatical structures, first those not including ‘*xi*’ and then those including ‘*xi*’.

- (25) (i) *[bei3 feng1] [juan3 di4] [[bai2 cao3]zhe2]*  
 north wind sweep ground white grass bent  
 ‘The northern wind sweeps the ground and the white grasses become bent’  
 → (*bei3 feng1*) (*juan3 di4*) (*bai3*) (*cao3 zhe2*)
- (ii) *ren2 [[sui2 [sha1 lu4]] [xiang4 [jiang1 cun1]]]*  
 man follow sand road towards river village  
 ‘People follow the sand road to go towards the village at the riverside’  
 → (*ren2 sui2*) (*sha1 lu4*) (*xiang4*) (*jiang1 cun1*)

- (iii) [qu4 shi2] [xue3 [man3 [[tian1 shan1] lu4]]]  
 go time snow cover heavenly mountain road  
 ‘When we went there, the road to the heavenly mountain was covered with snow’  
 → (qu4shi2) (xue3 man3) (tian1) (shan1lu4)
- (iv) yi4 [zuo2 [lu4 [rao4 [[jin3 ting2] dong1]]]]  
 recallbefore road wind glamorous pagoda east  
 ‘(I) recall the road used to wind to the east of the glamorous road’  
 → (yi4 zuo2) (lu4 rao4)(jin3) (ting2 dong1)
- (v) jia1 [[[zai4 [[xia1 mo2] ling2]xia4]] zhu4]]  
 home at place name hill below live  
 ‘(Her) home is at the foot of Xiamo Hill’  
 → (jia1 zai4) (xia1 mo2) (ling2) (xia4 zhu4)
- (26) (i) [li4 [ba2 shan1]] xi1 [qi4 [gai4 shi4]]  
 strength pull mountain xi spirit overwhelm world  
 ‘Ah, (his) strength (is so big that he can) pull up the mountain, and his spirit (is so high that it) overwhelms the whole world’  
 → (li4 ba2) (shan1 xi1) (qi4) (gai4 shi4)
- (ii) [[qiu1 feng1] qi3] xi1 [[bai2 yun2]fei1]  
 autumn wind rise xi white cloud flow  
 ‘Ah, the autumn wind is blowing and the white cloud is floating’  
 → (qiu1 feng1) (qi3xi1) (bai2) (yun2fei1)
- (iii) [[da4feng1] qi3] xi1[yun2 [fei1 yang2]]  
 big wind rise xi cloud fly rise  
 ‘Ah, the big wind rises, and the cloud flies upward’  
 → (da4feng1) (qi3xi1) (yun2) (fei1 yang2).
- (iv) [yu2 xi1] [yu2 xi1] [nai4 [ruo4 he2]]  
 anxious xi anxious xi help like what  
 ‘Ah, anxious I am, but so helpless!’  
 → (yu2xi1) (yu2 xi1) (nai4) (ruo4 he2)

Now consider the sub-grammar reached in (19). It is notable that all the five constraints are markedness ones: BINMAX, BINMIN, \*IP-FINAL-MONOFT, GOODFTINTERJ and ALIGNR (Ft, IP). This suggests that the selection of the optimal scansion is independent of the grammatical structure of the line, which is evidently true given that all 7-syll lines have the same optimal scansion. However, as the

evaluation by GOODFTINTERJ is contingent upon whether the input line contains ‘*xi*’ or not, below we discuss the 7-syll lines with and without ‘*xi*’ separately.

First, for those 7-syll lines without ‘*xi*’, apparently GOODFTINTERJ is vacuously satisfied. This enables us to construct the following tableau without specifying the input structure.

(27)

SSSSSSS	BINMAX	*IP-FINAL-MONOFT	GOODFT INTERJ	BINMIN	ALIGNR (FT, IP)
☞ (SS)(SS)(S)(SS)				*	10
(SS)(SS)(SS)(S)		*!		*	9
(SS)(S)(SS)(SS)				*	11!
(S)(SS)(SS)(SS)				*	12!
(SS)(SS)(SSS)	*!				8
(SS)(SSS)(SS)	*!				7

For those with ‘*xi*’, it is noteworthy that except in (26) (iv) where ‘*xi*’ occurs both at the second and the fourth positions, in all other cases, ‘*xi*’ only occurs at the fourth position<sup>8</sup>. As in 5-syll *Guti* lines, ‘*xi*’ again behaves just like a normal interjection syllable. Below we first construct the tableau for lines where ‘*xi*’ only occurs at the fourth position such as (26) (i), (ii) and (iii), and then consider the single line (26) (iv) individually. In both cases, ‘*xi*’ is explicitly marked out as S<sub>i</sub> for clarity sake.

