Syntax, Premodern

→ Classical Chinese; → Ergativity in Classical Chinese; → Historical syntax; → Medieval Chinese Syntax; → Old Chinese Syntax: Basic Word Order; → Old Chinese Syntax: The Left Periphery; → Shāng 商 Chinese; → Warring States to Medieval Chinese; → Wh-questions, Premodern; → Yě 也 in Classical Chinese

Syntax-Phonology Interface

The study of the interface between syntax and phonology is a new area in modern linguistics. The term phonology in this interdisciplinary study specifically refers to prosody; it is therefore sometimes called prosodic syntax, i.e., the study of how syntax is constrained by prosody.

Prosody mainly concerns suprasegmental phenomena such as mora/syllable weight or length, stress, intonation, rhythm, etc. in natural speech (Liberman 1975). Although prosody can affect the meaning of an utterance (with different stress on different elements in a sentence or phrase, for example), not until recently has it been considered to affect syntax (i.e., the structure of the sentence).

In 1990 Zec and Inkelas first brought up the new idea of prosodically constrained syntax, which allows prosodically ill-formed sentences to be ruled out by a filter-like model in an interface system between syntax and prosody. Following the same line of thinking, Feng (1991) provided some evidence from Chinese for how prosody affected syntactic changes in Old Chinese. From that time on, more and more intriguing Chinese data (from both modern and classical Chinese) have come to light and more and more linguists have become involved in this new area of study, and so arose the commonly used term prosodic syntax in Chinese linguistics. A preliminary statistic on publications in the area of prosodic syntax in Chinese linguistics shows that there were only 16 articles published before 1990, but by the year 2010 more than 70 had appeared in peer-reviewed journals in China.

1. Facts Concerning Prosodic Syntax in Chinese

Over the past twenty years, the investigation of how prosody has constrained syntax has accumulated a rich body of evidence, as exemplified below.

First, as observed in Lǚ (1963), Lu and Duanmu (1997 [1990]), and Feng (1995), there is a general prosodic constraint in Chinese verb-object (VO) structures: the object cannot be monosyllabic if the verb is bisyllabic. Examples are given in (1a), and apparent exceptions in (1b) and (1c).

1. a. 种树
   zhòng shù
   *zhòngzhí shù zhòngzhí shù
   zhòng zhù
   ‘plant trees’
   *zhòngzhí shù ‘plant trees’
   zhòngzhí shùmù
   ‘plant trees’
   b. 他喜欢钱。
   Tā xǐhuan qián.
   3sg like money
   ‘He likes money.’
   c. 人害怕鬼。
   Rén háipà guǐ.
   people be.afraid.of ghost
   ‘People are afraid of ghosts.’

No one has denied the prosodically attributed ungrammaticality of the classic examples
in (1a). The exceptions are arguably conditioned by other factors, for example, the second syllable of the verb is neutralized in standard Mandarin (the grammatical judgment on (1b) and (1c) are thus marginal for speakers of other dialects that have no neutral tones) (Feng 1995).

The effect of prosodically constrained syntax in Chinese can also be seen in the well-known \( b\)ā construction, as follows.

2. a. 請你把燈關閉/*關。

Qīng nǐ bā dēng
please 2sg objm light

guān-bì/*guān.
close-close/close

‘Please turn off the light.’

a'. 我們把敵人包圍/*圍。

Wǒmen yǐ bā dírén
1pl already objm enemy

bāo-wéi/*bái.
surround-surround/surround.

‘We already surround the enemy.’

Another type of prosodically constrained syntax newly reported in the literature involves a more complex structure. A sentence in Chinese can be structured with an outer object (NP) occurring immediately after the “verb plus object” constituent, forming a \([\text{Subj } [[\text{V+O} \text{ NP}]]\) sentence (Féng 2002). For example:

3. a. 這個工作你負什麼責?

