

The Temporality of Chinese from the Perspective of Semantic Relations

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Abstract

The concept of time is encoded in language in different ways, which is reflected in temporal expressions, tenses, aspects and word order in languages. Some scholars claim that Chinese is a language characterized by temporality. This paper aims to explore what the temporality of Chinese refers to in both its narrow and broad senses, and the classification of temporality under the guidance of the iconicity of sequence as well as the word order principles. Moreover, some scholars hold a seemingly opposite view that Chinese is a language of spatiality—whether the two views are contradictory to each other is also discussed in the current study. The research mainly adopts the methods of literature analysis and retrospection. It is found that the temporality of Chinese mainly refers to the correspondence between the sequence of linguistic units and the temporal order of events or states represented in the conceptual world, and that temporality can be classified into natural temporality, cognitive temporality, and functional temporality. Then, this paper concludes that the viewpoint that Chinese is a language of temporality does not conflict with the opinion that Chinese is characterized by spatiality, as these two traits are concerned with two irrelevant aspects of language. However, it will posit that whether the property of temporality is consistent at every linguistic level in Chinese, even including characters, needs further exploration.

Keywords: Chinese, word order, temporality, iconicity of sequence

1. Introduction

Time has always been a hot topic in the fields of philosophy, physics, and psychology. Meanwhile, it also attracts the attention of linguists. The study of language in terms of time can be roughly divided into three types. The first kind of research focuses on issues concerning the time ontology of language. Non-Chinese scholars such as Vendler (1957), Comrie (1976, 1985), etc. are devoted to the exploration of tenses and aspects of languages. Chinese scholars such as Lü (1942), L. Wang (1954), and Gao (1957) have attended to the time system of Chinese. Unlike English, Chinese does not depend on the morphological changes of verbs to signal tenses and aspects, but relies on the dynamic auxiliary words of tense such as “着”, “了”, and “过” to mark time, which has driven Chinese scholars (e.g. L. Wang, 1958; Li & Shi, 1997) to study these words in detail. The second kind of research explores the time issue from the perspective of cognitive linguistics. The starting points are mainly the close relationship between the concept of space and the concept of time as well as the close relationship between the concept of time and the concept of motion. Scholars at home and abroad who are committed to such research include Lakoff and Johnson (1980), Talmy (2000), Lan (2003), Li (2017), etc. Another kind of research is concerned with the similarity between the nature of time and that of language. The concept of time is employed to define the property of language. Some scholars hold that Chinese is a language characterized by temporality. This is what our study mainly focuses on, so we start from the review of their literature.

2. Temporality: A Characteristic of Chinese

Although scholars have adopted different terms to generalize the nature of Chinese, their viewpoints are almost all similar. Humboldt once praised the close correspondence of Chinese sentences with the bare sequence of thought (see Robins & Lin, 1983). Tai (1985, 1989, 1993) proposed a range of cognitive and functional principles indicating the correlation between word order and conceptual world, among which the most important one is the principle of temporal sequence. According to Tai (1993), syntactic constructions in Chinese are to a great extent iconically motivated; among the iconic motivations manifested in Chinese identified by Tai (1993), one significant one is the order motivation. As Tai (1993, p. 159) put it, temporal sequence

is the most obvious and important order motivation. Guo (1978) also noticed the sequentiality of Mandarin Chinese. He (1978) compared the organization of Chinese sentences to building blocks, which seems like the combination of different types of phrases to form different sentences arbitrarily; in fact, the Chinese sentences are not organized randomly, but are formed according to objective facts which may be reflected in the correspondence between word order and the order of events. X. L. Shen (2008, p. 7) explored the differences between Chinese and English from the perspective of space and time in Western and Chinese cultures. He (2008, p. 7) believed that Western culture focuses on natural space and time, especially on the authenticity of space, while Chinese culture emphasizes more on time; the difference in the view of space and time in both cultures is reflected in English and Chinese, with these two languages forming two completely different sentence structures; English sentences take verbs as the core and various conjunctions are frequently employed to connect the linguistic elements, with the sentences showing a spatial structure; on the contrary, Chinese sentences develop in line with time and logical sequence, forming a linear structure, which displays a running-water appearance. He (2008, p. 7) held that this kind of sentence structure follows the so-called psychological time flow. In his contrastive study of English and Chinese, Y. Wang (1990) concluded that there is a strong correspondence between time sequence and word order in Chinese, namely, what happens earlier is stated before what happens later. Besides, researches carried out by Hsieh (1989), Hu (1995), Loar (2011), Morbiota (2019), among others, have all indicated that Chinese is relatively more temporal in nature. No matter what terms the researchers employ to describe the properties of Chinese, the essence is nearly all the same: linguistic elements in Chinese tend to be arranged in accordance with the temporal order of events or states represented in the conceptual world. For the convenience of research, we name this kind of property “temporality”.

