THE LOGIC OF CHINESE SYNTACTIC STRUCTURE^1

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ABSTRACT
This paper argues for an account of Chinese syntactic structure that takes both structure and function into consideration. It argues that Chinese syntax can be given a rather neat and natural account if we take iconicity and information status into account and if we look at the following three orders separately: the order of the head and its NP or clause complements, the order of the head and its PP complements, and the order of the head and the adjuncts. It points out that Chinese is head-initial in terms of the order of the head and its NP or clause complement. However, when the complement is a PP, it typically precedes the head except that it can also occur after the head if such an ordering conforms to the unfolding of the event in the real world. As for the order of the head and the adjuncts, Chinese is head-final except when the adjunct is used to provide new information about degree or result or new (evaluative) information in terms of quality or quantity.

SUBJECT KEYWORDS
Chinese phrase structure Chinese syntactic structure Head-initial Head-final Complement Adjunct

1. INTRODUCTION
Chinese shows properties of not only SVO languages but also SOV and VSO languages. Its basic SVO order is obviously a property of an SVO language. However, Chinese also displays properties of SOV languages by having verb modifiers that largely precede the verb (cf. Universal 7 in Greenberg 1966). Moreover, Chinese behaves like a VSO
language by being prepositional (cf. Universal 3 in Greenberg 1966). In the literature, attempts have often been made to account for such a mixed picture of Chinese phrase structure in a neat way. Among such accounts, Huang (1998/1982) and Li (1990, 2008) are two representative ones proposed within the framework of Government and Binding.

The purpose of this paper is to review Huang’s and Li’s accounts, to point out their problems, and to give an alternative account which takes both structure and function into consideration. I argue that Chinese syntactic structure can be given a rather neat and natural account if we look at the following three orders separately: the order of the head and its NP or clause complements, the order of the head and its PP complements, and the order of the head and the adjuncts. In terms of the order of the head and its NP or clause complement, Chinese is head-initial. In terms of the order of the head and its PP complement, Chinese is head-final except that such PPs can also occur after the head if such an ordering conforms to the unfolding of the event in the real world. As for the order of the head and the adjuncts, Chinese is head-final except when the adjunct is used to provide new information about degree or result or new (evaluative) information in terms of quality or quantity, particularly numerical quantity.

The paper is organized as follows. Section 2 reviews Huang’s and Li’s accounts of Chinese phrase structure and section 3 offers an alternative account. Section 4 shows that our proposal can also account for some special or non-canonical constructions in Chinese, such as the ba- construction and the bei-construction. Section 5 concludes the paper and discusses the theoretical and methodological implications of this study.


2.1 Huang’s Account

Huang (1998/1982) proposes that Chinese has the X-structure in (1). According to him, (1a) should be interpreted as operating only on the lowest level of phrasal expansion. This predicts that as far as the order of the head and its complements is concerned, Chinese is head-initial as long as the head is not a noun. Moreover, (1) predicts that in all the other cases Chinese is head-final.
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(1) \( X \)-structure of Chinese (Huang 1998/1982, 7, 27)^5
a.  \([X^n X^{n-1} YP*] \) iff \( n = 1 \) and \( X \neq N \)
b.  \([X^n YP* X^{n-1}] \) otherwise

Although Huang’s formulation of Chinese phrase structure gives an inclusive description of Chinese syntax in a succinct way, it has the following shortcomings. First, while (1a) captures the fact that PPs and VPs in Chinese are head-initial and NPs are head-final (see (2), with the heads being underlined), it incorrectly predicts that APs in Chinese are always head-initial as far as the order of the head and its complement is concerned. As seen from below, although there are APs like manyi ziji-de gongzuo in (3a) that are head-initial, there are also APs in which the head occurs after the complement, as shown in (3b) and (4).^6

(2) a.  \( \text{zai Zhongguo} \) (PP)
    ‘in China’

b.  Tamen \( \text{zai [kan dianshi].} \) (VP)
    ‘They are watching TV.’

c.  dui diren-de jingong (NP)
    ‘the attack at the enemy’

(3) a.  Ta hen manyi ziji-de gongzuo.
    ‘He is very satisfied with his job.’

b.  Ta dui ziji-de gongzuo hen manyi.
    ‘He is very satisfied with his job.’

