Conceptual word order principles and Mandarin Chinese grammar

Anna Morbiato
Ca’ Foscari University of Venice, The University of Sydney

Research on iconicity and word order in Mandarin Chinese (henceforth MC) investigates the correlation between the sequence of linguistic elements in the sentence and the temporal, spatial, and causal characteristics of the events they describe. Such correlations are captured through a number of organizational principles, generally referred to in the literature as conceptual or cognitive word order principles. Among the most significant principles are the principle of temporal sequence, the principle of temporal scope and that of whole-before-part. Conceptual principles are of great interest for several reasons: first, they exhibit an iconic nature and show how and to what extent MC word order (henceforth WO) mirrors both universal and culture-specific conceptualizations of space, time and cause-effect logical relations. As such, they are easy to understand and remember, thus providing interesting applications to MC language instruction. Moreover, according to Tai (1985, 1989, 1993), Ho (1993), Hu (1995) and Loar (2011) among others, such principles bear great explanatory power in that they underlie several seemingly unrelated syntactic patterns and constructions. This chapter provides an introduction to organizational principles underlying MC word order, with a specific focus on conceptual (or cognitive) principles, such as the Principle of Temporal Sequence (PTS) and that of Whole-Before-Part (WBP). Specifically, it presents (i) the theoretical approach they are grounded in, (ii) their potential in language description, as compared to grammatical rules, and (iii) their applications to language acquisition and discourse analysis. These principles are shown to operate both at the micro-levels of phrase and clause and at higher levels of discourse and text. The discussion avails itself of natural language in use; unless otherwise specified, all examples are drawn from corpora, such as the PKU corpus of Modern Mandarin Chinese, Peking University or Ho’s corpus of spontaneous spoken texts (Ho 1993: 14-6).

Iconicity and word order: the cognitive-functional approach

Research on cognitive principles in MC grounds itself in the cognitive-functional approach to word order (Tai 1989), which is a synthesis of three functional resources, i.e. the cognitive approach.

Acknowledgments: The author would like to acknowledge the support of the China Studies Centre at the University of Sydney through the provision of the 2017 CSC Research Students Support Grant.
(Lakoff 1987; Langacker 1987), the semiotic approach to iconicity (Haiman 1980; 1985) and the functional approach (Hopper and Thompson 1984). The basic tenet is that human beings’ conceptualization of their experiences of the physical world is ‘reflected in the language they speak and imposes constraints on linguistic structures’ (Biq et al. 1996: 100). The correlation between the order of sentence elements and the human experience of the events/states they represent goes back to cross-linguistic studies conducted on word order correlates and iconicity in the second half of the last century (Greenberg 1966; Haiman 1980). Iconicity refers to ‘conceived similarities’ between a linguistic form and its meaning/what it describes (Haiman 1980; 1985; Siewierska 1988). According to Haiman (1980: 537), ‘the structure of language reflects the structure of thought, […] which in its turn reflects the structure of reality to an extent greater than it is now fashionable to recognize.’

The cognitive-functional approach offers a number of interesting features and tools, which are capable of capturing correlations and commonalities between different constructions and WO patterns. First, the explanation of linguistic structures avails itself of schemas (or diagrams); schemas generally refer to ‘mental representations that code for the kinds of abstract spatiotemporal relations among objects—like paths, containment, contact and support relations—theorized to provide a conceptual base onto which language can be mapped’ (Amorapanth et al. 2012: 226). Such schemas are intuitively very easy to understand and memorize, in that ‘they occupy an intermediate position between abstract words and concrete percepts in a graded model of representation’ (Amorapanth et al. 2012: 226). In Peirce’s words, the merit of the diagram ‘springs from its being veridically iconic, naturally analogous to the thing represented, and not a creation of conventions’ (1931: 4368).

Second, this approach offers a different perspective to the study of both cross-linguistic and language-specific features. Cross-linguistic tendencies are seen as revealing universal conceptualization processes due to (i) common needs of human communication and (ii) biological and physiological structures of the human body and their interaction with the physical world. Among the main areas of research is human spatial cognition, namely how space is universally conceptualized through common abstraction schemas (Talmy 1988). On the other hand, language-specific patterns are regarded as conventionalized conceptual schemas shared by speakers of a specific language; language differences are considered reflections of dissimilar environments, cultures and conventional ways to conceptualize the same situation.

‘Due to different socio-cultural experiences, different peoples throughout the world may have

**Acknowledgments:** The author would like to acknowledge the support of the China Studies Centre at the University of Sydney through the provision of the 2017 CSC Research Students Support Grant.
different conceptions of physical reality, and those conceptual differences in turn contribute to the unique characteristics of their linguistic behaviors, which are reflected in the structures of human languages’ (Hu 1995: 26-7).

Third, this approach looks at language as a cognitive ability that is not separate from other cognitive functions nor independent of external inputs which speakers get from the environment. Hence, it integrates grammar-internal accounts of linguistic phenomena with system-external, functional explanations, connected to the communicative and socio-cultural context.