Temporality is not a linguistic phenomenon only existing in Chinese and it was not first observed by Chinese scholars. Greenberg (1966, p. 103) adduced the example of “Veni, vidi, vici” (I came, I saw, I conquered) which follows the narrative sequence to illustrate that “the order of elements in language parallels that in physical experience or the order of knowledge”. Haiman (1980) discussed the linguistic phenomenon embodying the iconicity of sequence within the category of motivation, which indicates the direct reflection of certain aspects of the structure of reality in the structure of language. As Haiman (1980, p. 533) observed, the iconicity of sequence

suggests that events are described in the order of their occurrence. According to M. Zhang (1998, p. 154), the iconicity of sequence implies that the arrangement of linguistic structure in order corresponds to the arrangement of the order of concepts it expresses. Y. Wang (1999, p. 137) defined the iconicity of sequence as “the resemblance between the order of linguistic units and the order of events and cultural concepts”. Therefore, temporality, which investigates the correlations between the sequence of linguistic elements and the order of events or states in the conceptual world, is iconic in nature.

Despite the fact that many scholars at home and abroad have defined the concept of iconicity of sequence, and that there are many studies to prove the explanatory power of the theory, there is still an issue remaining to be specified. Temporality is concerned with the correlations between the sequence of linguistic elements and the order of concepts it expresses. What does the order of concepts refer to or what does the order of events or states in the conceptual world refer to? Some common examples used by scholars to illustrate the iconicity of the sequence include serial verb constructions denoting successive actions and adverbial clauses which naturally follow a temporal order or involve a causal relation. Such kind of proofs for temporality serve as a direct and obvious reflection of reality in language and are easy to observe and comprehend. In a narrow sense, temporality means that the order of linguistic elements parallels the order of narrated events in the physical world. We can find evidence in both Chinese and other languages. The famous saying proposed by Julius Caesar, “Veni, vidi, vici”, reflects that the order of clauses perfectly corresponds to the order of events. Verbal compounds in Chinese like 栽培 (plant-foster) denote successive actions. Jia (2019) distinguished two types of temporality: natural temporality and conventionalized temporality. According to her description, the instances listed above manifest a kind of natural temporality, which means that the word order of linguistic elements is in conformity with the temporal order of actual events. Nevertheless, semantic components do not always denote events that happened in the physical world, and there are other cases in languages where the semantic components are arranged in order, but not a chronological order. No matter whether it is natural temporality or non-natural temporality (or conventionalized temporality), it all reflects a kind of cognitive order underlying language. According to the description made by Greenberg (1966), M. Zhang (1998) and Y. Wang (1999), temporality is not restricted to the correspondence between word order and the order

of events in the physical world. It also includes the correspondence between word order and the sequence humans follow when perceiving something, namely, the cognitive sequence. This kind of temporality can be termed as cognitive temporality. Cognitive temporality may be universal or culturally specific. For example, when encoding part-whole relation in language, the Chinese tend to follow the whole-before-part sequence, whereas English speakers prefer to follow the opposite order. Moreover, Givón (1991, pp. 8-9) identified two separate principles of natural sequential order used extensively in syntax. The first one is semantic and coincides with what we discussed above. The second one involves the pragmatic use of word order. The principle is given as: “more important or more urgent information tends to be placed first in the string”. Sometimes, linguistic elements are organized according to certain principles, which are use-based or communication-based. The main function of language is to use it or communicate information, so we name this kind of temporality functional temporality. Therefore, temporality in its broad sense does not only involve natural temporality but also cognitive temporality and functional temporality.

The classification of temporality into natural temporality, cognitive temporality, and functional temporality is also consistent with the word order principles identified by Tai (1985, 1989). Through a thorough exploration of the iconic nature of Chinese grammatical structures, Tai (1985, 1989) singled out a range of conceptual (cognitive) and functional principles governing the word order in Chinese. These principles are the concrete manifestation of the iconicity of sequence in Chinese:

- a. The principle of temporal sequence (PTS)
- b. The principle of temporal scope (PTSC)
- c. The principle of whole-before-part (PWBP)
- d. The saliency principle (SP)
- e. The principle of information center (PIC)

The word order principles proposed by Tai (1985, 1989) can be categorized into three sets. The first set includes PTS, which is consistent with the aforementioned natural temporality. The second set involves PTSC and PWBP, which fall under the domain of cognitive temporality. The last two principles are concerned with communicating information, which agree with functional temporality. The three types of temporality will be elaborated in the following three sections.