(4) Wo zhen wei ta zihao.
    ‘I’m really proud of him.’
The second problem with Huang’s account is that given (1b), his \( \mathcal{X} \)-structure incorrectly rules out sentences like (5). In (5), \( \text{san ci} \) ‘three times’ cannot be the complement of \( \text{jian} \) ‘meet, see’ in (5a) and \( \text{liang-ge xiaoshi} \) ‘two hours’ cannot the complement of \( \text{deng} \) ‘wait’ in (5b), and (1b) incorrectly predicts that the frequency and duration phrases in (5) should occur before their verbal heads.

(5)  
\[
\begin{align*}
\text{(a)} & & \text{Wo jian-guo ta san ci.} & & \text{I meet-exp him three time} & & \text{‘I met him three times before.’} \\
\text{(b)} & & \text{Zhangsan deng-le wo liang-ge xiaoshi.} & & \text{Zhangsan wait-perf I two-cl hour} & & \text{‘Zhangsan waited for me for two hours.’}
\end{align*}
\]

Third, Huang’s \( \bar{\mathcal{X}} \)-structure in (1) also incorrectly rules out sentences like (6). Both \( \text{gei Lisi} \) ‘to Lisi’ in (6a) and \( \text{zai zhuozi-shang} \) ‘on the table’ in (6b) are subcategorized complements. According to (1a), these subcategorized prepositional phrases are expected to occur postverbally, not preverbally. As these phrases occur before the head in (6), Huang’s \( \mathcal{X} \)-structure incorrectly predicts that such sentences are ungrammatical in Chinese. Huang may argue that the PPs in (6) are not a sister of \( V \), but of \( V' \). Given (1b), these PPs should thus occur preverbally. However, if so, Huang would not be able to give a successful account of sentences like (7). In (7), \( \text{gei Lisi} \), the same PP as in (6a), occurs at the end of the sentence. If this PP is analyzed as a sister of \( V' \) as in (6a), it is not expected to occur after \( \text{ji-le yi-ben shu} \) ‘sent a book,’ given (1b). As a result, sentences like (7) would be left unaccounted for.

(6)  
\[
\begin{align*}
\text{(a)} & & \text{Zhangsan gei Lisi ji-le yi-ben shu.} & & \text{Zhangsan to Lisi send-perf one-cl book} & & \text{Intended: ‘Zhangsan sent a book to Lisi.’} \\
\text{(b)} & & \text{Zhangsan zai zhuozi-shang fang-le yi-ben shu.} & & \text{Zhangsan at table-on place-perf one-cl book} & & \text{Intended: ‘Zhangsan put a book on the table.’}
\end{align*}
\]
Finally, Huang’s formulation of Chinese phrase structure, in some cases, forces him to stipulate which constituent is the head. For example, Huang (1998/1982, 34) claims that the verb-copying construction in (8) has the structure in (9). The crucial part of (9) is \( V'' \) and its two daughters, each of which is a \( V' \). To satisfy the \( \bar{X} \)-structure in (1), Huang (1998/1982, 34) claims that the right \( V' \) is the head of the \( V'' \). However, he does not provide any evidence for his claim, only to make it fall victim to stipulation.\(^7\)

\[\text{(8) } \text{Wo qi ma qi-de hen lei.} \]
\[\text{I ride horse ride-MM very tired} \]
\[\text{‘I rode a horse and as a result I became very tired.’}\]

\[\text{(9) } \text{Huang 1998/1982, 34}\]

\[
S \\
| NP | V'' |
| wo | \( V' \) | \( V' \)
| ‘I’ | ‘ride’ | ‘horse’ | ‘ride’ |
| qi | ma | qi | COMP |
| de | hen lei | \text{‘very tired’}\]

2.2 Li’s Account

In this subsection, we review another important account of Chinese phrase structure, namely Li’s (1990, 2008) Case account. According to Li, Chinese involves two levels of phrase structure, and underlyingly the language is head-final. However, because of the requirement of any overt
NP’s being assigned a Case and because of the left-to-right directionality of Case assignment in Chinese assumed by Li, PPs and VPs in the language become head-initial on the surface. As for NPs, they are head-final both underlyingly and on the surface because nouns do not assign Case.\(^8\)

This neat analysis of Chinese phrase structure is achieved, however, at the cost of leaving some counterexamples unsettled and of making language-specific assumptions which are against the standard assumptions of generative grammar. First, Li (1990) analyzes postverbal duration and frequency phrases as NPs. To account for the occurrence of such phrases after intransitive verbs (e.g. (10)), she claims that all intransitive verbs in Chinese can assign Case, which is really not a standard assumption in generative grammar.