However, such an approach also presents some controversial points, specifically connected with the assumption that language reflects how speakers conceptualize reality and events. First, despite an increasing number of studies on the topic, it is difficult to find evidence demonstrating how space and time are cognitively represented in the human brain. Second, neuro-linguistic research to date has provided little empirical evidence regarding how events are conceptualized, and how these conceptualizations are reflected in linguistic structures. Little research has been conducted on the neural organization underlying our use of spatial schemas when thinking about space, and it is not clear whether nonverbal spatial relational information can be stored in the brain independent of language (Amorapanth et al. 2012: 227). Hence, some scholars hold more cautious positions on this point. Levinson (2003: 63), for example, maintains that while ‘it is clear that language abstracts from [sensory and motor systems of human cognition] in interesting ways, […] this abstraction tells us about language, not the underlying cognitive systems’. It is perhaps useful to think of word order principles as conventional linearization patterns shared by speakers in the same speaking community; in other words, they capture common ways in which schemas, which are typically multi-dimensional, are mapped onto the one-dimensional sequence of linguistic elements, adapting to the linearity of the linguistic sign (Haiman 1980).

**Mandarin Chinese: conceptual principles and their instantiations**

In his cross-linguistic investigation on iconicity and typology, Haiman (1985: 68-70) concluded that isolating languages are likely to be more iconic than those displaying a richer morphology. Research conducted by Light (1979), Tai (1985, 1989, 1993), Ho (1993), Hu (1995) and Loar (2011) among others suggests that MC nicely fits this generalization. This section briefly reviews their work, while

**Acknowledgments:** The author would like to acknowledge the support of the China Studies Centre at the University of Sydney through the provision of the 2017 CSC Research Students Support Grant.
the following subsections present some of their major insights on the applicability of the PTS, WBP and other conceptual principles to describe WO patterns, alternations and rules.

Among the first linguists to look at the correlation between WO and the temporal/causal characteristics of the described event was Light; his early studies examined the difference between pre- and post-verbal interpretations of noun phrases and locatives with respect to their temporal and spatial relations with the verb (as illustrated in example (11) below). The iconic nature of MC grammatical structures was then more thoroughly explored by Tai, who proposed the cognitive-functional approach as a new framework of analysis for WO in MC and singled out a range of cognitive-functional principles underlying grammatical structures and word order restrictions. These include (discussion and examples are provided in sections below):

i. Principle of Temporal Sequence

ii. Principle of Temporal Scope

iii. Whole-Before-Part

iv. Container-Before-Contained

v. Trajector-Landmark

vi. Modifier-before-modified

Ho (1993), Hu (1995) and Loar (2011) further elaborated the taxonomy of WO principles, integrating notions such as theme, topic and focus along with work on information structure conducted within the Prague School (Functional Sentence Perspective) and American Structuralism (Topic-Comment dichotomy). Functional principles capture WO variations due to communicative needs of language users, who construct a sentence ‘from the viewpoint of constructing a message’ (Loar 2011: 7). These functional principles include: the Principle of Topic, whereby elements conveying old information are placed at the beginning of the sentence to act as the topic, anchor or starting point; the Principle of End Focus, whereby new, salient, informationally important information is placed in the focal end position, while informationally predicable elements that are defocused occur earlier in the sentence; the Principle of Communicative Dynamism/Functional Sentence Perspective, which refers to the variation in communicative value between different parts of a sentence (for further discussion and examples see Loar 2011: 7-12). Other principles mentioned in the literature include those of

Acknowledgments: The author would like to acknowledge the support of the China Studies Centre at the University of Sydney through the provision of the 2017 CSC Research Students Support Grant.
Semantic Proximity (Haiman 1983), which captures the fact that semantically/conceptually related constituents are linguistically/syntactically closer, and Referential Precedence, whereby units of high referentiality tend to precede units of low referentiality in a clause and in the internal word order of a NP (Lu 1998).

While the taxonomies of principles vary with respect to terminology and number of principles (and sub-principles), they all emphasize the interaction between different types of principles: ‘any decision on a particular grammatical form is not a matter of applying one principle alone, but the result of the interplay between the two sets of the principles’ (Loar 2011: 12). Ho conducted a corpus analysis of natural oral data, analyzing the structure of discourse from three perspectives: thematic structure, information structure and conceptual principles. His study represents a significant contribution, as it demonstrated that a great variety of word order phenomena are in fact instantiations of a limited number of conceptual principles. These include (i) BA and BEI sentences and the restrictions they display with respect to definite vs. indefinite patients/objects; (ii) pre- vs. postverbal position of temporal, locative and manner and beneficiary phrases; (iii) position of condition, cause and manner subordinates; and (iv) modifier before modified order. Hu also further explored the interaction between different principles and elaborated a taxonomy of principles categorising them within three domains: conceptual, functional and grammatical:


iii. Grammatical domain: Modifier-Before-Head

Importantly, his work also showed that the interaction of these principles effectively explains other WO phenomena, including sentential starting points, pseudo-passives, presentative sentences, paratactic construction and inverted sentences. Loar further expanded the range of syntactic rules described in terms of organisational principles. Her Chinese Syntactic Grammar constitutes an in-

**Acknowledgments:** The author would like to acknowledge the support of the China Studies Centre at the University of Sydney through the provision of the 2017 CSC Research Students Support Grant.
depth, detailed analysis of a significant number of grammatical rules in terms of these principles, including the order of different types of adverbials (e.g. position, process, manner, attitudinal), complements (e.g. resultative, directional, potential, duration, degree), the order of clauses in complex sentences, the BA and BEI constructions, existential sentences and locative inversions, 是…的 shí… de, 连…也 lián… yě ‘even’ and other emphatic constrictions, clause order in complex sentences and various instantiations of topic-comment structures.

