

A Cognitive Grammar Study of the Modern Chinese Preposition “Zai”

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This paper conducts a systematic study of the preposition “zai” in Modern Chinese from the perspective of Cognitive Grammar. By analyzing the spatial positioning function, temporal positioning function, and abstract relation expression function of “zai”, it reveals the cognitive basis of its polysemy. The study finds that the semantic network of “zai” takes the spatial concept as the core, expanding to temporal and other abstract domains through metaphorical and metonymic mechanisms. The research adopts a combined method of cognitive grammar analysis, corpus analysis, and historical comparative method. Based on a large number of actual corpus data, it systematically investigates the synchronic distribution and diachronic evolution characteristics of “zai”.

Keywords: modern Chinese, preposition “zai”, cognitive grammar, polysemy

Introduction

Prepositions, as an important component of the Chinese function word system, play a key role in syntactic structures and semantic expressions. The preposition “zai” in Modern Chinese is a highly frequent and functionally complex preposition, whose semantic network and syntactic performance have long been a key topic in Chinese grammatical research. According to statistics from the BCC Corpus, the occurrence frequency of “zai” in written Modern Chinese is as high as 0.89%, and it even reaches 1.23% in spoken language, making it one of the most frequently used prepositions.

The preposition “zai” in Modern Chinese has long been a focal point of research in the field of linguistics. Numerous scholars have approached its study from diverse perspectives, yielding significant academic contributions. In earlier studies, scholars primarily focused on the categorization of “zai” as a part of speech and its grammatical functions (Liu, 1983; Zhang, 2001; Zhang, 2001; Ota Tatsuo, 2003; Wang, 2004; Shen, 2006). With the continuous development of linguistic theories, scholars began to explore the semantic extension of “zai” from a cognitive perspective (Shen, 1999; Fang, 1999; Cui, 1996, 2004; Mai, 2007).

Cognitive grammar, an important branch of cognitive linguistics, was systematically proposed by Langacker (1987). Its core idea posits that linguistic structures are essentially symbolic representations of conceptual structures. This theoretical approach provides a fresh perspective for explaining the polysemy

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phenomena in language. Within the framework of cognitive grammar, preposition studies particularly emphasize the role of “image schemas”. Johnson (2013) defines image schemas as “dynamic cognitive patterns formed on the basis of bodily experience”, such as basic schemas like “container-content”, “path”, and “connection”. These schemas are extended metaphorically to non-spatial domains, thereby generating a rich variety of polysemous phenomena in language. Conceptual metaphor theory (Lakoff & Johnson, 2008) serves as a key tool in cognitive grammar for explaining polysemy. This theory suggests that human cognition follows a “concrete to abstract” pattern, where the structure of concrete experience domains (e.g., space) is mapped onto abstract experience domains (e.g., time), enabling the extension and understanding of concepts.

Within theoretical framework of cognitive grammar, researchers have discovered that the extension of “zai” from spatial meaning to temporal and stative meanings is based on the metaphorical and metonymic mechanisms in human cognition (Chu, 2004; Yang, 2019). Although the role of cognitive mechanisms such as metaphor and metonymy has been recognized, the specific operational mechanisms and constraints of these processes in the semantic extension of “zai” have not been systematically and thoroughly explored. This paper aims to uncover the underlying patterns behind the semantic extension of “zai” by comprehensively and systematically examining the process of “zai” extending from its spatial meaning to more abstract meanings such as temporal and stative meanings, offering new perspectives and methods for research on Chinese prepositions.

The Spatial Function of “Zai”

As a typical spatial preposition, the primary semantic function of “zai” is to mark the existence or position of an object within a spatial context. According to corpus analysis, this usage accounts for approximately 42.7% of all instances of “zai” (based on a sample of 2,000 sentences). In its spatial usage, “zai” typically introduces a locative noun or phrase, forming the basic sentence structure “NP1+zai+NP2”, which indicates the spatial relationship between the subject (NP1) and the reference object (NP2).