(10) Zhangsan lai-guo liangci.
Zhangsan come-EXP twice
‘Zhangsan came twice.’

Second, Li’s Case account of Chinese phrase structure incorrectly rules out sentences like (11) because there are three postverbal NPs that need Case and there is only one Case assigner, namely the verb *qingjiao*. Li might approach this problem through incorporation.\(^9\) On this approach, the verb and the first two NPs form a complex verb that assigns Case to the frequency phrase. However, there is no evidence for such an operation. Furthermore, such a mechanism is not independently motivated. In addition, it would be quite a stretch to think that the verb and its subcategorized direct object and indirect object form a complex verb so as to assign Case to a non-subcategorized expression.

(11) Huang 1992, 254
Wo qingjiao-guo ta zhe-ge wenti liangci.
I ask-EXP he this-CL question twice
‘I asked him the question twice.’

Third, Li fails to account for sentences like (12). Recall that Li (1990) analyzes duration and frequency expressions as NPs. On her account, at the Surface Structure these expressions must occur
postverbally to meet the requirement of Case assignment. However, as shown in (12), contrary to the prediction of the constraint proposed by Li, duration and frequency phrases may also occur preverbally. Li (1990) does not discuss such counterexamples, and it is not clear how the frequency expression in (12) can receive Case at the Surface Structure because she assumes that Case is assigned from left to right in Chinese.

(12)  Wo liangci laifang, ni dou bu zai
   I twice come.and.visit you all not be.in
   ‘I came to visit you twice, but on neither of the two occasions you were in.’

Finally, as pointed out by Huang (1992), it is not clear how Cases are assigned when there are two preverbal NPs, as in the double nominative construction in (13). Since Li does not discuss whether the topic in the double nominative construction needs Case (and if so, how it is assigned Case), the construction shown in (13) forms a potential problem for her analysis.

(13)  Zhongguo lishi youjiu
   China history long
   ‘China has a long history.’

3. AN ALTERNATIVE ACCOUNT

   As can be seen from the above discussion, Huang’s (1998/1982) and Li’s (1990, 2008) characterizations of Chinese are not so accurate in the sense that they either encounter some counterexamples or make some wrong predictions. In this section, I propose an alternative account to remedy those problems, and on our account Chinese syntactic structure can be characterized as follows:

(14)  Chinese syntactic structure
  a. In terms of the order of the head and its NP or clause complement, Chinese is head-initial.
b. In terms of the order of the head and its PP complement, Chinese is head-final except that such PPs can also occur after the head if such an ordering conforms to the unfolding of the event in the real world.

c. In terms of the order of the head and the adjuncts, Chinese is head-final except when the adjunct is used to provide new information about degree or result or new (evaluative) information in terms of quality or quantity, particularly numerical quantity.

As can be seen from (14), the first two statements concern the order of the head and its complements and the third one is about the order of the head and the adjuncts. In the following subsections, we look at these two types of ordering in turn.

3.1 Order of the Head and Its Complement

(14a) predicts that as far as the order of the head and its NP or clause complement is concerned, Chinese is consistently head-initial. This prediction is confirmed by the examples in (15-17), in which all the complements are underlined. In (15-17), the first example in each pair involves an NP complement, and the second example involves a clausal complement. As can be seen from these examples, they all involve a head-initial structure, regardless of whether the head is an adjective ((15)), verb ((16)), or preposition ((17)).

(15) a. Ta hen manyi ziji-de gongzuo.
   he very satisfied self-MM job
   ‘He is very satisfied with his job.’

   b. Wo hen gaoxing ni neng zhaodao ziji-de xingfu.
   I very happy you can find self-MM happiness
   ‘I am glad that you can find your happiness.’