**The Principle of Temporal Sequence**

The Principle of Temporal Sequence (PTS) captures the fact that linguistic structures reflect the temporal sequence of states, situations and events that they represent. This type of iconic correlation has been observed to hold cross-linguistically by numerous scholars. In his seminal work on word order patterns and universals, Greenberg (1966: 103) remarked that ‘the order of elements in language parallels that in physical experience or the order of knowledge.’ Jakobson (1971: 350) observed that the ‘temporal order of speech events tends to mirror the order of narrated events in time or in rank’: in the sentence *Veni, vidi, vici* ‘I came, I saw, I conquered’, he maintains, a (near) universal iconic principle forces the order of clauses to correspond in general to the order of events. However, languages differ with respect to (i) the extent to which this principle holds as a word order restriction and (ii) the level of linguistic organisation this tendency applies to (i.e., phrase, clause, sentence, discourse). MC has a stronger tendency to hold to this principle in both these respects; according to Tai, PTS subsumes ‘a large number of word order rules hitherto regarded as unrelated’ (1985: 63). Tai (1985: 50) defined PTS as follows: ‘The relative word order between syntactic units is determined by the temporal order of the states that they represent in the conceptual world.’

In what follows, some significant instantiations of this principle in MC are provided, with a focus on the two aspects above, i.e. on PTS as (i) a comparatively more rigid WO restriction and as (ii) a tendency also holding at the microlevels of clause and phrase.

*Order of coverbs, verbs and predicates denoting temporally subsequent actions*: This principle constrains the relative order of: verbal compounds (1), resultative verbs (2), serial verb/pivotal constructions (3) and sequences of predicates (4). In all instances, the action, state or result denoted by the first verb/predicative element must temporally and logically precede that of the second, and
the reverse order is not possible:

1. 耕种 甘薯...
   zāipéi gānshū
   plant-foster sweet potato
   ‘Cultivating (lit. planting and fostering) sweet potato...’

2. 早餐 要 吃饱。
   zǎocān yào chī bāo
   breakfast must eat-(be)full
   ‘You must be full after eating breakfast.’

3. 请 你 开 一下 门。
   qǐng nǐ kāi yīxià mén
   invite 2SG open one-bit door
   ‘Would you open the door, please?’

4. 她 赶紧 上 街 买 晚报。
   tā gǎnjǐn shàng jiē mǎi wǎnbào
   3SG hurriedly go.on street buy evening paper
   ‘She hurriedly went out to buy the evening paper.’

Crucially, in English and in other morphologically richer languages, such as Romance, this principle is less prescriptive, due to the presence of other means of encoding the *consecutio temporum* allowing predicates to occur in reverse temporal order, e.g. verbal tense/mode (2), or other constructions (5):

5. 雨 来得快, 走得也很快。(Ho’s corpus)
   yǔ lái de kuài zǒu de yě hěn kuài
   rain come DE quickly leave DE also very quickly
   ‘The rain stops as quickly as it comes.’

In the English translations of (2) and (5), the order of the two clauses/predicative elements (underlined) does not correspond to the temporal order of the events they describe. The same order is however not possible in MC: in this case, the PTS is prescriptive.

**Acknowledgments:** The author would like to acknowledge the support of the China Studies Centre at the University of Sydney through the provision of the 2017 CSC Research Students Support Grant.
Order of elements at the clause level: the relative order between verbs and complements is generally dictated by grammatical rules (i.e. complements follow verbs). However, such rules do not capture the reason why in Mandarin certain locative or temporal elements are adjuncts and must precede the verb, as sān diǎn zhōng ‘at three o’clock’ in (6.a), while others are complements and must follow the verb, as sān ge zhōngtóu ‘for three hours’ in (6.b). Crucially, research on CSLA (Jiang 2009, Morbiato 2017) has shown that students find this particularly confusing.

6. a. We have a meeting at three o’clock.  (Loar 2011: 4)

我们三点钟开会。

wǒmen sān diǎn zhōng kāi huì

1PL 3 hour clock open meeting

b. We had a meeting for three hours.

我们开会开了三个钟头。

wǒmen kāi huì kāi le sān ge zhōngtóu

1PL open meeting open LE 3 CL hour

However, this type of rule is readily explainable from a conceptual perspective: the pre- vs post-verbal position of time expressions depends on their temporal and causal relation with the verb. Specifically, punctual time expressions are conceptually independent of the action (in Tai’s words, they are conceptually pre-existing, hence preverbal). Durative temporal expressions, on the other hand, are a form of measurement of the length of the action described by the verb. Logically, measurement can be carried out only after the action has taken place, and thus time duration expressions like sān ge zhōngtóu ‘3 hours’ necessarily follow the verb. Hence, they are complements (and not preverbal adjuncts). Similar considerations hold for other types of complements: resultative (2), frequency (7), quantity and degree (8) complements all give essential information about the action or event in terms of its result or resultative state. Since result (and measurement of result) follows action, it is logical and consistent with the PTS to have such information (underlined) appear after the verb:

7. 每年最少要到临汾去两趟。

měi nián zuì shǎo yào dào Línfēn qù liǎng tāng
evry year most few must arrive Linfen go 2 CL(time)

‘go(es) to Linfen twice a year at least.’

Acknowledgments: The author would like to acknowledge the support of the China Studies Centre at the University of Sydney through the provision of the 2017 CSC Research Students Support Grant.
8. 产品研究做得不够充分。

chānpín yánjiū zuò de bù gòu chōng fèn
product research do DE NEG enough adequate

‘Product analysis was not sufficiently carried out.