Zhè-ge gōngzuò nǐ fù shénme
this-clf job 2sg take what

zhé?
respon-
sibility

‘What kind of responsibilities are you taking on in this job?’

a'. 他負責任保衛工作。

Tā fù-zé (V-O) bāowèi
3sg take-responsibility security

gōngzuò (Outer Object).
job

‘He is responsible for the security job.’

b. 吸煙有害身體。

Xīyān yǒu hài (V-O)
smoke have harm

shēntǐ (Outer Object).
body

‘Smoking harms (one’s) health.’

The ungrammaticality of (4) is doubtlessly caused by prosody because the sentence becomes grammatical if the outer object is preposed:

4. a. *負責任保衛工作。cf. (3a)

*Fù zérèn (V-O) bāowèi

take responsibility security

gōngzuò (Outer Object).
job

b. *吸煙有害身體。cf. (3b)

*Xīyān yǒu shānghài (V-O)

smoke have harm

shēntǐ (Outer Object).
body

The only difference between fù-zé and fù zérèn, yǒu-hài and yǒu shānghài 有方案 is that the former VO forms are disyllabic while the latter ones are trisyllabic. This fact gives rise to a well-tested generalization in Chinese prosodic syntax: only disyllabic VO forms can take an outer object, a prosodic restriction called Prosodic Constraint on VP Syntax (henceforth PCVP).

Many VP structures are related to this constraint. A structure now frequently used in
relatively formal occasions exhibits the same prosodic effect, for example.

6. informal: 武松在景陽岡打虎。
Wǔ Sōng zài Jǐngyáng gǎng
武松 on Jingyáng hillock
dǎ hǔ.
beat tiger
‘Wǔ Sōng beat a tiger on the Jingyáng hillock.’

formal: 武松打虎景陽岡。
Wǔ Sōng dǎ hǔ Jǐngyáng gǎng
武松 beat tiger Jingyáng hillock
‘Wǔ Sōng beat a tiger on the Jingyáng hillock.’

The syntax of the above sentences is simply to replace the preposition zài ‘at’ with the VO constituent dǎ hǔ ‘beat tiger’, yielding a synthesized structure [[VO] NP_{place}], where the place-object (Jǐngyáng gǎng 景陽岡) of the preposition looks like an outer object of the VO (dǎ-hǔ ‘beat tiger’). According to the generalization of PCVP given above, if the VO is formed with more than two syllables, then the synthesized structure will be ungrammatical. This is borne out as a strict rule for the [[VO] NP_{place}] structure as in the following examples:

7. *武松打虎景陽岡。
Wǔ Sōng dǎ hǔ Jǐngyáng gǎng
武松 beat tiger Jingyáng hillock
‘Wǔ Sōng killed a tiger on the Jingyáng hillock.’

The most popular syntactic structure in Chinese, namely the verb-resultative (VR) construction, is also affected by prosody. A verb in Chinese can take an adjective as its complement to form a verb-resultative compound, and the VR compound can in turn take an object NP forming a standard VR construction. For example,

8. a. 你要想透這個問題。
Nǐ yào xiǎng tòu zhè-ge wèntí.
You should think thoroughly about this question.

The interesting fact concerning prosody in the [VR O] structure is this: when there is an object NP after the VR, the verb cannot take a disyllabic resultative complement, even if the disyllabic resultative complement is a synonym of its monosyllabic counterpart. For example,

9. a. *你應該要打牢基礎。
Xué yǔyán yào dǎ láogù jīchǔ.
One needs to lay a solid foundation when studying a language.

There is an exception: when the second syllable of the disyllabic resultative complement is neutralized, that is, the second syllable is atonicized, meaning the disyllabic adjective is not as heavy as two full-tone syllables, the sentence is acceptable. For example,

10. a. 張三想明白了這個問題。
Zhāng Sān xiǎng mínghái le zhè-ge wèntí.
Zhāng Sān think understand ASP question
‘Zhāng Sān understood this question (by thinking).’