(16) a. Ta hen xiangxin wo-de hua.
   he very believe I-MM words
   ‘He very much believes my words.’
b. Wo xiangxin ta shi yi-ge hao ren.
   I believe he be one-CL good person
   ‘I believe that he is a good person.’

(17) a. cong Beijing dao Xianggang
       from Beijing to Hong.Kong
       ‘from Beijing to Hong Kong’
   b. zhiyu ta lai bu lai
       as.for he come not come
       ‘as for whether he comes or not’

While (14a) deals with cases where the complement is an NP or a clause, (14b) concerns the order of the head and its PP complement. It predicts that all such PPs can occur before the head. As shown in (18-20), in which all the PP complements are underlined, this prediction is borne out. Among these examples, (18) involves a noun head, (19) an adjectival head, and (20) a verbal head.

(18) a. dui diren-de jingong
       towards enemy-MM attack
       ‘the attack at the enemy’
   b. dui ta-de piping
       towards he-MM criticism
       ‘the criticism of him’

(19) a. Ta dui ziji-de gongzuo hen manyi.
       he towards self-MM job very satisfied
       ‘He is very satisfied with his job.’
   b. Wo zhen wei ta zihao.
       I really for he proud
       ‘I’m really proud of him.’

(20) a. Zhangsan gei Lisi ji-le yi-ben shu.
       Zhangsan to Lisi send-PERF one-CL book
       Intended: ‘Zhangsan sent a book to Lisi.’
b. Zhangsan zai zhuozi-shang fang-le yi-ben shu.
   Intended: ‘Zhangsan put a book on the table.’

On the other hand, (14b) also predicts that PP complements can also occur after the head if such an ordering conforms to the unfolding of the event in the real world. As shown in (21), this prediction is borne out, too.¹¹ In this respect, let’s also compare (21) and (22). In (21a), for example, the goal gei Lisi ‘to Lisi’ occurs after the verb ji ‘to send,’ and this conforms to the unfolding of the event of sending. As a result, (21a) is grammatical. As for (22), however, what he did should go before my feeling good, if there is any temporal ordering of the two at all. As putting the PP after the head violates the temporal constraint, (22) is predicted to be ungrammatical in Chinese and this is also borne out.

(21) a. Zhangsan ji-le yi-ben shu gei Lisi.
   Intended: ‘Zhangsan sent a book to Lisi.’

   b. Zhangsan fang-le yi-ben shu zai zhuozi-shang.
   Intended: ‘Zhangsan put a book on the table.’

(22) *Wo zhen zihao wei ta.
   Intended: ‘I’m really proud of him.’

3.2 Order of the Head and the Adjuncts
   As for the order of the head and the adjuncts, (14c) predicts that most adjuncts in Chinese occur before the head, as confirmed by (23). All the relevant adjuncts in (23) are underlined and they modify a head noun in (23a), a head verb in (23b), a head adjective in (23c), and a head adverb in (23d), respectively. In all these cases, the adjuncts precede the head. In (23a), for example, the underlined adjunct precedes the head noun shenghuo ‘life.’
(23) a. Women dou xihuan guo [xingfu-de shenghuo]. (NP)
   we all like spend happy-MM life
   ‘We all like to live a happy life.’

b. Zhangsan [kuaisu-de xiang wo pao-guolai]. (VP)
   Zhangsan fast-MM towards I run-DIR
   ‘Zhangsan ran fast to me.’

c. Ta bu xihuan chuan [tai gui]-de yifu. (AP)
   he not like wear too expensive-MM clothes
   ‘He does not like to wear clothes that are too expensive.’

d. Feng zai [jiqi menglie]-de chui-zhe. (AdvP)
   wind PROG extremely strong-MM blow-DUR
   ‘The wind is blowing extremely hard.’

Meanwhile, (14c) also predicts that adjuncts in Chinese should occur after the head if they are used to provide new information about degree or result or new (evaluative) information in terms of quality or quantity. As shown in (24), this prediction is also borne out. In these examples, (24a) involves a clause that indicates the degree or result of the running event, (24b) involves an adjunct that offers an evaluation in quality, and (24c-d) both have an adjunct that provides new information from the perspective of quantity. In (24c) the quantity is about duration, and in (24d) it concerns frequency. Crucially, in all these cases, the adjunct phrases or clauses occur after the head.