3. Natural Temporality

By natural temporality, it is meant that the relative word order between two syntactic units is consistent with the temporal order of the events or states which they represent in the real world. In other words, the linguistic element representing what happens earlier is ordered before the linguistic element representing what happens later. The correspondence between the word order and the temporal sequence of states or events is observed cross-linguistically. A lot of evidence can be found in English exhibiting natural temporality. For example, when discussing the factors that may affect the ordering of English binomials, iconic sequencing has been mentioned most often in the literature (Malkiel, 1959; Fenk-Oczlon, 1989; Landsberg, 1995; Benor & Levy, 2006; Lohmann, 2014; Mollin, 2014). Iconic sequencing signifies that when two elements are perceived as existing in a chronological sequence, they should appear in that same sequence within a binomial (Benor & Levy, 2006). Malkiel (1959, p. 146) mentioned this kind of constraint by adducing the examples which suggest the straight time line, like *before and after* and *yesterday and today* and the examples presenting the relative timing such as *spit and polish* and *challenge and response*. Cooper and Ross (1975, p. 102) discussed the positioning of two verbs in a binomial by positing that if they are intended to be in a temporal sequence, the place 1 verb denotes the early action. The iconic constraint is particularly common in verbal binomials, but it is not only restricted to such binomials. It also applies to adjectives and adverbs which reflect a chronological and cause-and-effect sequence like *there and back* and *out and about*. Lohmann (2014) concluded that iconic sequencing is a principle that is seldom violated in English binomials with substantial evidence accumulated. Apart from binomials, there have been a number of studies suggesting that the positioning of adverbial clauses in English is consistent with the iconicity of sequence. For instance, Greenberg (1966) argued that purpose clauses follow the main clause more often because they refer to the intended endpoint or result of the activity expressed in the associated clause. Lehmann (1974) proposed that conditional clauses tend to precede the main clause because conditional clauses denote an event that is conceptually prior to the one expressed in the main clause. Diessel (2008) conducted research by using corpus data from both spoken and written English to investigate the effect of the iconicity of sequence on the positioning of temporal adverbial clauses marked by the

subordinating conjunctions *when, after, before, once, and until*. The result indicated that there is a clear correlation between the positioning of temporal adverbial clauses in English and the iconicity of sequence, with 72.3% of the clauses showing a preference for iconic order. If this is the case, why would Tai (1985) claim that PTS has great explanatory value in Chinese grammar and regard it as a general syntactic constraint? Why would Morbiota (2019) hold that the PTS is more prescriptive in Chinese than in English? Tai (2003, p. 37) agreed that PTS is universally exhibited in languages, but it is particularly transparent in Chinese grammar. The reason why the natural temporality is observed in many languages can be interpreted from different perspectives. Blakemore and Carston (2005) argued that natural temporality in language is attributed to the fulfillment of maxim of manner proposed by Grice (1981, p. 185), which requires the speaker to present their utterances in line with the chronology of the events being described. Givón (1985, p. 189) tried to explain this phenomenon by resorting to processing effort: all other things being equal, a coded experience is easier to store, retrieve, and communicate if the code is maximally isomorphic to the experience. In spite of evidence of natural temporality in English binomials and adverbial clauses, Chinese shows a stronger tendency of natural temporality. There are several reasons for this.

First, while substantial proofs show that the iconicity of sequence plays a crucial role in determining the word order of English binomials and the clause order in complex sentences, it must be emphasized that certain types of adverbial clauses are not consistent with the iconicity principle. In the research conducted by Diessel (2005), it was found that causal clauses from both spoken and written corpus tend to follow the main clauses which do not seem to be affected by iconicity, namely, the sequencing iconicity, as cause occurs ahead of the effect in temporal order. For instance, as for the typical causal clauses marked by “because”, an average of only 6.7% of because-clauses occurred initially (Diessel, 2005). The reason for the preference for the post-positioning of causal clauses in English is that causes and reasons are commonly expressed in sentences that function like independent assertions, providing communicatively important information. The pre-positioning of causal clauses may not serve a subsidiary discourse function like the post-positioning one (Diessel, 2005, p. 466). In other words, when competing with other factors like discourse pragmatics and processing motivations, the iconic factor may not override them. However, according to the research conducted by Y. F. Wang (2006), it was