For example, in the sentence “小鸟在树枝上停歇” (The bird is resting on the branch), “在树枝上” clearly indicates the spatial position of the bird as being on the surface of the branch. This structure primarily functions as an adverbial in the sentence, modifying the verb and indicating the location of the action. In “他在图书馆看书” (He is reading a book in the library), “在图书馆” acts as an adverbial, modifying the verb “看书” (reading a book), and indicates that the action of reading occurs within the spatial boundary of the library.

From the perspective of cognitive grammar, the spatial usage of “zai” primarily reflects two basic image schemas: “the container schema” and “the contact schema”. When the reference object is a three-dimensional container, such as in “书在箱子里” (The book is in the box), “zai” expresses an inclusion relationship, highlighting the “container-content” cognitive pattern. When the reference object is a two-dimensional surface, as in “画在墙上” (The painting is on the wall), “zai” expresses a surface contact relationship, reflecting the “contact schema”. The choice between these two schemas depends on the geometric characteristics of the reference object and the speaker’s perspective.

The spatial usage of “zai” also demonstrates a hierarchical structure. The most specific is the typical spatial inclusion relationship, which requires the reference object to have clear physical boundaries, such as “鱼在水里” (The fish is in the water). The next level is the quasi-spatial relationship, where the boundaries of the reference object are more ambiguous, such as “鸟在树上” (The bird is on the tree). The most abstract is the

functional spatial relationship, where the spatial attributes of the reference object give way to its functional attributes, as in “在岗位上” (On the post). This hierarchy reflects the complexity of how humans conceptualize spatial relationships.

It is also worth noting that “zai” forms complementary distribution with other spatial prepositions, such as “cong” (from) and “dao” (to). Comparing the sentences “书在桌子上” (The book is on the table), “书从桌子上掉下来” (The book fell off the table), and “把书放到桌子上” (Put the book on the table), we see that “zai” is specifically used to denote static spatial relationships, while “cong” and “dao” indicate starting and ending points, respectively. This division of labor reflects the systematic nature of spatial expression in Chinese and highlights the different image schemas emphasized by each preposition.

The Temporal Function of “Zai”

In addition to its spatial locative function, “zai” is also widely used in the temporal domain, accounting for approximately 31.5% of all its uses. The temporal usage of “zai” is a result of the metaphorical mapping of spatial concepts onto time, reflecting the basic cognitive metaphor of “time is space” (Lakoff & Johnson, 2008). In temporal expressions, the most typical syntactic structure is “zai+time noun”, where this structure primarily functions as an adverbial, modifying verbs, adjectives, or entire sentences to indicate the time when an action, behavior, or state occurs.

For example, in the sentence “我们在明天出发” (We depart tomorrow), “在明天” serves as an adverbial, modifying the verb “出发” (depart), and clearly specifies that the action of departing happens tomorrow. Similarly, “他在年轻时非常有活力” (He was very energetic in his youth), where “在年轻时” acts as an adverbial modifying the adjective “有活力” (energetic), indicates that the state of being energetic existed during his youth. Another example, “在疫情期间, 人们的生活方式发生了很大变化” (During the pandemic, people’s lifestyles changed significantly), where “在疫情期间” modifies the entire sentence, indicates that the event of lifestyle change occurred during the pandemic.

The temporal usage of “zai” shows distinct characteristics compared to its spatial usage. Firstly, the temporal reference has a unidirectional nature, which makes the “container” of time more abstract than that of space. For instance, the time range in “在春节期间” (during the Spring Festival) is defined by cultural customs, with subjective and variable boundaries. Secondly, the temporal usage of “zai” is often used in combination with tense markers, forming complex time expressions, such as “在吃饭的时候” (while eating) or “在发展的过程中” (in the process of development).

From the perspective of cognitive development, the temporal usage of “zai” also exhibits a clear hierarchical structure. The most basic is the specific time point, such as “在八点整” (at exactly 8 o’clock), which directly imports the spatial container schema. Next is the time period, such as “在九十年代” (in the 1990s), which not only marks the temporal position but also implies a categorization of historical periods. The most abstract is the expression of ongoing states, such as “在改进中” (in the process of improvement), where “zai” is close to a marker of aspect, indicating the ongoing state of an action.

