Analysis of Analogical Reasoning Thought in Ancient Chinese Language Cognition

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Abstract: The purpose of this article is to deeply explore the thought of analogical reasoning in ancient Chinese language cognition, and reveal its basic concept, historical origin, operating mechanism and far-reaching influence on language learning, cultural inheritance and modern enlightenment. This article systematically combs the rich connotation and wide application of analogical reasoning in ancient Chinese. It is found that analogical reasoning, as an ancient way of cognition and thinking, has effectively promoted the construction and semantic expansion of ancient Chinese vocabulary, and promoted the innovation of syntactic structure and the application of rhetorical devices. It makes ancient Chinese a profound and flexible language system, bearing rich cultural connotations and philosophical thinking. Through analogical reasoning, the ancients were able to transcend intuitive perception and form more complex and abstract concepts, which provided infinite possibilities for language learning and expression. The core result of this article is to reveal the core position and mechanism of analogical reasoning in the cognition of ancient Chinese language, which provides a new perspective for modern linguistic research and language teaching. This article holds that the idea of analogical reasoning is not only a valuable legacy of ancient Chinese language cognition, but also an important driving force to promote modern linguistic research and the development of language technology.

1. Introduction

In the long river of human civilization, language is not only a tool of communication, but also a carrier of cultural inheritance and way of thinking [1]. Ancient Chinese is an important part of Chinese civilization. Its rich and profound connotation carries the wisdom and philosophical thinking of countless sages [2]. Analogical reasoning, as an ancient and universal cognitive way, runs through the lexical structure, grammatical application and even rhetorical expression of ancient Chinese, which constitutes a part of the unique charm of Chinese [3-4]. Although the extensive application of analogical reasoning thinking in ancient Chinese is self-evident, there are few systematic and in-depth studies on its deep mechanism, development context and enlightenment to modern language cognition [5]. The purpose of this study is to reveal the cognitive logic and cultural background behind the analogical reasoning thought in ancient Chinese. This will help deepen our understanding of the linguistic characteristics of ancient Chinese, provide a new perspective for modern linguistic research, and promote cross-cultural communication and understanding.

The core purpose of this study is to deeply analyze the concrete expression, operation mechanism and historical evolution of analogical reasoning thought in ancient Chinese language cognition by carefully combing the ancient Chinese corpus and combining with philosophy, logic, linguistics and other multidisciplinary theories. The research scope is limited to ancient Chinese. This period is a key stage for the formation and development of analogical reasoning, and it can also be used as a key period for the Chinese language system to mature. By focusing on this period, this study hopes to more accurately grasp the profound influence of analogical reasoning on the language structure, semantic development and even cultural expression of ancient Chinese.

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2. Analogical reasoning thought in ancient Chinese

2.1. The concept and historical origins of analogical reasoning

Analogical reasoning is an ancient way of cognition and thinking. Its core lies in understanding and explaining unknown things or concepts through known things or concepts-logical reasoning based on similarity, correlation or analogy between things [6]. In ancient China, analogical reasoning was not only a philosophical thinking method, but also deeply rooted in people's daily life and language use. It emphasizes the thinking process from the individual to the general, from the concrete to the abstract. Through comparison, association and induction, it discovers the internal relations between things, and then achieves the purpose of understanding new things and new ideas [7]. The embodiment of analogical reasoning in ancient Chinese is often manifested in deducing, understanding or creating new language expressions through known words, sentence patterns or contexts, which embodies the profound and flexible cognitive way of the ancients about the world [8]. The embodiment of analogical reasoning in China's philosophy is shown in Table 1:

Table 1 Manifestations of Analogical Thinking in Chinese Philosophy

Philosophical School	Classic/Figure	Manifestation of Analogical Thinking	Description and Influence
Yijing Philosophy	Yijing	Hexagram Reasoning, Mutual Transformation of Yin-Yang and Five Elements	Through the arrangement and combination of eight trigrams, it reveals the interconnections and laws of change among all things in the universe, providing a philosophical foundation for analogical thinking with profound influence.
Confucianism	Confucius	"Learn One and Infer Three"	Emphasizes understanding and generalizing from one instance to similar situations, embodying Confucian analogical thinking and promoting knowledge transfer and application.
Taoism	Taoists (e.g., Laozi, Zhuangzi)	"Tao Follows Nature", Observing Nature to Infer the Great Tao	Focuses on grasping natural laws, advocating the observation of natural phenomena to infer the essence of the universe, and promoting a lifestyle of following nature and returning to one's true self.