found that causal clauses in Chinese take both pre-posed and post-posed positions out of the main clauses, and the initial and final clauses in the written data showed a nearly balanced distribution with the initial clauses taking up 56.3% of the total and the final clauses accounting for 43.7%. Iconicity of sequence is not the only factor determining the positioning of causal clauses. Nevertheless, the proportion of causal clauses taking the initial position in Chinese is much higher than that in English, which indicates that the iconic motivation is also stronger than that in English.

Second, as Tai (1985, p. 60) put it, PTS provides systematic explanations for a large number of word order phenomena, including conjoined sentences linked by temporal connectives, serial verb constructions, and verb compounds. Such linguistic phenomena indicate the close relationship between word order and temporal sequence in the real world. Apart from this, PTS also governs the word order of some seemingly unrelated facts, which include the positioning of locative adverbials, instrumental and manner adverbials, duration and frequency adverbials, resultative and extent adverbial complements, etc. Based on this, it should be noted that linguistic phenomena showing natural temporality can be identified at almost every level of linguistic organization in Chinese, including words, phrases, clauses, and sentences.

The third reason lies in the fact that Chinese is a non-inflectional language. Word order is an important means for Chinese to embody the temporal order, be it the natural temporal order or subjective-mental temporal order. However, English (as well as other Indo-European languages), which is rich in morphology, can reflect the time order through the inflectional changes of the verbs as well as other grammatical means, and does not necessarily depend on the word order to indicate the temporal sequence. For instance,

(1) He had flown in just the day before from Georgia where he had spent his vacation basking in the Caucasian sun after the completion of the construction job he had been engaged in in the South. (P. J. Zhang, 1980, pp. 30-31)

It is obvious that the linguistic elements expressing the action are not arranged in temporal order. The actual order should be “being engaged in in the South, the completion of the construction job, then basking in the Caucasian sun, and flying at last”. In this sentence, two attributive clauses and one preposition of time are employed, which allow the sentence to develop without following a temporal

order. The attributive clause “he had been engaged in in the South” following “the completion of the construction job” indicates that being engaged in the construction job happens before the completion of it. The use of the time preposition “after” suggests that spending his vacation basking happens after the completion of the construction job. Besides, the use of another attributive clause “where he had spent his vacation basking in the Caucasian sun” shows that flying from Georgia happens after spending his vacation. The grammatical means, such as the attributive clauses and the time preposition, not only help to connect four parts which indicate the events that occur at different times together but also allow them to be organized in a non-chronological order. The semantic content expressed in this example can also be organized according to the temporal order of the events, like “In the South he had been engaged in a construction job. After he completed the work, he went to spend his vacation in Georgia. There he basked in the Caucasian sun. And he had flown in just the day before.”

The rich grammatical means in English such as tenses, aspects, adverbial clauses, attributive clauses, and time prepositions enable its sentences to be arranged in a non-chronological order, as they can indicate time or temporal order per se. Both English and Chinese are subject to the restrictions of word order, only to different degrees and in different conditions. Besides, conjunctions are frequently used in English to connect the main clauses with the subordinate clauses and to show the semantic and logical relations between them, while Chinese main clauses and subordinate clauses may not be linked by conjunctions. When this is the case, word order may function as an essential cohesive means. That is, a Chinese complex sentence without conjunction develops according to temporal sequence in the extra-linguistic world so that it will not be misinterpreted.

4. Cognitive Temporality

Cognitive temporality means that the relative word order between two syntactic units mirrors the cognitive or perceptual order of the concepts represented in the conceptual world. That is to say, the linguistic element representing what is perceived earlier appears before what is perceived later in the conceptual world. Two conceptual principles proposed by Tai (1985) can be discussed under cognitive temporality: the principle of whole-before-part and the principle of temporal scope.

As suggested by Tai (1989, p. 202), “Chinese has a general linearization principle in which the whole is ordered before the part”. The whole-part relation is the conceptualization of spatial relations, indicating the positioning of the object with a larger scope and that with a smaller scope. As for the linguistic representation, the linguistic element representing the whole precedes that representing the part. The following example by Tai (1989) provides a persuasive evidence of this principle.