Again, English WO is not likewise constrained: in both the translations of (2) and (8), expressions encoding a consequence of the action (bǎo ‘be full’ in (2)), and measurement of the action (bú gòu chōng fèn ‘not sufficiently’ in (8)) precede the form denoting the action itself (chī ‘eat’ and zuò ‘carry out’ respectively). For further discussion and examples on complements, see Loar (2011: 115-202).

Among the motivations provided for this cross-linguistic difference is that temporal information is provided in languages both by morpho-semantic means (time expressions and verbal tense/consecution temporum) and by word order (whereby the sequence of words corresponds to the sequence of events referenced). Ho (1993: 142) convincingly observed that, in English, Romance and other Indo-European languages, time relations are signalled primarily by the tense system and other inflectional markers, whereas in languages lacking a surface marking system such as MC, information regarding the temporal sequence of events must be encoded through the relative sequence of elements and verbs (which are invariable in form).

The PTS also provides ready and intuitive ways to capture certain restrictions in argument alternations involving the BA construction. Objects cannot be fronted pre-verbally if they are the result of the action denoted by, for example, creation verbs like 写 xiě ‘write’ or 挖 wā ‘dig’; object referents for these verbs exist only as a result of the action indicated by the verb, and hence they cannot occur before the verb, in line with the PTS:

9. a. 挖洞了
wā dòng le
dig hole LE

b. * 把洞挖了
bā dòng wā le
BA hole dig LE

Intended meaning: ‘Dug a hole’.

Acknowledgments: The author would like to acknowledge the support of the China Studies Centre at the University of Sydney through the provision of the 2017 CSC Research Students Support Grant.

When the object of such verbs occurs preverbally, as in (9.c), where it is introduced by the BA morpheme, it is necessarily interpreted as a patient, and not as a resultant object, i.e. as existing before the action takes place, in accordance with the PTS. Specifically, the referent of dòng ‘hole’ in (9.c) is perceived as existing before the digger is requested to finish it, as expressed by the definite article in the English translation:

> c. …命令一个挖掘者来把洞挖完。

\[
\begin{array}{llll}
\text{mingling} & \text{yī ge wājuézhě} & \text{lái} & \text{bā dòng} & \text{wā wán} \\
\text{order} & \text{one CL digger} & \text{come BA hole} & \text{dig finish}
\end{array}
\]

‘(…) ordered a digger to finish digging the hole.’

*Word order permutations at the sentence level:* In some instances, two sequences of clauses/predicative elements are possible within the same sentence. For example, in the following pair, the two predicates/events mǎi piào ‘buy ticket’ and jìnqu ‘enter’ occur in opposite order. However, this necessarily involves change in meaning: the two events are interpreted as occurring in different sequences, in line with the PTS.

> 10. a. 我们没有买票进去（60元/人）。

\[
\begin{array}{llllll}
\text{wǒmen} & \text{méi yǒu} & \text{mǎi piào} & \text{jìnqu} & \text{yuán rén} \\
1PL & NEG & buy ticket & enter & 60 RMB person
\end{array}
\]

‘We didn’t buy the entrance ticket (60RMB/pax).’

> b. 走，我们进去买票吧！

\[
\begin{array}{llllll}
\text{zǒu} & \text{wǒmen jìnqu} & \text{mǎi piào} & \text{ba} \\
gō & 1PL enter buy ticket MOD
\end{array}
\]

‘Let’s get in to buy tickets.’

As shown in the translations, the different order of the predicates corresponds to the temporal and causal sequence of the events—buy the ticket and/to enter in (10.a) vs. enter and/to buy the ticket in (10.b).

---

1 Source: book 天使的眼泪 https://goo.gl/TL6TDz

**Acknowledgments:** The author would like to acknowledge the support of the China Studies Centre at the University of Sydney through the provision of the 2017 CSC Research Students Support Grant.
The PTS also helps explain why (and in which cases) only a limited number of prepositions/coverbs can occur after the verb, in addition to their canonical preverbal position. In most grammars, phrases such as *zài mǎbèi shang* in (11.a) are described as prepositional phrases, which need to occur before the main verb. On the other hand, when postverbal, as in (11.b), they are described either as exceptions to the above rule or as resultative complements. In this case, *在 zài* is regarded as a preposition in (11.a) and as a verb in (11.b); however, this fails to capture the formal parallelism between the two sentences:

11. a. 小猴子 *在* 马背上 *跳*。
   
   xiao houzi zai mabei shang tiao
   
   ‘The little monkey was jumping on the horse’s back.’

b. 小猴子 *跳* 在马背上。
   
   xiao houzi tiao zai mabei shang
   
   ‘The monkey jumped on the horse.’

Nevertheless, if considered in light of the PTS, the different order of the verb *tiào* ‘jump’ and the locative expression *zài mǎbèi shang* ‘on the horse’ reflects the temporal sequence of the states/actions they refer to. In (11.a) the location is before the verb, hence the monkey is perceived as being there before it started jumping, while in (11.b), the location is post-verbal and hence interpreted as the result of, and thus temporally subsequent to, the action of jumping. Crucially, in the English translations, this is encoded through different tenses (past continuous vs. past simple) and not through WO permutations. The PTS rightly postulates that in MC a locative expression follows a verb if the locality is a result of the action denoted by the verb. This holds true also for other prepositions/coverbs, such as *到 dào* ‘arrive, at’, or *给 gei* ‘give, to’. The PTS also captures why the postverbal position is generally restricted to result-related prepositions/coverbs (for further discussion see Ho 1993: 149-154).

