

# Conceptual Metaphor and Cognition: From the Perspective of the Philosophy of Language

Zifei Guo

Dalian University of Technology, Dalian, China

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**Abstract:** Metaphor remains a pivotal focus in the philosophy of language as Lakoff stresses that metaphor is a cognitive phenomenon of human beings and an indispensable part of key cognitive areas. By employing a vast number of metaphorical phenomena to demonstrate the intriguing correlation between language and cognitive structures, Lakoff proposes conceptual metaphor and integrated the study of metaphor into cognition, thereby breaking away from the shackles of traditional views on metaphor. Meanwhile Lakoff has realized the nature, mechanism and characteristics of metaphors from the cognitive perspective within the framework of philosophy of language. In terms of the transition from viewing metaphor as a rhetorical device to a cognitive pattern, relevant studies not merely emphasize on the linguistic form of the metaphor, but also on its essence as conceptual metaphor relying on the subjective cognition of language users as well as the external objective environment. On the basis of the philosophy of language, the essence of metaphor shall be defined and realized. Nowadays, machine translation is developing rapidly, but there are still many deficiencies in the use of AI affective computing and metaphor processing. Studies of metaphors and imagination in literary language can enhance the performance of AI in terms of machine translation and are expected to realize the true swarm intelligence in NLP.

**Keywords:** Conceptual Metaphor; Cognition; Machine Translation; Philosophy of Language.

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## 1. Introduction

In the 20th century, the linguistic turn has triggered the generation of the analytic philosophy. Meanwhile, modern philosophy has undergone significant changes as the conformity of language to reality is tantamount to the study of the relationship between thinking and being. What's more, language is regarded as the expression form of thinking. The linguistic turn has shifted the focus of previous philosophical research to a matter of cognition, from psychological concepts to language forms. [1]

The core viewpoints of philosophy itself is the relationship between language and the world, particularly the meaning of language. While the cognitive process of language philosophy has gone through two stages from the traditional objectivism philosophy to the experimentalism philosophy, marking an advancement in language philosophy.

In 1980, the study of metaphor entered a new stage, led by G Lakoff and M Johnson, *Metaphors We Live By*, which was published by the University of Chicago Press in the United States. This book is regarded as a classic work of metaphor research for Lakoff and Johnson have raised the understanding of metaphor to a cognitive level. It should be noted that the formation and development of Lakoff's cognitive philosophy are closely related to Johnson.

## 2. Rethinking on the Understanding of Lakoff's Conceptual Metaphor

Metaphor deals with the relationship and interaction between two concepts, then how do concepts interact? The metaphorical mapping can properly address this. The cognitive process of metaphor essentially refers to the process of mapping from the source domain to the target domain. On the basis of forming a basic concept, we identify unfamiliar abstract concepts in a unconventional manner, thereby reaching a profound understanding of new concepts.

Therefore, metaphor is regarded as an indispensable cognitive tool applied by people in the process of conceptual construction.

It is also a process of understanding another abstract item through the empirical cognition of a familiar thing. Obviously, conceptual metaphor is a thoroughly fresh interpretation of the traditional views on metaphor. In a whole, metaphor should be regarded as a cognitive approach, rather than a linguistic phenomenon. The reason why metaphorical expressions exist in language is that conceptual metaphor exists in the conceptual system. The construction of conceptual metaphor lies in the parsing procedure of metaphor itself in terms of rhetorical devices. In other words, conceptual metaphor is based on people's cognitive approach to rhetorical devices. Rhetoric devices refer to something that is manifested at the linguistic level, while conceptual metaphor is an internal cognitive process of human beings.

To understand conceptual metaphors, attention must be paid to the projection mechanism. In the mapping of conceptual metaphor, the internal projection mechanism is considered to be automatic and a result of people's cognitive thinking.[2] It is also believed that much of our mental experience is spontaneous and autonomous.[3] Later, Lakoff proposes the "Invariance Principle" of metaphorical mapping, which can be understood as keeping the cognitive topology of the source domain unchanged with the internal structure of the target domain remains consistent. It is a constraint on the mapping process. Based on the understanding of "Invariance Principle", the mapping of some entities contradicts with others. In addition, it is impossible to map the source domain into the target domain mechanically without change. Lakoff also argues that metaphorical mapping is asymmetry. Under normal conditions, people construct and understand metaphor in terms of their experience. Experience, on the other hand, comes from clear and concrete concepts of things, through which vague concepts are organized and understood. Overall, metaphor is generated on the basis of experience, and the

mapping between the source domain and the target domain is also asymmetry.