(2) 台湾, 台北, 罗斯福路三段, 九十九号。

‘Taiwan, Taipei, Roosevelt Road, Section 3, No. 99.’ (Tai, 1989, p. 202)

However, the idea suggested by PWBP has been referred to in the literature in different ways. Ho (1993) preferred the term general-preceding-particular. In his words, constituents representing a global scope (general or whole) should be ordered before those representing a smaller scope (particular or specific). Hu (1995, p. 41) distinguished between the principle of whole-before-part and the principle of the container-contained. Hu (1995, pp. 41-42) held that these two cognitive schemata are not exactly the same, though they have some overlaps. In order to illustrate this point, two examples are given as follows by Hu (1995, pp. 41-42).

(3) 五个苹果烂了三个。

‘Of five apples, there are three rotten ones.’

(4) 桌上有一本书。

‘There is a book on the table.’

According to Hu (1995), the initial elements of sentence (3) 五个苹果 (five apples) indicates the total number of the apples and 三个 (three ones) belongs to a part of it. Therefore, example (3) serves as an instance following PWBP. While in sentence (4), the initial elements 桌上 (on the table) symbolize the physical spatial frame in the objective world containing certain entities, and 一本书 (one book) represents the entity contained. Example (4) perfectly fits the Principle of Container-Contained. Nevertheless, sometimes these two principles exhibit some overlaps. Taking the address expression for instance, from left to right, it obviously presents a whole-part relation, as the geographical areas on the left indicate the whole, and the geographical areas on the right represent the part.

However, it also reflects a relation of the container and the contained at the same time, as the geographical areas on the right are contained by the ones on the left. Although Hu (1995) tried to make a distinction between the two principles, it is difficult to detach them thoroughly, because they are conceptually intertwined with each other. If the relationship between the whole and the part involves the inclusion relation, it is the relation between the container and the contained. Sometimes the relationship of the whole and the part does not involve the inclusion relation, and it is just concerned with two separate entities with different scopes in size, number, or universality. Despite Hu's (1995) attempt to separate the Container-Contained principle from PWBP, there is no need to do it this way, and the principle of the container-contained can be counted as a sub-principle of the general PWBP. PWBP can be counted as a general principle governing the whole-part relation in its broad sense, which is not only limited to the spatial relation in its narrow sense. As Morbiota (2019) observed, PWBP can be applicable to scopes in different domains. In terms of temporal domain, it involves bigger to smaller temporal spans; as for spatial scope, it deals with bigger to smaller areas or locations. In light of containment, it is concerned with container before contained. If it is about partitive relations, it follows the whole before the part. There are still some other domains with respect to this principle, which will not be elaborated in the current research. PWBP is based on human perception of the real world. J. X. Shen (1999) held that the whole is more salient than the part in general, as the bigger object is more prominent than the smaller object, and the container is more salient than the contained (or content) as the visible entity is more obvious than the invisible entity, etc. The whole-before-part order in the language is the reflection of the order of visual perception (Lu, 2002).

The word order in Chinese corresponds with the order of human perception, whereas the word order in English is inclined to follow a reverse order, namely from the part to the whole. The question is whether Chinese speakers and English speakers perceive the objects in the real world in different sequences, or whether only the reflection of the human perception sequence in these two languages differ from each other. Research conducted by Nisbett (2003) provided the evidence that East Asians and Westerners perceive the world and think about it in different ways: in terms of patterns of attention and perception, Easterners attend more to environment and Westerners focus more on objects. The perception difference nicely fits the biased preference for word order concerning the whole-part relations in these two languages.

Easterners tend to perceive the environment or the ground first when organizing linguistic elements, and the linguistic elements manifesting what they perceive earlier precede those representing what they perceive later. Therefore, the grammatical structures in Chinese are arranged following the whole-before-part order, and the opposite for English. Various factors (such as historical, philosophical, social, and belief related factors) are held to contribute to the shape and reinforcement of the different cognitive patterns by Easterners and Westerners (Nisbett, 2003). However, human beings are equipped with the same body structures and sensory organs, and Easterners live in similar natural surroundings as Westerners do, as they both have trees, air, water, sky, etc. Why do they perceive the objects in the physical world in different orders? According to the hypothesis of linguistic relativity, also known as the Sapir-Whorf hypothesis, the structure of a language affects its speakers' world view or cognition, and thus people's perceptions are relative to their spoken language. Is it possible that the part-before-whole order manifested in English is a conventionalized order and the perception order from part to whole is under the influence of language? Whether it is the influence of language on cognition or the influence of cognition on language remains to be explored.