There exist other apparent exceptions to the grammatical rule that coverbs/prepositions must occur before the main verb:

**Acknowledgments:** The author would like to acknowledge the support of the China Studies Centre at the University of Sydney through the provision of the 2017 CSC Research Students Support Grant.

12. a. 学习 如何 用筷子 吃饭，…
    xuéxí rúhé yòng kuàizi chī fàn
    'I learnt how to eat with chopsticks…'

b. 中国人 吃饭 用筷子， 不用 刀叉…
    Zhōngguórén chī fàn yòng kuàizi bú yòng dāochā
    'Chinese people eat with chopsticks, not with knife and fork.'

However, the interaction of principles readily explains this pattern: the PTS interacts with the Principle of End Focus (Ho 1993: 99-100), whereby the new/most salient piece of information is placed towards the end of the sentence. In (12.b), the salient part of the message is yòng kuàizi ‘use chopsticks’; hence it occurs at the end of the sentence. Crucially, the action of eating (chī fàn ‘eat meal’) is not anchored in time, but denotes a generic, referential and non-predicative activity, thus constituting a frame of validity for the following predication (see next subsection on WBP).

**The Principles of Temporal Scope, Whole-Before-Part and General-Preceding-Particular**

The idea that the general/whole/bigger occurs before the particular/part/smaller has been referred to in the literature in several ways. Tai (1985: 60) defined it with respect to the temporal scope of events: if ‘the conceptual state represented by a syntactic unit X falls within the temporal scope of the conceptual state represented by a syntactic unit Y, then the word order is YX’, which he illustrated with respect to the order of temporal expressions:

13. 1936 年 12 月 22 日 下午 4 时，西安 机场。
    nián yuè rì xiàwǔ shí Xīān jīchǎng
    'December 22, 1936 at 4PM, Xian airport.'

However, he then suggested that it relates to a more general scope principle, whereby constituents with a larger scope precede those with a smaller scope in both time and space (Whole-Before-Part). Ho uses the term General-Preceding-Particular, while Hu prefers the label of Container-Before-

Contained. Some decades earlier, Householder and Cheng (1967) called it Universe-Scope relation. All the above terms in fact refer to a common schema, which is captured by the following definition by Ho (1993: 165): ‘constituents representing a global scope (general or whole) should precede those that represent a smaller scope (particular or specific).’ It is noteworthy to point out that the logical relation between the different items can vary and includes: temporal scope (bigger to smaller temporal spans), spatial scope (bigger to smaller locations/areas), containment (container before contained), partitive relations (whole-before-part), set-subset-item of a set and body-part (the whole-body comes before the body parts), as well as setting-event/participant relations (whereby the setting precedes the linguistic expression denoting the event/event participants). This principle is of great interest, in that it operates as a word order restriction at essentially all levels of grammatical organization. In what follows, instantiations of this principle are presented at different levels (phrase, clause and sentence/discourse level).

**Phrase level.** As shown above, this principle regulates the inner order of temporal phrases such as dates, e.g. 22/12/1936 in (13); similarly, in locative phrases and expressions, e.g. the address in (14), elements are arranged from the biggest to the smallest item (whole>part, or container>contained):

14. 北京 朝阳区 金台西路 2号人 民日报 群众工作部
Běijīng Cháoyáng qū Jīntái Xī Lù 2 hào  Rénmín Rìbào qúnzhòng gōngzuòbù
Beijing Chaoyang Dst.Jintai West St. 2 n. People’s Daily Mass Work Department
‘People’s Daily Mass Work Department, 2 Jintai West Road, Chaoyang District, Beijing.’

The principle regulates the sequence of elements in phrases denoting percentages and fractions as well (the whole always precedes the fraction):

15. 投资比例 一般 不低于 百分之二十五。
tóuzī bǐlì yībān bù dī yú bǎi fēn zhī èrshíwǔ
invest ratio normally NEG be.lower.than 100 part of 25
‘The investment proportion is usually never lower than 25 per cent.’

Householder and Cheng’s (1967) study on nouns and their modifiers highlights this pattern also within NPs. In (16), the partitive relation within the postverbal NP nà bā bèn shū de sān běn ‘three of the eight books’ must respect the sets-subsets sequence:

**Acknowledgments:** The author would like to acknowledge the support of the China Studies Centre at the University of Sydney through the provision of the 2017 CSC Research Students Support Grant.
16. 我已经读过那八本书的三本。

wǒ yǐjīng dú guò nà bā běn shū de sān běn

‘I have already read three of the eight books.’

Crucially, English tends to order elements in the opposite way, i.e. with a part-whole sequence: this is true for dates, addresses and percentages, as translations of the above sentences show. This is an example of a language-specific conceptualization convention. In all the above cases, a part-whole order (as in the English translations) would be ungrammatical in MC.

Clause level: Several scholars have observed that, interestingly, the WBP regulates the order between different phrases and expressions within the clause as well. In discussing the principle of temporal scope, Tai points out that time and location adverbials (sentential or preverbal) all set a temporal/spatial scope within which the following predication holds: the temporal scope of the adverbial always contains the time extent in which the action/state denoted by the verb sketches itself, and hence can only occur before the verb, according to the WBP. Preverbal temporal expressions can mark either the beginning or the whole span of the temporal scope within which the action/state of affairs is chronologically located. In Loar’s (2011: 54) words, ‘all the time-position adverbials, whether denoting a point or a period in time, are ordered before the verbs they modify. They indicate the time when an action begins (a point in time) or happens (a period of time).’

17. 今年麦子长得这么高。

jīn nián mài zi zhòng de zhème gāo

‘This year the crop has been growing a lot.’