### 3. Multi-disciplinary Approach Towards Conceptual Metaphor

Cognitive science is an interdisciplinary study of the human mind and intelligence, which involves multiple disciplines such as philosophy, psychology, artificial intelligence, neuroscience, linguistics, and anthropology. The study of the human mind and the way it functions can be traced back to some ancient Greek philosophers such as Plato and Aristotle. Based on cognitive science, Lakoff and Johnson published *Philosophy in the Flesh - The Embodied Mind and Its Challenge to Western Thought*, in which Lakoff expresses his main ideas: The mind is embodied, the thought is largely unconscious, and abstract concepts are largely metaphorical. All these, the embodied mind and the role of metaphor in abstract concepts and reasoning form the core of Lakoff's philosophy of language.

Cognitive science defines concepts in light of neural structures, whereas traditional philosophical definitions of concepts are often based on words. From the perspective of cognitive science, category and concept are inseparable from our subjective experience and are shaped by our embodiment as neural beings. In daily life, body and brain are constantly engaged in these activities in relation to categories and concepts. These concepts are not merely subject to intellectual activities like traditional philosophy. Scientific findings related to the domain of cognition have proved that the sensory-motor pivot is also involved in the formation of most basic concepts, which need to be thoroughly demonstrated in terms of neural structure. Lakoff provides an exhaustive discussion of several categories of embodied concepts, namely color concepts, basic-level categories, and spatial-relations concepts. And he further argues that a detailed explanation of these concepts can better interpret the essence of the embodied mind. For Lakoff, metaphor is an indispensable factor involved in philosophers' theory formation process. It was not for the development of cognitive science, not only philosophers themselves, but also ordinary people, would be tough to realize the prominent leverage of metaphor.

### 4. Rethinking on the Cognitive Function of Metaphor

Western study of metaphor can go back a long way since Aristotle. In *Rhetoric*, Aristotle further reaffirmed relevant notions of metaphor and cognition, and regarded them as substitutions between conceptual categories.[4]

According to Lakoff, metaphor is a basic cognitive means that people applied to understand the world, it usually takes the form of associations. What's more, metaphor is not restricted to the substitution of a single unit, but rather people express their views on the world through concepts from different semantic domains. Through metaphor, people apply the concept of one domain to transfer the concept of another domain in light of semantics. That's why metaphor cannot be merely regarded as a linguistic phenomenon, but a cognitive approach. The reason why metaphorical expressions exist in language is because there is conceptual metaphor in our conceptual system. In *Gibbs' Poetics of Mind*, he argues that metaphor is not only a linguistic phenomenon, but also an intrinsic brain function. Lakoff later praised Gibbs' book,

praising it "a masterpiece of cognitive science." [5]

### 5. New Outlook on Metaphor Processing in Machine Translation

With the development of language philosophy and cognitive linguistics, the study of conceptual metaphor has adapted to an interdisciplinary research mode. In the 1990s, as empiricism schools gradually developed, data has been pushed to the forefront. Meanwhile, scholars start to analyse language applying mathematical models. Since 2014, with the wide application of neural network technology in translation, machine translation, a branch of MLP, has also entered the stage of AI translation. And the foundation of AI translation is natural language processing technology, in which AI can realize an efficient human-computer interaction. Moreover, AI translation is a manifestation of machine intelligence, which includes pivotal parts of human intelligence such as imagination, metaphor, and analogy. Recently, ChatGPT, developed by OpenAI, an American AI company, has become a social focus. It is an NLP tool driven by AI technology, which can engage in dialogue by learning and understanding human language. ChatGPT is a sibling model which interacts in a conversational way. In addition, this model is trained using Reinforcement Learning from Human Feedback. In fact, through in-depth learning, AI can mimic the generative mechanism of metaphors and other rhetorical devices. However, it is quite difficult for any artificial model to fully simulate human language activity.

It is notably prominent in literary language, which contains a vast list of metaphors, satire, pun, ambiguous texts, and other rhetorical devices. These devices not only map the imagination process of human beings, but also contain the accumulation of different cultures. Therefore, it is still tough for machines to simulate literary language, which also leads to the poor performance of AI in translating literary works. Computer expert J. Bamden argues that metaphors are of significant importance to the application orientation aspect of AI. As a whole, AI can make a prominent contribution to the study of cognition, particularly the study of metaphor.[6]

The criticism of technology in light of philosophy facilitates people to apply it cautiously. Therefore, philosophy can reflect and criticize technology in an effective manner, meanwhile indicating the direction of technology. Understanding metaphor in a cognitive pattern means regarding language factors in various forms as a criterion, which leverages daily language use. Therefore, conceptual metaphor is the most powerful cognitive tool for people to experience and define new concepts and abstract things. If metaphor can be further tackled on a broader linguistic context of the target language, rather than sticking in the stereotypes of the AI translation modes, then it is possible to realize the translation of metaphor in a precise manner.

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