PTSC deals with word order phenomena involving time expressions. As suggested by Tai (1985, p. 60), "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." It can be judged from this statement that the conceptual state represented by the syntactic unit Y is a bigger temporal scope in comparison with that represented by the syntactic unit X. It is also in line with PWBP, as the bigger temporal scope is the whole and the smaller temporal scope is the part. Therefore, PWBP can be considered as a more general principle, involving both spatial and temporal relations, and PTSC is actually a sub-principle of it, which is the result of metaphorization, namely, the space-time metaphor. The property of spatial relations from the whole to the part is projected into the temporal relations. Therefore, Chinese spatial expressions obey the principle of placing the whole before the part in word order, and the Chinese temporal expressions follow the same principle. An obvious example to illustrate this is the address order and temporal order in Chinese, both from the whole to the part or from the one in a large scope to a small scope. For example,

(5) 现在是二零一九年十二月二十七日，下午两点三十分。

‘It is now 2:30 p.m. December 27, 2019.’

Cognitive temporality is not limited to the word order tendency mentioned above. When it comes to certain grammatical structures like coordinate constructions, substantial conceptual principles can be identified to determine the word order as the elements in the coordinate constructions are of the same syntactic type and semantically related.

Cognitive temporality involves the tendency that the linguistic constituents representing what are perceptually more salient are ordered in front of those less salient. Lohmann (2014) adopted conceptual accessibility as a cover term to refer to the linguistic phenomena where the cognitively unmarked and thus more easily accessed constituent precedes the less accessible one. Cognitive temporality involves the temporality in vision, namely, the linguistic constituents which embody the property of being visually noticeable precede those less prominent. For example, the moving object is more easily detected in comparison with the static object. It is similar to the trajector-landmark relation, in which the moving object functions as the trajector and the static object serves as the landmark of the trajector. This is also reflected in Chinese, as we say 动静 (moving and still) instead of 静动 (still and moving). Apart from the saliency in vision, cognitive temporality also includes the fact that the cognitively more accessible element is inclined to appear before the less accessible one.

The linguistic elements representing the one related to human beings are cognitively more accessible and tend to appear before other less accessible ones. This can be interpreted by the Me First principle proposed by Cooper and Ross (1975, p. 67), which refers to the preference that the element which is close to the prototypical speaker (whom we will sometimes refer to as “Me”) is generally mentioned first. Lyons (1977, p. 638) also introduced a similar principle named the egocentric principle, which states that we as humans tend to take ourselves as the center of the universe. When we observe and construe the things in the world, we are likely to measure them from the viewpoint of ourselves and based on our own standard, despite their place in space and time, or some other aspects. Therefore, the linguistic elements denoting the relatively close distance, the present time, and human-related aspects are preferred to be ordered first. The subprinciples under the Me First Principle include

the following: animate before inanimate; proximal before distal; own before other; present generation before other; concrete before abstract, etc. For example, 家人和朋友 (family and friends), 明天和后天 (tomorrow and the day after tomorrow), 人和机器 (man and machine).

The positive before negative preference has been widely cited by both Chinese and non-Chinese scholars (Cooper & Ross 1975; Bock, 1982; Landsberg, 1995; Liao, 1992; Lu, 2002), and refers to the preference that the linguistic element which denotes the positively evaluated entity or concept tends to precede the one denoting the negatively evaluated one. This can be interpreted by the Pollyanna Hypothesis proposed by Boucher and Osgood (1969, p. 1), although it is originally used to assert that there is a universal human tendency to use evaluatively positive words more frequently and diversely than evaluatively negative words in communicating. It reflects that humans tend to “look on and talk about the bright side of life” (Boucher & Osgood, 1969, p. 1). Therefore, when ordering positive and negative elements at the same time, the positive one is more preferable and thus ordered before the negative one. For instance, 成功和失败 (success and failure) and 欢乐和痛苦 (joy and pain).

The prototype first preference means that the more typical concept is ordered before the less typical one, which can be interpreted by the prototype theory developed by Rosch and her co-workers (Rosch et al., 1976). According to the prototype theory, not all the members of a category have equal status within the category, and people have intuitions that some members within the category are better examples than others. Members which are judged to be the best examples of a category are regarded as the most central in that category and thus precede the less prototypical one when arranged in an order. The prototype theory also provides an account of levels of categorization (Croft & Cruse, 2004, p. 82). Basic level categories are most culturally salient and cognitively important, and display a high degree of class inclusion and a medium degree of generality. In comparison with the subordinate and superordinate level categories, the basic level category is more prototypical and therefore precedes other levels when ordered.