(24) a. Zhangsan pao-de tui dou suan le. (degree/result)
   Zhangsan run-MM leg EMPHASIS sore SFP
   ‘Zhangsan ran so much so that his legs were sore.’

b. Zhangsan-de Putonghua shuo-de hen hao. (evaluation; quality)
   Zhangsan-MM Mandarin speak-MM very well
   ‘Zhangsan speaks Mandarin very well.’

c. Wo deng-le ta san-ge xiaoshi. (quantity; duration)
   I wait-PERF he three-CL hour
   ‘I waited for him for three hours.’

d. Wo deng-le ta san ci. (quantity; frequency)
   I wait-PERF he three time
   ‘I waited for him three times.’
4. SOME SPECIAL CONSTRUCTIONS

In the above section, we have given an alternative account of Chinese syntactic structure, which I believe is more accurate, more exhaustive, and more natural than Huang’s (1998/1982) and Li’s (1990, 2008) accounts. In this section, I will show that our proposal can also account for some special or non-canonical constructions in Chinese, such as the ba-construction and the bei-construction.

The first construction to be considered is the ba-construction, as illustrated in (25). In (25a), the ba-NP shu ‘book’ is semantically an argument of huan ‘return,’ but syntactically it is realized as a PP complement introduced by ba, which is a preposition according to Huang (1998/1982) and Li and Thompson (1974). As a result, the occurrence of ba shu in (25a) preverbally does not count as a counterexample to our characterization of Chinese syntactic structure in (14). In fact, it is something actually predicted by (14b). As for (25b), the ba-NP men ‘door’ is not a syntactic argument of the resultative verb compound ti-chu ‘kick out,’ although semantically it is an argument of ti ‘kick,’ the first component of the compound. From a holistic point of view, ba men in (25b), in fact, functions as an adjunct, and therefore occur preverbally.

(25)  a. Ta yijing ba shu huan-le.
       he already BA book return-PERF
       ‘He already returned the book.’

       b. Zhangsan ba men ti-chu-le yi-ge dong.
          Zhangsan BA door kick-out-PERF one-CL hole
          ‘Zhangsan kicked out a hole in the door.’

Second, the bei-construction, as shown in (26). As is well-known, some Chinese passives allow a postverbal constituent, as illustrated in (26b). On my analysis, when there is no postverbal constituent as in (26a), there is an empty category that is coreferential with the subject of the sentence. That is, the overt NP Zhangsan-de che ‘Zhangsan’s car’ serves as the subject of the sentence, but the empty category coreferential with this overt NP functions as the complement of zhuang ‘hit,’ thus conforming to (14a). As for the bei-phrases in (26), they are syntactically adjuncts, just like the by-phrase in English passives (see, for example, the
English translations of (26)). As they do not provide new information about degree/result or new evaluative information as to quality or quantity, the bei-phrases occur preverbally, thus conforming to (14c).

(26)  a.  [Zhangsan-de che] bei ren zhuang-le.
    Zhangsan-MM car PASSIVE people hit-PERF
    ‘Zhangsan’s car was hit by someone.’

  b.  Ta bei jingcha moshou-le jiazhao.
    he PASSIVE police confiscate-PERF driver’s license
    ‘His driver’s license was confiscated by the police.’

Third, the verb-copying construction, as shown in (27). As pointed out by Huang (1998/1982, 34), the first VP in the verb-copying construction functions as an adverbial. As a result, it should be analyzed as an adjunct. Moreover, this adjunct does not provide new information as to degree or result or offer new evaluative information in terms of quality or quantity. Therefore, the occurrence of the first VP kan shu ‘read books’ before the main verb kan ‘read’ in (27) follows from (14c).

(27)  Zhangsan kan shu kan-de hen lei.
    Zhangsan read book read-MM very tired
    ‘Zhangsan read books and he became so tired.’