18. 从2007年起在全国农村地区推广。

cóng 2007 nián qǐ zài quán guó nóng cūn di qū tuīguǎng

‘…since 2007, (it) has been extended to rural areas all over the Country.’

19. 《辛丑条约》订了以后, 俄国不肯退出。

Xīnchǒu Tiáoyuē dīng le yī hòu Éguó bù kěn tuīchū

1901 Treaty conclude LE after Russia NEG consent withdraw
‘After the 1901 Treaty, Russia did not want to withdraw.’

In (17) the temporal frame within which the state of affairs expressed by the predicate occurs coincides with the time expression jīn nián ‘this year’. In (18) and (19) the time expressions—the phrase cōng 2007 nián qǐ ‘since 2007’ in (18), and the temporal subordinate Xīnchōu Tiáoyùé ding le yǐhòu ‘after concluding the 1901 treaty’ in (19)—denote the initial point of the time frame of the predication. Similarly, preverbal locative expressions, e.g. zài mǎbèi shàng ‘on the horse’ in (11.a), denote a spatial frame within which the action (in this case jumping) takes place: this is why it can, and must, occur preverbally. The schema holds for referential elements as well. For example, when bearing a partitive, set-member or container-contained semantic relation, two or more NPs in the sentence are ordered according to the Whole-Part schema, and the sentence-initial topic always denotes the whole. This is the case in sentences like (20), where the whole (nà bā běn shū ‘those 8 books’) occurs in topic position, while the part (sān běn, ‘three’) occurs postverbally, in focus position.

20. 那八本书 我 已经 读过 三本。
nà bā běn shū wǒ yǐjìng dú guò sān běn
that 8 CL book 1SG already read EXP 3 CL
‘As for the eight books, I have read three of them.’

Householder and Cheng (1967) stressed the parallelism between this type of clause and those like (16), where the whole-part relation is phrase-internal: crucially, in both cases the WBP is an absolute constraint, and no part-whole arrangement is possible. A similar pattern can be observed in sentence (21), where the NP denoting the whole (shū ‘book’) is not modified by a numeral and is interpreted either as having a general reference (books in general) or as referring to a contextually inferable group of elements, denoting the whole (‘those books’):

21. 书 我 已经 读过 三本。
shū wǒ yǐjìng dú guò sān běn
book 1SG already read EXP 3 CL
‘As for (those) books, I’ve already read three.’

This type of sentences has been analyzed in the literature as an instance of quantifier float, whereby

Acknowledgments: The author would like to acknowledge the support of the China Studies Centre at the University of Sydney through the provision of the 2017 CSC Research Students Support Grant.
the quantifier (the numeral-classifier group 三本, ‘three’) is detached from the head noun (书 ‘book’) and launched in postverbal (focal) position, according to the principle of End Focus. Crucially, both principles (End Focus for new information and General-Preceding-Particular) are respected, resulting in this specific and often not well-understood grammatical structure. Other instantiations of the whole-part schema include the following:

22. 吃啊，快餐最便宜。
   chī a, kuàicān zuì piányì
   eat TM fast-food most cheap
   ‘Talking about food, fast-food is the cheapest option.’

23. 他把那三个桔子都剥了皮。
   tā bǎ nà sān ge júzi dōu bō le pí
   3SG BA that 3 CL tangerine all peel LE skin
   ‘He peeled those three tangerines.’

In (22), often referred to in the literature as a double nominative construction, the semantic relation between the two NPs is that of hypernym (food) vs. hyponym (fast-food) or set-subset, whereas in (23) the semantic relation is that of entity (tangerine) and component (skin). As seen in the examples above, the position of the two NPs can vary with respect to the verb or to morphemes such as 把 bǎ and 被 bèi: they can be pre- and post-verbal, respectively, as in (20) and (21), or all preverbal, as in (22); the first NP can be introduced by BA, as in (23). However, with respect to each other, the order is fixed, as the whole must occur before the part/component/member of the set: the WBP is an absolute WO constraint. Crucially, in most cases, the whole occurs in topic position. The parallelism between the sentence-initial position, the whole (or universe, or general etc.) and the topic has been pointed out by a number of linguists, including Householder and Cheng (1967), Chafe (1976), Ho (1993) and Loar (2011). Chafe (1976: 50) insightfully defined topics in MC as frame-setters: ‘the topic in MC sets a spatial or temporal, but also an ‘individual framework within which the main predication holds.’

The sentence and the discourse level

As seen above, the WBP principle extends to the level of the sentence, and more generally, to the

Acknowledgments: The author would like to acknowledge the support of the China Studies Centre at the University of Sydney through the provision of the 2017 CSC Research Students Support Grant.
level of discourse organization. On the sentence level, it regulates the relative order of different clauses: specifically, it determines the relative order between subordinate and main clauses, the former providing a background/frame for the latter. The frame can be temporal, spatial, concessional, causal, hypothetical, and so on. Kirkpatrick and Xu (2012) and Ho (1993) observed how clauses can denote a temporal, spatial and conditional scope for what follows, and must be ordered according to the frame-event/participant sequence: that is why such clauses are placed sentence-initially. Chao Yuen-ren (1968: 120) also remarked that all concessive, causal, conditional, temporal and spatial clauses are in the last resort topics (and hence set a frame for the following predication, in the sense of Chafe (1976) mentioned above). The examples he provided include the following:

24. 我死了丧事从简
   wǒ sǐ le sāngshì cóngjiǎn
   1SG die LE funeral simple
   TOPIC=FRAME COMMENT
   ‘If/when I die the funeral should be simple.’