2.2. The embodiment of analogical reasoning in ancient Chinese

In ancient Chinese, the manifestation of analogical reasoning is ubiquitous. At the lexical level, ancient people often used analogies to create words [9]. For example, the characters next to the word "wood" are mostly related to trees, while the characters next to the word "water" are mostly related to water. This way of word creation not only facilitates memorization, but also reflects the inherent connections between things. Grammatically, analogical reasoning thinking has led to the formation of many sentence structures in ancient Chinese, such as deriving new sentence patterns from known ones or inferring omitted elements from context, making language expression more flexible and varied. Rhetorically, analogical reasoning is widely used, such as metaphor, metonymy, symbolism, and other rhetorical devices. These are all mapping, explaining, or beautifying unknown things through known things, enhancing the expressive and infectious power of language. This article argues that the manifestation of analogical reasoning in ancient Chinese enriched the forms of language expression and deepened the cultural connotations of language. It is an important key to understanding the cognitive and expressive logic of ancient Chinese language.

3. Analogical reasoning mechanism in ancient Chinese language cognition

3.1. Analogical reasoning and concept formation

The ancients observed natural and social phenomena, discovered similarities and correlations

between things, and then used these connections to construct and expand conceptual systems. This reasoning process from concrete to abstract, from individual to general, not only enriches the vocabulary of ancient Chinese, but also promotes people's deeper understanding of the world. Analogical reasoning thinking enabled ancient people to transcend intuitive perception and form more complex and abstract concepts, laying a solid foundation for the language expression and thinking development of ancient Chinese.

3.2. The role of analogical reasoning in semantic expansion

The extension of semantics is an important aspect of language development, and the anatomical reasoning mechanism plays a key role in it. In ancient Chinese, the original meanings of many words constantly evolved over time, often achieved through analogical reasoning thinking. For example, the word "Dao" originally only referred to the path, but through analogical reasoning, its meaning gradually expanded to refer to the laws of operation of all things in the universe, life philosophy, and even moral principles. This semantic expansion not only increases the expressive power of vocabulary, but also reflects the deepening of ancient people's understanding of the world. Analogical reasoning enables vocabulary to carry more philosophical thoughts, making ancient Chinese a language rich in philosophy.

3.3. Analogical reasoning and the innovation of syntactic structure

The innovation of syntactic structure is one of the important signs of language development, and the anatomical reasoning mechanism plays an important role in it. In ancient Chinese, many complex syntactic structures were gradually formed through analogical reasoning thinking, as shown in Table 2:

Table 2 Syntactic Structures Formed by Analogical Thinking in Ancient Chinese

Original Structure	Complex Structure Formed by Analogy	Meaning and Usage Example
Subject-Verb Structure (S+V)	Subject-Verb-Object Structure (S+V+O)	E.g., "I love books" (S+V) is analogized to "I buy books" (S+V+O), adding the recipient of the action for a more complete expression.
Verb-Object Structure (V+O)	Verb-Object-Complement Structure (V+O+C)	E.g., "Finish writing homework" (V+O) is analogized to "Write very well" (V+O+C), using a complement to further describe the result or state of the action.
Simple Sentence	Coordinate Sentence	E.g., "I go" (Simple Sentence) and "You come" (Simple Sentence) are analogized to "I go, you come" (Coordinate Sentence), expressing two relatively independent but related actions or events.
Simple Sentence	Complex Sentence (Containing Subordinate Clauses)	E.g., "I know" (Simple Sentence) is analogized to "I know he has come" (Complex Sentence), introducing more information through subordinate clauses to express more complex ideas.
Noun Phrase	Noun Clause (As Subject, Object, etc.)	E.g., "Book" (Noun) is analogized to "The book I read" (Noun Phrase), and further analogized to "The book I read is very interesting" (Noun Clause as Subject), increasing the richness and precision of the description.
Adjective + Noun	Adjectival Clause (As Attributive)	E.g., "Red apple" (Adjective + Noun) is analogized to "The red apple I bought yesterday" (Adjectival Clause as Attributive), providing more specific information such as time or source through the clause.
Adverb + Verb	Adverbial Clause (Expressing Time, Condition, etc.)	E.g., "Run quickly" (Adverb + Verb) is analogized to "When I see the dog, I run quickly" (Adverbial Clause), introducing the time or condition of the action through the adverbial clause.