The fourth construction to be considered is the comparative construction as illustrated in (28). Note that the bi-phrase in the comparative construction is not a subcategorized complement but an adjunct. Furthermore, this adjunct does not provide new information about degree or result, and nor does it give new evaluative information about the eventuality in terms of quality or quantity. Therefore, the occurrence of the bi-phrase (e.g. bi ta gege ‘than his older brother’ in (28)) before an adjective or verb (e.g. gao ‘tall’ in (28)) also conforms to (14c).

(28)  Zhangsan bi ta gege gao.
    Zhangsan than he older.brother tall
    ‘Zhangsan is taller than his older brother.’
Finally, topicalization. With respect to topicalizations like (29), I assume that there is an empty category that is the complement of the verb and that is coreferential with the initial NP, although no movement is assumed. On this analysis, topicalizations are also consistent with our account of Chinese syntactic structure because the empty category, the complement of the verb, occurs postverbally and this conforms to (14a).

(29) [Na-ben shu], wo kan-guo .phi.
    that-cl book I read-exp

‘As for that book, I read it before.’

To summarize, our characterization of Chinese phrases structure in (14) can account for not only the canonical structures in Chinese but also some special or non-canonical constructions like the ba-construction, the bei-construction, the verb-copying construction, the comparative construction, and topicalizations.

5. CONCLUSION AND IMPLICATION

In this paper I have reviewed Huang’s (1998/1982) and Li’s (1990, 2008) accounts of Chinese syntactic structure and offered an alternative characterization. As can be seen from the above discussion, Chinese syntactic structure can be given a rather neat and natural account if we look at the three orders separately, namely the order of the head and its NP or clause complements, the order of the head and its PP complements, and the order of the head and the adjuncts.

As can also be seen from the above discussion, a successful characterization of Chinese syntactic structure cannot be carried out with syntactic terms alone. Rather, it also needs to take into consideration the function of the different constituents in the event being described. Recall that with respect to the order of the head and its PP complement and to the order of the head and the adjuncts, Chinese is head-final except that some adjuncts and PP complements can or should occur after the head. Crucially, this is not a random phenomenon. As discussed earlier, PP complements can occur after the head only when such an ordering conforms to the unfolding of the event in the real world, and adjuncts should occur after the head when they are used to provide new
information about degree or result or new (evaluative) information in terms of quality or quantity. That is, the occurrence of adjuncts and PP complements after the head is constrained by iconicity considerations and by the arrangement of information from old to new. Specifically, the fact that adjuncts expressing degree, extent, duration, frequency, or result occur postverbally can be explained by information arrangement and an iconicity constraint, which states that the order of syntactic constituents should reflect their function in a specific event (see Tai 1985, 1993, 2002). Because only after an eventuality takes place or lasts for a while can one talk about its degree/extent, duration, frequency, or result, such predicate modifiers should occur after the predicate when presented as new information. As for the occurrence of PP complements after the head, it is also conditioned by the iconicity constraint, as such an ordering takes place only when it conforms to the unfolding of the event in the real world.

I end this paper with mentioning two theoretical and methodological implications of this study. First, at least some aspects of syntactic structure can be better approached from a functional point of view. This is not something surprising because one of the metafunctions of language is “experiential” or “ideational,” i.e. to represent patterns of experience (Halliday 1994, 2004). The second implication is that as can be seen from section 2 and section 3 as well as from our review of the two previous purely structural accounts, Chinese syntactic structure can be better appreciated if we adopt a structural-functional approach.

NOTES

1. I am grateful to JCL and particularly to James Tai for their careful review and constructive comments on an earlier version of this paper, which was first presented at the 16th Symposium on Modern Chinese Grammar held at the City University of Hong Kong from June 8 to June 10, 2010. I am also thankful to participants of the Symposium, particularly Jianhua Hu and Sze-Wing Tang, for their helpful comments. Abbreviations: CL=classifier; DIR=directional; DUR=durative; EXP=experiential; MM=modifier marker; PERF=perfective; PROG=progressive; SFP=sentence-final particle.
2. Universal 7: “If in a language with dominant SOV order, there is no alternative basic order, or only OSV as the alternative, then all adverbial modifiers of the verb likewise precede the verb” (Greenberg 1966, 80).