Compared to its spatial usage, the temporal function of “zai” exhibits greater combinatory flexibility. It often co-occurs with other time markers such as “时” (time), “期间” (period), or “同时” (at the same time), forming compound temporal expressions. For example: “在他发言时” (when he is speaking), “在战争期间”

(during the war), “在努力学习的同时” (while working hard at studying). These expressions reflect the degree of grammaticalization of temporal concepts in Chinese and highlight the central role of “zai” within the temporal expression system.

The Stative Function of “Zai”

With the development of language, the usage of “zai” has gradually extended into more abstract domains, accounting for approximately 25.8% of all its occurrences. The expansion into abstract uses is primarily realized through metaphorical and metonymic mechanisms, reflecting the cognitive development from concrete to abstract concepts. In abstract uses, “zai” often introduces a state, condition, or scope, forming the structure “zai+abstract noun”, such as “在理论上” (in theory), “在某种程度上” (to some extent).

The abstract usage of “zai” is particularly adept at expressing cognitive and psychological states. For instance, “在考虑中” (under consideration) conceptualizes the thinking process as a container space, with the cognitive content located inside, reflecting the cognitive metaphor “the mind is a container”. Similarly, “在痛苦中” (in pain) spatializes emotional states, facilitating the understanding and communication of subjective experiences. These uses indicate that the organization of abstract concepts often relies on concrete spatial experiences.

From the perspective of cognitive grammar, the abstract uses of “zai” follow systematic patterns of conceptual mapping. The “location” in the abstract domain corresponds to prominent features or key elements of that domain. For example, “在本质上” (in essence) highlights the core attributes of a thing, “在历史上” (in history) emphasizes the importance of the temporal dimension, and “在理论上” (in theory) focuses on the constraints of a theoretical framework. These usages collectively form an abstract relational network for “zai”, enriching the semantic expression of Chinese.

Thus, the abstract use of “zai” not only extends its function beyond spatial and temporal markers but also illustrates how language can map abstract concepts onto familiar, concrete experiences, allowing for more nuanced and flexible expression of complex ideas.

Conclusion

This paper systematically examines the multifunctional system of the Modern Chinese preposition “zai” from the perspective of cognitive grammar. The study reveals that the semantic network of “zai” is centered around spatial concepts, which are expanded into the temporal and other abstract domains through systematic conceptual mapping mechanisms. This polysemy is not arbitrary; rather, it is based on shared human cognitive processes and bodily experiences. The main findings of the study can be summarized as follows:

Firstly, the spatial usage of “zai” reflects two basic image schemas: the container schema and the contact schema. The specific realization of these schemas depends on the geometric characteristics of the reference object and the speaker’s perspective. Corpus analysis shows that spatial usage accounts for approximately 42.7% of all uses of “zai”, making it the core usage.

Secondly, the temporal usage of “zai” (approximately 31.5%) is the result of the metaphorical mapping of spatial concepts onto the temporal domain, embodying the fundamental cognitive metaphor “time is space”.

The temporal usage of “zai” shows a hierarchical feature, ranging from specific time points to abstract time periods, reflecting the organization of human concepts of time.

Thirdly, the abstract usage of “zai” (about 25.8%) extends into domains such as cognition, psychology, and social relations through metaphor and metonymy. These uses follow systematic conceptual mapping rules, projecting spatial structures onto the organization of abstract concepts, thus forming a rich range of expressive means.

Finally, from a diachronic perspective, “zai” has undergone a grammaticalization process from a verb to a preposition, and the formation of its polysemous network follows an expansion path of “space → time → state (abstract)”. This process is driven by cognitive factors while also being constrained by the overall development of the Chinese grammatical system.

This paper highlights the dynamic relationship between cognitive processes and linguistic evolution, offering new insights into the multifunctionality of the preposition “zai” in Modern Chinese.

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