The innovation of this syntactic structure has made the expression of ancient Chinese more diverse and precise, reflecting the profound understanding of language structure by the ancients.

3.4. Analogical reasoning and the application of rhetoric

The application of analogical reasoning thinking in rhetoric is an important part of the charm and cultural connotation of ancient Chinese language. In ancient Chinese, metaphor, metonymy, symbolism and other rhetorical devices were all realized through analogical reasoning thinking. Metaphor describes the unknown with what is known by finding the similarity between two things. Metonymy replaces the whole with a part through the association or symbolic meaning between things. Symbol represents abstract concepts or emotions through concrete things. The use of the above rhetorical devices makes the expression of ancient Chinese more vivid and infectious, and can show the ancient people's pursuit of language art and profound and unique understanding of the world.

4. The influence of analogical reasoning on the cognition of ancient Chinese language

4.1. The influence of analogical reasoning on language learning

Analogical reasoning thought plays a vital role in the study of ancient Chinese language. It can help students master vocabulary and grammar more efficiently and cultivate their language intuition and thinking ability. With the help of analogical reasoning, learners can explore and understand unknown language phenomena from the known language knowledge. This way of learning not only conforms to the principle of "transfer learning" in cognitive psychology, but also shows the spirit of "drawing inferences from others" in ancient Chinese learning. Analogical reasoning thinking makes language learning no longer just a mechanical memory and imitation, but a creative understanding and application process. For this reason, the thought of analogical reasoning is not only an important tool for learning ancient Chinese language, but also an effective way to cultivate language literacy.

4.2. Analogical reasoning thought and cultural inheritance

In ancient times, analogical reasoning thinking was a method of academic research, and it could also serve as a bridge for cultural inheritance. With the help of analogical reasoning, the ancients were able to condense abstract thoughts, complex philosophies and rich emotional experiences into concise and symbolic language expressions, so that these cultural essences could be passed down from generation to generation across time and space. In modern times, analogical reasoning is still the key to understand and explain ancient cultural, literary and philosophical works. It helps us to cross the barriers of language and culture and deeply appreciate the wisdom and charm of ancient civilization.

4.3. Modern enlightenment of analogical reasoning thought

In the study of linguistics, analogical reasoning thinking can provide a new perspective and a deeper understanding of the nature and evolution of language. In language teaching, the idea of analogical reasoning can be used as an effective teaching strategy to help students establish the connection between languages. In the field of artificial intelligence, analogical reasoning thinking is the key to realize machine intelligence understanding and language creation. It enlightens how to make the machine have more flexible and intelligent language processing ability by simulating human reasoning process.

5. Conclusions

With the help of in-depth exploration of the thought of analogical reasoning in the cognition of ancient Chinese language, this article reveals its core discovery: analogical reasoning is not only a common cognitive way, but also an important driving force for the development and innovation of ancient Chinese language. Analogical reasoning thinking plays a key role in vocabulary construction, semantic expansion, syntactic innovation and rhetorical devices in ancient Chinese. It promotes the transfer and integration of language knowledge, enhances the expressive power and

creativity of language, and also carries rich cultural connotations and philosophical thinking. Analogical reasoning makes ancient Chinese a profound and flexible language system, which provides valuable resources and enlightenment for language learning and cultural research in later generations. These core findings not only deepen the understanding of the linguistic characteristics of ancient Chinese, but also provide new horizons for modern linguistic research and language teaching.

There are still many directions and topics worth exploring in the study of analogical reasoning in ancient Chinese language cognition. First of all, in the future, imino can further study the specific performance and development track of analogical reasoning thinking in different historical periods and regional cultures, and explore its internal relationship with social changes and cultural exchanges. The application of analogical reasoning in cross-language comparison, language acquisition and artificial intelligence language processing can also be regarded as a research direction worthy of attention.

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