(28)

SSSS <sub>i</sub> SSS	BINMAX	*IP-FINAL-MONOFT	GOODFT INTERJ	BINMIN	ALIGNR (FT, IP)
☞ (SS)(SS <sub>i</sub> )(S)(SS)				*	10
(SS)(SS <sub>i</sub> )(SS)(S)		*!		*	9
(S)(SS)(S <sub>i</sub> )(S)(SS)			*!	***	15
(SS)(S)(S <sub>i</sub> S)(SS)			*!	*	11
(S)(SS)(S <sub>i</sub> S)(SS)			*!	*	12
(SS)(SS <sub>i</sub> )(SSS)	*!				8
(SS)(SS <sub>i</sub> S)(SS)	*!				7

And the tableau for (26) (iv):

(29)

[SS <sub>i</sub> ][SS <sub>i</sub> ][S[SS]]	BINMAX	*IP-FINAL-MONOFT	GOODFT INTERJ	BINMIN	ALIGNR (FT, IP)
☞ (SS <sub>i</sub> )(SS <sub>i</sub> )(S)(SS)				*	10
(SS <sub>i</sub> )(SS <sub>i</sub> )(SS)(S)		*!		*	9
(S)(S <sub>i</sub> SS <sub>i</sub> )(S)(SS)	*!		*	**	11
(SS <sub>i</sub> )(SS <sub>i</sub> )(SSS)	*!				8

We see that in all cases, the sub-grammar invariably selects (SS)(SS)(S)(SS) as the optimal scansion, irrespective of the grammatical structure of the line. This meshes

<sup>8</sup> As is to be seen in Chapter 8, this highly restricted distribution of ‘*xi*’ within the line offers compelling evidence for the phonological treatment of ‘*xi*’ by the ancient *Guti* reader.

well with the fact. Indeed, in all cases, the parsing (SS)(SS)(S)(SS) wins on a good record: in addition to violating ALIGNR (Ft, IP), it incurs only one inevitable violation of BINMIN due to the odd number of syllables contained in the line and the inviolability of BINMAX. Thus, all the 7-syll *Guti* lines can be satisfactorily accounted for by the emergent sub-grammar, and that no new constraints or rankings are needed.

### 4.3.5 8-syll lines

The present *Guti* corpus contains ten 8-syll lines, which all contain a line-medial ‘*xi*’ and display four grammatical structures:  $[[SS][SS]]S[S[SS]]$ ,  $[S[SS]S]S[[SS]S]$ ,  $[S[S[SS]]]S[[SS]S]$  and  $[S[S[SS]]]S[S[SS]]$ . ‘*Xi*’ is represented as the stand-alone syllable. As a background note, like the other *Guti* lines containing ‘*xi*’, these ten 8-syll lines are also from the early stage of the *Guti* period, although not from one single verse, as in the case of 6-syll lines. Furthermore, unlike the 7-syll lines just discussed, the scansion of the 8-syll lines does exhibit sensitivity to the grammatical structure, at least in one case, which, as is to be seen below, turns out vital in developing the sub-grammar. Below we first illustrate each of the grammatical structures and their scansions:

- (30) (i)  $[[cao3 mu4] [huang2 luo4]] xi1 [yan4 [nan2 gui1]]$   
 grass tree yellow fall xi swan south return  
 ‘Ah, the grasses and trees turn yellow and fall, and the swans return south’  
 →  $(cao3 mu4) (huang2 luo4 xi1) (yan4) (nan2 gui1)$
- (ii)  $[ju1 [chang2 tu3]] [si1] xi1 [xin1 [nei4 shang1]]$   
 live long land miss xi heart inside sad  
 ‘Ah, I am living in this land for long, I feel homesick, and I feel sad inside my heart’  
 →  $(ju1) (chang2 tu3)(si1 xi1) (xin1) (nei4 shang1)$
- (iii)  $[yuan3 [tuo1 [yi4 guo3]] xi1 [[wu1 sun1] wang2]$   
 far trust foreign country xi obscure subject king  
 ‘Ah, I was trusted to the king of the obscure subjects in this foreign country’  
 →  $(yuan3 tuo1) (yi4) (guo3 xi1) (wu1) (sun1 wang2)$
- (iv)  $[wei1 [jia1 [hai3 nei4]]] xi1 [gui1 [gu4 xiang1]]$   
 power impose sea inside xi return old home  
 ‘Ah, with my power imposed all over the land, I return home’  
 →  $(wei1 jia1) (hai3) (nei4 xi1) (gui1) (gu4 xiang1)$