The clause wǒ sǐ le ‘if/when I die’ clearly provides the temporal/conditional frame for which the following comment sāngshì cóngjiǎn ‘funeral is simple’ holds (the funeral may not be simple if someone else dies). Similar considerations hold for (19), where the temporal subordinate (Xiānchōu Tiáoyuē ding le yihòu ‘after concluding the 1901 treaty’) denotes a time-frame for the following main clause. Haiman (1978) also highlighted a systematic association between conditionals, topics and topic definitions in terms of frame. In his words: ‘Conditionals, like topics, are givens which constitute the frame of reference with respect to which the main clause is either true (if a proposition), or felicitous (if not)’ (1978: 564). This is evident in MC in a sentence like the following, where the first sentence is interpreted as the condition (frame) of validity for the second, without any overt concessive marking:

25. 你不去，我去。
   nǐ bù qù wǒ qù
   2SG NEG go 1SG go
   TOPIC=FRAME COMMENT
   ‘If you don’t go, I’ll go.’

Acknowledgments: The author would like to acknowledge the support of the China Studies Centre at the University of Sydney through the provision of the 2017 CSC Research Students Support Grant.

In (25), on the other hand, the frame is temporal ‘during the time span when God created animals’ (from Ho’s (1993) corpus):

26. 上帝造动物，他并没有给动物这种能力。
   Shàngdì zào dòngwù tā bìng méiyǒu gěi dòngwù zhè zhǒng nénglì
   God create animal 3SG at.all NEG give animal this CL power
   TOPIC = FRAME COMMENT
   ‘When God created animals, He did not give them this power.’

Kirkpatrick and Xu also highlighted a commonality between topics, subordinate-main clauses and modifier-modified structures, i.e. they all set a frame of validity for the following part. They talk about ‘a sentence whose principal clause is preceded by a clause that sets the framework for it and it follows a modifier-modified sequence’ (2012: 111). They also pointed out that Chinese linguists refer to this type of pattern with the term 偏正复句 piānzhèng fùjù, literally modifier-modified complex sentence: the term 偏正 piānzhèng is traditionally used to describe the modifier-modified relationship in NPs (e.g. adjective- noun NPs) and has been extended to describe sentences that have a ‘modifying’ clause followed by a ‘modified’ clause.

Finally, Kirkpatrick and Xu drew a striking parallel between topic-comment, modifier-modified, big-small, whole-part, and the ‘because-therefore’ or ‘frame-main’ sequences in extended discourse and texts. According to them, the ‘frame-main’ and ‘whole-part’ are common Chinese sequencing patterns of discourse organization. They claim that the ‘because-therefore’ or ‘frame-main’ schema has operated in argumentative text since the Western Han period and later became the unmarked rhetorical sequencing in MC. Among the many examples, they discuss the following text from the Lùshì Chunqiu (also known in English as Master Lù’s Spring and Autumn Annals) highlighting the recursive rhetoric schema [BECAUSE] — THEREFORE or [FRAME] — MAIN (adapted from Kirkpatrick and Xu 2012: 42):

27. [未有蚩尤之时],
   wèi yǒu Chīyōu zhī shí
   not.yet there.be Chiyou PRT time
   民固剥林木以战矣,
   mín gù bō lín mù yǐ zhàn yǐ
  胜者为长。
   shèngzhě wéi zhǎng

Acknowledgments: The author would like to acknowledge the support of the China Studies Centre at the University of Sydney through the provision of the 2017 CSC Research Students Support Grant.
people indeed peel wood CONJ fight PRT  winner become leader

[Before the time of Chiyou, people would whittle pieces of wood to fight, and the winners became leaders.

[长则犹不足治之],
zhǎng zé yóu bùzú zhī zhī
leader though still not.enough govern PRON
so establish ruler

[The leaders still were not sufficient to put the people in order, so they set up rulers.

[君又不足以治之],
jūn yòu bùzúyí zhī zhī
ruler again not.enough.to govern PRON
so establish emperor

[Again, the rulers were not sufficient to put them in order, so they established the emperor.

They further maintain that arguments by analogy and by historical example naturally follow the rhetorical “frame-main” or “because- therefore” sequence, that ‘adheres to the fundamental principle of logical and natural sequencing in Chinese’ (128). They demonstrate this with examples taken from naturally occurring Chinese discourse and text, which include: a university seminar (informal), a press conference given by the Chinese Ministry of Foreign Affairs (oral, but prewritten), and a summary of a contemporary essay by author Lu Xun (written). Due to space restrictions, other examples of texts they provide cannot be reported here; for further discussion, see Kirkpatrick and Xu.