Within the vertical dimension, a preference for up before down has been suggested by researchers at home and abroad (Cooper & Ross, 1975; Benor & Levy, 2006; Lohmann, 2014; Wen, 2001; Lu, 2002). This has to do with the perception of gravity and the asymmetry of the human body in the vertical dimension, as the sensory

organs are on the upper part of our body. Besides, the vertical dimension is claimed to precede the horizontal one; in a psychological study carried out by Cooper and Klouda (1995), they provided evidence that movement on the vertical axis is easier to process than on the horizontal axis. For instance, 上下 (up and down), 天地 (heaven and earth), 手脚 (hands and feet), 山水 (mountain and sea), and 经纬 (longitude and latitude).

The sequence of linguistic elements which reflects the cognitive order in the conceptual world can be counted as cognitive temporality, which may be universal or culturally specific.

5. Functional Temporality

Tai (1989) took the position that the basic function of language is to communicate ideas and that grammatical structures arise by symbolizing reality. There exist certain linguistic phenomena displaying the property of functional temporality in Chinese. Tai (1989) proposed two functional principles, which fall into this category.

According to Tai (1989), Chinese grammar tends to place the focused element at the end of the sentence. Following Osgood's distinction between natural word order and salient word order (1980), Tai (1989) held that the linguistic phenomena holding on to SP are concerned with the speaker's interests, involvement, focus, etc. instead of human perception. There are some cases in Chinese where the ordering of linguistic elements does not embody the natural temporality mentioned above. For instance,

(6) 我没去开会，因为我病了。

'I didn't attend the meeting, because I was sick.' (Tai, 1989, p. 208)

我没去开会 (I didn't attend the meeting) represents the result and 我病了 (I was sick) refers to the reason. According to the order of phenomena in the physical world, the reason happens earlier than the result. The linguistic elements should have been ordered in correspondence with the natural order, according to PTS. However, in this case, the word order seems to violate the natural order in that the linguistic elements representing the result precede those representing the reason. The inconsistency between the word order and human perception of the order of phenomena in nature lies in the fact that the speaker tends to place what he/she intends to emphasize,

namely, the focus, at the end of the sentence. It can be noted that when different principles interact with each other, certain principles may override others. In this case, SP overrides PTS for a communicative purpose. SP can be used to explain some cases when PTS is violated, and it is not prescriptive in essence.

As Tai (1989, p. 210) stated, PIC refers to the linguistic phenomena that the asserted part of a sentence is ordered after the presupposed part. The information center is the asserted part by this principle.

(7) 他跑得不快。

He doesn't run fast.

In the example, 不快 (not fast) serves as the asserted information and thus the information center. It presupposes the fact that 他跑 (he runs). The difference between SP and PIC lies in that the former is concerned with the speaker's attitude, and the latter principle is independent of the speaker's attitude (Tai, 1989, p. 211). In other words, by SP, the speaker can package the information he/she intends to convey according to his/her interests or focus, whereas, by PIC, the arrangement of information is pragmatically driven. Haiman (1985, p. 237) concluded three motivations on functionalism, one of which says that "what is old information comes first, what is new information comes later, in an utterance". Tai (1989) agreed that PIC coincides with the given-new principle, with the given information ordered ahead of the new information. This principle is also consistent with the topic-comment structure in Chinese grammar, with the topic providing the background knowledge and the comment offering the new knowledge. This principle can also be interpreted from the perspective of the figure and ground theory in that the ground serves as the given information and the figure is more prominent and then comes after the ground. In Tai's words, this principle also manifests temporal order, though not the so-called natural order; it is the subjective-mental order. Therefore, it can be concluded that the linguistic elements ordered obeying this principle also reflect temporality, but this kind of temporality is based on the subjective-mental order.

If we say SP is dependent on the speaker's attitude, this principle is dependent on the listener's current knowledge. These two principles are both communication oriented. This kind of temporality underlying the Chinese syntactic structures is counted as functional temporality.