It is noteworthy that while lines of the grammatical structures (i), (iii) and (iv) share the scansion (SS)(S)(SS)(S)(SS), (ii) is scanned differently as (S)(SS)(SS)(S)(SS). Under the emergent sub-grammar (see (19)), which exclusively contains output-oriented markedness constraints indifferent to the input structure, (SS)(S)(SS)(S)(SS) will always win, as shown below:

(31)

SSSSS <sub>i</sub> SSS	BINMAX	*IP-FINAL-MONOFT	GOODFT INTERJ	BINMIN	ALIGNR (Ft, IP)
a. $\rightarrow$ (SS)(S)(SS <sub>i</sub> )(S)(SS)				**	16
b. (SS)(SS)(S <sub>i</sub> S)(SS)			*!		12
c. (S)(SS)(SS <sub>i</sub> )(S)(SS)				**	17!
d. (SS)(S)(SS <sub>i</sub> )(SSS)	*!			*	14

Although this adequately accounts for the scansion of (30) (i), (iii) and (iv), the scansion of (30) (ii) is obviously problematic. The different scansion of (ii) indicates the relevance of the grammatical structure to the optimal scansion and motivates the introduction into the sub-grammar of the faithfulness constraint ANCHOR (including both ANCHOR-IO and ANCHOR-OI) from the constraint pool.

We now consider the ranking of ANCHOR. First, recall that (30) (ii) is best scanned as (S)(SS)(SS)(S)(SS), which is candidate (c) in (31). There it loses to candidate (a), which is actually a suboptimal scansion for (30) (ii) due to more violations of ALIGNR (Ft, IP). But in terms of satisfaction of the newly invoked ANCHOR, candidate (c) prevails over (a). This constitutes crucial evidence for ANCHOR >> ALIGNR (Ft, IP), as shown below:

(32)

[S[SS]][S] <sub>i</sub> [S[SS]]	ANCHOR-IO	ANCHOR-OI	ALIGNR (Ft, IP)
a. (SS)(S)(SS <sub>i</sub> )(S)(SS)	**!	*	16
b. $\rightarrow$ (S)(SS)(SS <sub>i</sub> )(S)(SS)	*		17

Note that here the grammatical structure of the line becomes relevant and is specified. Furthermore, following our practice, in the absence of evidence, ANCHOR-OI and ANCHOR-IO stay unranked with each other.

Second, consider the scansion of lines of the structure [[SS][SS]]S<sub>i</sub>[S[SS]] ((30) (i) above): the scansion (SS)(SS)(S<sub>i</sub>)(S)(SS), which best satisfies ANCHOR but violates GOODFTINTERJ due to the monosyllabic foot constituted by 'xi' alone, nevertheless loses to (SS)(S)(SS<sub>i</sub>)(S)(SS), which violates ANCHOR but satisfies GOODFTINTERJ. This shows GOODFTINTERJ >> ANCHOR:

(33)

[[SS][SS]]S <sub>i</sub> [S[SS]]	GOODFT INTERJ	ANCHOR-IO	ANCHOR-OI
a. $\rightarrow$ (SS)(S)(SS <sub>i</sub> )(S)(SS)		*	*
b. (SS)(SS)(S <sub>i</sub> )(S)(SS)	*!		

Third, still for lines of the structure in (33), the loss of (SS)(SS<sub>i</sub>)(S)(SS) to (SS)(S)(SS<sub>i</sub>)(S)(SS) shows BINMAX >> ANCHOR, as illustrated below:

(34)

[[SS][SS]]S <sub>i</sub> [S[SS]]	BINMAX	ANCHOR-IO	ANCHOR-OI
a. $\leftarrow$ (SS)(S)(SS <sub>i</sub> )(S)(SS)		*	*
b. (SS)(SSS <sub>i</sub> )(S)(SS)	*!	*	