Applications to Chinese as a second language acquisition

As seen so far, conceptual principles and their iconic schemas are rather intuitive and easy to remember: this offers a wide range of applications for Chinese as a second/foreign language instruction. Both Jiang (2009) and Loar (2011) emphasized the potential of conceptual principles for language pedagogy, in that iconic schemas are easier to memorize and recall compared to grammar rules. Loar (2011: xix) stressed the fact that rules might ‘appear to be arbitrary and hard to remember’, whereas if the student understands the principle underlying the rules, ‘some of the arbitrariness disappears and word order study becomes easier’. Jiang (2009) provided an interesting application of different word order principles to Chinese L2 word order error analysis. Her research

Acknowledgments: The author would like to acknowledge the support of the China Studies Centre at the University of Sydney through the provision of the 2017 CSC Research Students Support Grant.
involved a cross-sectional study on word order errors committed by English L1 learners of Chinese. She categorized WO errors with respect to the following taxonomy: conceptual errors (violating WO principles such as the PTS or the WBP), grammatical errors (violating rules like modifier-modified order), functional errors (violating information structural rules like given-new order or topic-comment structures) and sociocultural errors. Jiang’s (2009) analysis provides a number of interesting results worth mentioning with respect to acquisition of word order in MC. First, the conceptual domain has a much higher error rate than the remaining three domains. Specifically, 79% of word order errors (319/404) fall within this domain. The Principle of Temporal Sequence (PTS) was found to have the widest application range in explaining Chinese L2 word order errors, followed by that of Whole-Before-Part: among the 408 WO errors, 249 (61%) occurred due to the violation of PTS and 70 (17.2%) violated the WBP (Jiang 2009: 206). Moreover, not only were conceptual WO errors rates the highest, but the conceptual domain also presented an increased tendency in WO errors from level 1 students (6.77) compared to level 3 students (10.45). Examples of word order errors she provided are reported below in the (a) version, whereas the (b) version reports the correct word order:

Violation of PTS:

28. ‘We spent eighteen years living in the UK.’

a. * 我们 一十八年 住 英国。 *ACTION>MEASURE COMPLEMENT
wǒmen yīshíbā nián zhù Yīngguó
1PL eighteen year live UK
b. 我们 住 在英国 十八年。
wǒmen zhù zài Yīngguó shíbā nián
1PL live (be) in UK eighteen year

Violation of WBP:

29. ‘Now I live in Brisbane, Australia.’

a. * 现在 我 住 布里斯本 澳大利亚。 *SPACE FRAME>PART
xiànzài wǒ zhù Bùlǐsīběn Àódàliyà
now 1SG live Brisbane Australia
b. 现在 我 住 澳大利亚 布里斯本。
xiànzài wǒ zhù Àódàliyà Bùlǐsīběn

Acknowledgments: The author would like to acknowledge the support of the China Studies Centre at the University of Sydney through the provision of the 2017 CSC Research Students Support Grant.
In (28), the temporal duration *shībā nián* ‘eighteen years’ measures the durative action of living *zhù*; hence it needs to be postverbal (durative complement), according to the PTS. In (29), *Àodàliyà* ‘Australia’ refers to a bigger spatial scope, namely a country, than *Bùlǐsīběn* ‘Brisbane’, which is a city in the country; hence the correct order is (29.b), in accordance with the WBP. Jiang hypothesized that the L2 learners’ conceptualization of the world is largely based on their L1 and attributes a significant number of word order errors to the fact that ‘the learners mapped their L1-based conceptualization onto their L2 structures’ (2009: 189). Nonetheless, she stressed the fact that MC language instruction should account for these types of principles as well: ‘learners did not seem to be aware of the Chinese word order principles, as their introduction is not a feature of current Chinese language pedagogy.’ She further remarked that Chinese textbooks do not introduce the basic Chinese word order principles, especially the conceptual ones: to improve learners’ word order performance, ‘the results of this study indicate that it is imperative for the basic Chinese word order principles be included in a CFL curriculum’ (Jiang 2009: 204).

**Conclusions**

This chapter presented conceptual principles governing word order in MC, with a focus on the Principles of Temporal Sequence and of Whole-Before-Part. The PTS is a cross-linguistic tendency, in that most languages tend to describe states and events in the sequence; however, in MC this tendency is comparatively more consistent, as a result of the lack of morphosyntactic means to encode temporal sequence; hence, it applies to different levels of linguistic organization, as discussed above. On the other hand, the WBP principle is an example of a language- or culture-specific conceptual and organizational principle: while MC necessarily displays the whole-part sequence, in English and other European languages, the part-whole order is more common. An interesting line of research relates this cognitive schema to the cultural or social factors that might have caused this fundamental difference: in this respect, I signal Misbett and Masuda’s (2003) and Nisbett’s (2004) studies on the difference between what they call ‘East Asian’ and ‘Western’ perception: they conducted surveys and analyzed historical, philosophical, social and belief-related factors that contributed shaping and reinforcing different cognitive patterns. Their observations nicely fit and

**Acknowledgments**: The author would like to acknowledge the support of the China Studies Centre at the University of Sydney through the provision of the 2017 CSC Research Students Support Grant.

reflect the whole to part and part to whole difference displayed in linguistic data discussed above:

East Asians tend to attach importance to the environment, which is seen as unified/whole with the elements it contains, while Westerners tend to focus on individual elements. The PTS and WBP principles account for a number of word order rules and restrictions in MC, including the sequence of preverbal elements (NPs, adverbials sentence-initial elements) and postverbal sequencing (complements in general). In particular, the WBP principle is of great interest, as it holds true both at the micro- and macro-levels of linguistic organization. Moreover, their inherent iconic nature renders them easy to learn and remember; hence, they have interesting applications in disciplines such as MC language teaching, which is still comparatively neglected, both as an area of linguistic research and as a teaching practice.

References


Acknowledgments: The author would like to acknowledge the support of the China Studies Centre at the University of Sydney through the provision of the 2017 CSC Research Students Support Grant.


Acknowledgments: The author would like to acknowledge the support of the China Studies Centre at the University of Sydney through the provision of the 2017 CSC Research Students Support Grant.


Acknowledgments: The author would like to acknowledge the support of the China Studies Centre at the University of Sydney through the provision of the 2017 CSC Research Students Support Grant.