b. 張三沒看清黑板上的字。
Zhāng Sān méi kàn qīngchu hēibǎn shàng de zì.
Zhāng Sān not see clear blackboard top sub character
‘Zhāng Sān did not clearly see the characters on the blackboard.’
Although no serious research has been conducted on grammatical judgment of (10) by speakers from dialects without tonal-neutralization, it is clear that in all of the acceptable cases of the [VR O] structure, the second syllable of the disyllabic resultative complement is neutralized. Nevertheless, the ill-formed and the exceptional cases are all subject to a prosodic constraint in standard Mandarin. And the prosodically disallowed structure *[V-RR NP] ('RR' refers to a disyllabic resultative complement) is syntactically well-formed if the object NP is preposed (via bā-construction for example):

11. a. 你把這個問題想透徹。
Nǐ yào bǎ zhè-ge wèntí
2sg should OBJM this-clf question
think thorough
‘You should think thoroughly about this question.’

b. 學語言要把基礎打牢固。
Xué yǔyán yào bǎ
learn language need OBJM
jíchū dà láogù.
foundation hit solid
‘One needs to lay a solid foundation when studying a language.’

2. The Government-Based Nuclear Stress Rule

So far, what we have seen from the above examples is that prosody interacts with [VO/R NP] syntax, which can be reduced to a simple VP constraint. In other words, if the V + Complement (including object, resultative complement, and PP complement that are required by the verb) is too heavy (i.e., the [V+Complement] is over three syllables long), then no extra constituent is allowed after the V(erb)+C(omplement) unit. This prosodic constraint brings up a previously observed and well-known, though bizarre behavior of Chinese syntax first formulated by Huang (1982) as a Phrase Structure Constraint: No two constituents are allowed after the main verb. The typical example is as follows.

12. *瑪麗學了中文三年。
*Mǎlì xué le Zhōngwén sān nián.
Mary study asp Chinese three year
‘Mary studied Chinese for three years.’

To avoid the violation of two constituents (Zhōngwén 中文 and sān nián 三年) after the verb, the sentence can be rendered grammatical via a variety of structural transformations (syntactic operations), such as:

13. By verb

    11a. 瑪麗學中文學了三年。
    Mǎlì xué Zhōngwén xué le sān nián.
    Mary study Chinese asp three year
    ‘Mary studied Chinese for three years.’

    By topicalization

    11b. Zhōngwén, Mǎlì xué
    Chinese Mary study
    le sān nián.
    asp three year
    ‘As for Chinese, Mary studied it for three years.’

    By the

    11c. bā-construction
    Mǎlì bǎ Zhōngwén xué le sān nián.
    Mary objm Chinese study asp three year
    ‘Mary studied Chinese for three years.’

Why is Chinese syntax doing this? Within the proposed prosodic constraint outlined above, the Phrase Structure Condition can be explained in terms of the Prosodic Constraint on VP Syntax in Chinese. Following Liberman (1975), Feng (1995) proposes that the Nuclear Stress of a sentence is, informally speaking, assigned...
by the verb to its mutually c-commanded (i.e., directly governed) complement, termed the Government-based Nuclear Stress Rule (G-NSR, for short). Since there is only one primary stress per sentence, only the directly governed complement gets the nuclear stress; the second constituent after the verb (or the complex verb V+C) is not allowed prosodically due to the lack of a proper stress in the sentence.

The G-NSR so proposed is supported by a cluster of facts. First, when the complement of a verb is inherently weak (a pronoun like “it” for example), then the second constituent is perfectly allowable after the verb because weak forms generally do not receive stress. For example,

14. a. 瑪麗學了它三年。
   Mary study ASP 3SG three year
   ‘Mary studied it for three years.’

b. 瑪麗想了她三年。
   Mary think ASP 3SG three year
   ‘Mary missed her for three years.’

Another prominent syntactic phenomenon in Mandarin directly affected by the G-NSR is the [V [P NP]] structure as seen in the following.