3. Universal 3: “Languages with dominant VSO order are always prepositional” (Greenberg 1966, 78).

4. As Huang and A. Li do not present an account of the mixed word order of Chinese in their recent book with Yafei Li, namely Huang et al. 2009, my discussion will focus on their earlier works.

5. “YP*” means that more than one YP is allowed.

6. Huang (1998/1982) as well as Li (1990) analyzes words like *gaoxing ‘happy’ and *manyi ‘satisfied’ as adjectives although by Zhu’s (1982, 55) criterion that adjectives cannot take objects, they would not be adjectives but verbs. However, if they were really verbs, words like *gaoxing and *manyi would still pose a problem for Huang’s account. This is because (1) predicts that VPs in Chinese are also always head-initial as far as the order of the head and its complement is concerned. The fact that the complement of *manyi can occur before the head, as seen in (3b), shows that Huang’s prediction is not right.

7. With respect to the motivation for the verb-copying construction, Tai (1999) argues that this construction is independent of Huang’s phrase structure condition in (1) and that it is “primarily motivated by semantic and pragmatic factors” (p.115; see also p. 98 and p. 111).

8. In this respect, it should be pointed out that Tai (1973) may be the first to try to offer a neat account of the mixed word order observed in Chinese and the first to propose that the language, underlyingly, has the SOV order, though the surface SVO order is account for, in this case, not by Case theory, but by a rule of NP-V inversion, in which the relevant NP is moved to the right of the verb. Also, while Li still maintains her Case account, Tai has moved on to repeatedly point out the inadequacy of generative accounts of Chinese grammar and to account for Chinese word order primarily from a cognitive and functional perspective, which can be seen from his later works since Tai 1984, including Tai 1985, 1989, 1993, 1999, and 2002.

9. Li (1990) uses NP incorporation to account for a range of counterexamples to her proposal, including the ones in (i-iii) below. According to her, *zuo ‘sit’ and *zai ‘at’ in (i) form a complex or compound
verb and they together assign Case to the object NP *yizi shang* ‘on the chair.’ Likewise, in (ii) and (iii) the verb (i.e. *song* in the case of (ii)) and the NP immediately following it form a complex verb which assigns Case to the second NP in (ii) and to the clause following the second NP in (iii).

In this regard, note that Li (1990) assumes that clauses also need Case, though in her 2008 paper she tends to adopt the position that different types of clauses need to be recognized and not all of them need Case.

10. If we followed Zhu’s (1982) criterion that adjectives cannot take objects, *manyi* ‘satisfied’ in (15a) and *gaoxing* ‘happy’ in (15b) would be analyzed as verbs and would be grouped together with verbs like *xiangxin* ‘believe’ in (16). However, no matter whether words like *manyi* and *gaoxing* are analyzed as adjectives or verbs, their behavior conforms to the characterization of Chinese phrase structure in (14). This applies not only to examples like (15) but also to examples like (19) below.

11. (20a), on a different interpretation, means “Zhangsan sent a book on Lisi’s behalf.” Interestingly, the *gei*-phrase, now not expressing a goal, cannot occur in the postverbal position and have the same beneficiary interpretation. This provides further support for our position that subcategorized PPs can appear in the postverbal position only when such an ordering conforms to the unfolding of the event in the real world.

12. In this regard, see Li and Thompson (1975) and Xu (1995) for discussions of the relationship between definiteness and Chinese word order.

REFERENCES


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汉语句法结构的逻辑

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题要

本文提出，考察汉语句法结构时要兼顾结构和功能。文章认为，如果把象似性和信息状态考虑进去而且从以下三个方面来进行考察，我们对汉语句法结构就可以有一个比较工整而自然的描述和解释。本文指出，当补足语是名词短语或从句时，核心在前，补足语在后。当补足语是介词短语时，一般情况下补足语在前，核心在后，但介词补足语也可以居后，只要这样的语序与事件的展开相一致的。最后一个方面是核心和附加语的顺序。文章认为，在这一方面，汉语是附加语在前，核心在后，除非附加语是用来提供诸如以下方面的新信息的：程度、结果，或对质或量方面的评述。

关键词

汉语短语结构  汉语句法结构  核心在前  核心在后  补足语  附加语

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