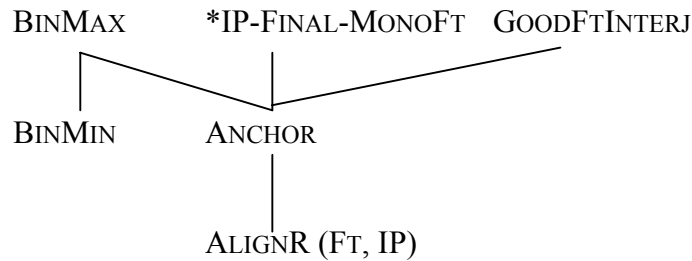
Fourth, consider the scansion of lines of the structure [S[S[SS]]SI[[SS]S] ((30) (iii)): (SS)(S)(SS<sub>i</sub>)(S)(SS) violates ANCHOR but avoids the occurrence of an IP-final monosyllabic foot, and is optimal, whereas (SS)(S)(SS<sub>i</sub>)(SS)(S) incurs fewer violations of ANCHOR but has an IP-final monosyllabic foot, and is suboptimal. This shows \*IP-FINAL-MONOFT >> ANCHOR:

(35)

[S[S[SS]]SI[[SS]S]	*IP-FINAL-MONOFT	ANCHOR-IO	ANCHOR-OI
a. $\leftarrow$ (SS)(S)(SS <sub>i</sub> )(S)(SS)		***	**
b. (SS)(S)(SSI)(SS)(S)	*!	**	*

Thus, with these arguments about the ranking of ANCHOR, the emergent sub-grammar is:

(36)



The discussion of the 8-syll lines also brings the development of the *Guti* sub-grammar to an end.

## 4.4 Formal grounding of metrical harmony

As in the corresponding sections of the previous chapters, this section seeks to formally account for the native judgments regarding the metrical harmony of *Guti* lines. The analytical procedure is identical to that in the previous chapters. For each line type, the tableau des tableaux is presented and the optimal parse is selected under the *Guti* sub-grammar developed above out of the multiple candidate parses each of which is constituted by the parse from a grammatical structure for this line type to the corresponding optimal scansion of lines of this grammatical structure. We then examine whether for each line type, the grammatical structure in the optimal parse coincides with that experienced to be metrically most harmonious. 6-syll lines would be omitted given that they are in fact 5-syll lines plus the single exclamation syllables, as was discussed in Section 4.3.3.

We start with 4-syll *Guti* lines. As mentioned in Section 4.3.1, 4-syll lines are of one of three grammatical structures, but share the scansion (SS)(SS). This gives rise to three candidate parses. The following tableau des tableaux is constructed:

(37)

Candidate parses	BIN MAX	*IP- FINAL- MONOFT	GOODFT INTERJ	BIN MIN	ANCHOR -IO	ANCHOR -OI	ALIGNR (Ft, IP)
→ { [SS][SS] (SS)(SS)							2
{ S[[SS]S] (SS)(SS)					*!*	*	2
{ S[S[SS]] (SS)(SS)					*!		2

The optimal parse is from [SS][SS] to (SS)(SS). As to the metrical harmony judgment, 4-syll lines of the structure [SS][SS] are indeed experienced as being metricaly most harmonious. Thus for 4-syll lines, the metrical harmony can be grounded in the grammar via the OT harmony.

For 5- and 7-syll lines, of the great number of grammatical structures which correspond to an equally great number of candidate parses, only a few are presented for practical considerations.

(38) 5-syll lines

Candidate parses	BIN MAX	*IP- FINAL- MONOFT	GOODFT INTERJ	BIN MIN	ANCHOR -IO	ANCHOR -OI	ALIGNR (Ft, IP)
→ { [SS][S[SS]] (SS)(S)(SS)				*			5
{ [SS][[SS]S] (SS)(S)(SS)				*	*!	*	5
{ S[S[SS]S] (SS)(S)(SS)				*	*!*	*	5
{ S[S[S[SS]]] (SS)(S)(SS)				*	*!		5
{ S[[SS][SS]] (SS)(S)(SS)				*	*!	*	5

Given the uniform optimal scansion, which is the output in each candidate parse, all parses necessarily satisfy and violate the same markedness constraints in the sub-grammar; what is crucially distinctive is the faithfulness constraint ANCHOR, which refers back to the grammatical structure in each candidate parse. The parse from [SS][S[SS]] to (SS)(S)(SS) emerges as optimal. Lines of this grammatical structure are indeed felt to be metricaly most harmonious by the native speaker. Thus, the data from 5-syll lines again supports our claim that the metrical harmony can be formally grounded in the grammar via OT harmony.