15. a. 那本書，他放在了桌子上。
   That book, he put on ASP top
   ‘As for that book, he put (it) on the table.’

b. *那本書，他放在了桌子 TOR.
   *That book, he put on ASP top
   According to the Phrase Structure Constraint seen above, a complement PP appearing after a main verb should be grammatical because there is only one constituent after the verb. However, as seen in (b) the organization of [V+PP] is not acceptable if the verbal suffix le (an aspectual marker) occurs after the verb and before the PP. The question thus is why the verbal suffix le must occur after the P and more specifically, is there some inherently syntactic constraint involved?

We now look at what syntax must do in order to save the syntactically ill-formed [V·le [P P NP]]: it is very strange, in the sense that the preposition zài is incorporated into the verb and the aspect marker le (standardsly attaches to the verb) attaches to the P within the “verb complex” [V-P], yielding an odd yet well-formed [V-P·le] in Chinese syntax. What motivates the P to attach to the V and the le to P? Prosodic syntax provides a very good reason why this must be so. Recall that the G-NSR demands that the Nuclear Stress be assigned to a complement directly governed by the verb. However, the object of prepositions is directly governed by P, not V; as a result, the Nuclear Stress cannot be assigned to the NP by V unless the P is moved out of the way. Unfortunately, there is no syntactic operation to move a P to a topic position (like an object), but fortunately, incorporation of P into V is a perfect head-to-head movement in syntax, as is the result of [V-P·le [P P ti NP]]. Obviously, the P-incorporation is an available syntactic operation in UG syntax (i.e., a part of universal grammar) and it is activated particularly in Chinese by the needs of prosody (i.e., the G-NSR).

The VP syntax in Chinese as seen above is heavily affected by NSR. Thus, prosody must be considered as part of the grammar not only ruling out prosodically ill-formed, though syntactically acceptable, sentences, but also activating relevant syntactic operations in order to meet the prosodic requirements.

As seen above, there have been different approaches to some but not all of the structures discussed here. For example, Huang (1994) has proposed a syntactic light verb structure to deal with the examples given in (12) while Li (1990) used Case theory to explain why aspect le attached to P in (15b). However, no explanations have been given as to why [V·N NP] in (7) and [VR NP] in (9) are ungrammatical syntactically. On the other hand, given the theory of prosodic syntax and the facts in Chinese, it is clear
that the interaction between prosody and syntax is bidirectional: Syntax influences prosody (for example [wō [chǐ fàn]) 找吃飯 ‘I eat food’ must first be grouped as a prosodic unit with the verb and the object syntactically), and prosody also affects syntax, as seen in this article. Furthermore, based on the ample evidence of prosodic syntax from modern as well as classical Chinese (i.e., prosodically motivated syntactic changes in classical Chinese, see Feng 1998), it is highly plausible to consider that prosody functions as a kind of morphology which not only affects the size and pattern of morphological units (compounding for example, → Disyllabification and → Prosodic Morphology), but also motivates syntactic operations both synchronically and diachronically.

BIBLIOGRAPHY


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Systemic Linguistics

Systemic Functional Linguistics (SFL), formulated most noticeably by M.A.K. Halliday (1976, Halliday and Matthiessen 2004/2008), views language as a system of choice of meaning, that means “[a] language is a resource for making meaning, and meaning resides in systemic patterns of choice” (Halliday and Matthiessen 2008:23). Three kinds of metafunctions, that is, meanings in three modes, are defined in SFL: ideational, interpersonal, and textual. The ideational metafunction construes human experience; the interpersonal metafunction provides choices of enacting personal and social relationships between people; and the textual metafunction relates to the construction of text. In terms of SFL, “the grammar of a language is represented in the form of system networks, not as an inventory of structures” (Halliday and Matthiessen 2008:23).

SFL was introduced into China in the late 1970s. A comprehensive presentation of SFL was given by Hú et al. (1989). Since then, there has been a large number of publications in this field. These studies have shown that as one of the theories of general linguistics, SFL is applicable not only to English, but also to Chinese. Although the systemic network of English grammar interpreted by Halliday and Matthiessen (2004/2008) can be shared by Chinese, some systems involved in differences between the two languages need to be adapted for Chinese grammar.