6. Temporality: Two Perspectives

At the end of his book, W. B. Wang (2018, p. 341) raised the question of “how Tai’s PTS could be effectively explained under his assumption that Chinese is characterized by spatiality”. We intend to address this question in this section

By a contrastive study of English and Chinese, W. B. Wang (2018) concluded that English is a language of temporality and Chinese is a language of spatiality. According to W. B. Wang (2013), English speakers and Chinese speakers perceive and understand the world in two different ways, with the former focusing more on time and the latter paying more attention to space. In order to verify this hypothesis, W. B. Wang (2018) provided a large amount of evidence from different perspectives and linguistic levels. Is this conclusion contradictory to the temporality of Chinese in our current discussion? To clarify this, a review of the definition of temporality in W. B. Wang’s literature is necessary. The trait of temporality in English mainly manifests in its focus on verbs. Verbs are closely related to tenses and aspects, which are concerned with time. Comparatively, the lack of inflectional changes, as well as more importance attached to nouns in Chinese, reflects that Chinese focuses less on time. Besides, another point reflecting the temporality of English lies in its connectivity, continuity, and irreversibility in linguistic representation. For example, English sentences are rich in conjunctions, which help to keep the cohesive relationship; the subject-predicate structures mainly serve as the focus of English sentences and the morphological changes are helpful to maintain the agreement relationships within the sentences; rich morphological changes and lexical means make the linguistic elements within sentences closely linked and related, displaying a one-dimensional trait just like time (W. B. Wang, 2018, p. 209). As for the spatiality of Chinese proposed by W. B. Wang (2018), it mainly refers to the advantage of nouns in Chinese at different linguistic levels. Nouns, especially concrete nouns, are mainly employed to represent entities in the physical world, which embody obvious spatial features. Another aspect pertaining to spatiality is the spatial appearance that certain types of sentence structures show, as W. B. Wang (2018) stated, chunkiness and discreteness, as a result of using several nouns within one sentence. W. B. Wang (2018) focused more on the competing advantage of nouns and verbs in one language and the appearance that the sentential structures present in that language. We are approaching the property of language from a different perspective, which is almost irrelevant to W. B. Wang

(2018)'s assumption. The temporality in the current research pertains to the property of Chinese that two or more linguistic elements are organized according to temporal order, including chronological order, perceptual order, and communicative order. In general, the current discussion focuses on the correspondence between word order and temporal order in a broad sense, which can only be detected by taking into consideration semantic factors, especially semantic relations between linguistic units. Identification of these relations can help us further consider the role of iconicity in language. Semantic relations function as a bridge between word order and sequence of states, events, perception or cognition, etc. in the extra-linguistic world. Therefore, we explore the property of Chinese from the perspective of semantic relations.

As the perspectives are different, the linguistic phenomena explored in these two studies are thus different. W. B. Wang (2018) concentrated on tenses, aspects, cohesion, etc. in English and specific linguistic phenomena in Chinese while we attend to the linguistic elements comprising of at least two parts at different levels of linguistic organizations. These include double-syllable words, binomials, clauses, etc., as only linguistic elements involving two or more parts are concerned with the ordering and will reflect the semantic relations.

When viewing an object from different viewpoints, our conclusion or judgment may differ. It is just like touching the elephant with our eyes closed. If we touch different parts of the elephant, our conclusion may vary. It is not to doubt the validity of one's conclusion, but to emphasize the variety of perspectives.

7. Conclusion

Time, as a basic conceptual category of human cognition, is encoded in language in different ways. The linguistic elements in Chinese tend to be organized according to chronological order, perceptual order, and subjective-mental temporal order, which can be summarized as the temporality of Chinese, and respectively correspond to natural temporality, cognitive temporality, and functional temporality. These three types of temporality have been explored in detail, and it has been found that the reason why Chinese shows a stronger tendency of natural temporality lies in its lack of explicit grammatical means which can mark time. Moreover, cognitive temporality may be universal or culturally specific and is not restricted to PWBP and PTSC when it comes to certain structures like coordinate constructions. SP and PIC, as proposed

by Tai (1989), fall into the category of functional temporality, and are concerned with the speaker's attitude and the subjective mentality respectively. Besides, a clarification is made pertaining to the temporality of English proposed by W. B. Wang (2018) and the temporality of Chinese in the current study, as they involve different aspects of language and therefore do not contradict each other.

The current research is a tentative exploration of temporality of Chinese. Whether this property is consistent at every level of Chinese, including characters, words, phrases, sentences and even discourses, remains to be further studied. Besides, how temporality is reflected in different syntactic structures such as the modification-head structure, the subject-predicate structure, and the verb-complement structure also needs further exploration.

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