## (39) 7-syll lines

Candidate parses	BINMAX	FINAL-MONOF'T	*IP-NTERJ	GOODFTI	BINMIN	ANCHOR-IO	ANCHOR-OI	ALIGNR (FT, IP)
a. $\left\{ \begin{array}{l} [[SS][SS]][S[SS]] \\ (SS)(SS)(S)(SS) \end{array} \right.$					*			10
b. $\left\{ \begin{array}{l} [SS][[SS][S[SS]]] \\ (SS)(SS)(S)(SS) \end{array} \right.$					*			10
c. $\left\{ \begin{array}{l} [[SS][SS]][[SS]S] \\ (SS)(SS)(S)(SS) \end{array} \right.$					*	*!	*	10
d. $\left\{ \begin{array}{l} [SS][[SS][[SS]S]] \\ (SS)(SS)(S)(SS) \end{array} \right.$					*	*!	*	10
e. $\left\{ \begin{array}{l} [SS][S[SS][SS]] \\ (SS)(SS)(S)(SS) \end{array} \right.$					*	*!	*	10
f. $\left\{ \begin{array}{l} S[[S[[SS]S]S]]S \\ (SS)(SS)(S)(SS) \end{array} \right.$					*	*!*!		10

Here a problem arises: under the sub-grammar, parses (a) and (b) turn out to be equi-optimal, while the fact of the matter is that only lines of the grammatical structure in parse (a) are felt to be metrically most harmonious. It is notable that the only difference between these two parses lies in the position of the strongest grammatical boundary (SB). As argued back in Chapter 2, SB in a line must correspond to PhP boundary in its prosodic scansion. Thus, the two optimal scansions in parses (a) and (b) actually differ in the PhP-level parsing, which nonetheless is concealed in (38) where only the foot-level parsing, which they share, is presented. Therefore, the 7-syll lines constitute a strong case for the crucial role of the sub-hierarchy for PhP boundary delimitation, i.e., BINARITY >> EVENNESS >> LONG-LAST, in accounting for the metrical harmony. The evaluation of these two parses by this sub-hierarchy is presented below. The PhP boundary in the optimal scansion in each parse is marked out, corresponding to the line-medial strongest boundary in the respective inputs.

## (40)

Parses for 7-syll lines	BINARITY	EVENNESS	LONG-LAST
a. $\left\{ \begin{array}{l} [[SS][SS]][S[SS]] \\ (SS)(SS)(S)(SS) \end{array} \right.$		*	
b. $\left\{ \begin{array}{l} [SS][[SS][S[SS]]] \\ (SS)(SS)(S)(SS) \end{array} \right.$	*!*!	***	

Clearly, candidate (b) incurs two violations of BINARITY because of the monarity of the first PhP and ternarity of the second. It also incurs three violations of EVENNESS due to the grave imbalance of phonological weight between the two PhP's. Consequently, it loses to (a) which incurs only one violation of EVENNESS. In plain words, (b)'s loss can be attributed to asymmetry, both in the branching of the prosodic structure and in the distribution of phonological weight. The grammatical structure in parse (a), which is the optimal one under the extended sub-grammar comprising constraint hierarchies responsible for both foot- and PhP-level parsing<sup>9</sup>, thus coincides with the grammatical structure of the metrically most harmonious lines. This clearly

<sup>9</sup> As in the case of accounting for the metrical harmony of 6-syll *Shijing* lines (see (100) in Chapter 2), there is no evidence for the interaction between these two hierarchies.



indicates that the position of SB in the line is not trivial: it affects the cognization of the line in terms of its metrical harmony.

Finally, we consider the 8-syll lines where the fifth syllable is 'xi' (albeit behaving like an interjection):

(41)

Candidate parses	BINMAX	FINAL- MONOFT	*P- GOODFTI NTERJ	BINMIN	ANCHOR- IO	ANCHOR- OI	ALIGNR (FT, IP)
a. $\left\{ \begin{array}{l} [[SS][SS]S_i[S[SS]] \\ (SS)(S)(SS_i)(S)(SS) \end{array} \right.$				**	*	*	16
b. $\left\{ \begin{array}{l} [S[SS]S]S_i[[SS]S] \\ (S)(SS)(SS_i)(S)(SS) \end{array} \right.$				**	**!	*	17
c. $\left\{ \begin{array}{l} [S[S[SS]]]S_i[[SS]S] \\ (SS)(S)(SS_i)(S)(SS) \end{array} \right.$				**	**!*	**	16
d. $\left\{ \begin{array}{l} [S[S[SS]]]S_i[S[SS]] \\ (SS)(S)(SS_i)(S)(SS) \end{array} \right.$				**	**!	*	16

8-syll lines of the grammatical structure  $[[SS][SS]S_i[S[SS]]$ , which is exactly the grammatical structure in the optimal parse, are cognized as being metrically most harmonious, thus again upholding our proposal that the metrical harmony can be grounded in the grammar via OT harmony.