A Comparative Study of Conceptual Structures of Metaphor and Metonymy from a Cognitive Perspective

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Metaphor and metonymy are viewed as two different figures of speech in traditional rhetoric, while, in cognitive linguistics, both are both conceptual, spontaneous, and unconscious human activities based on thinking and basic experience in the human brain. In some sense, metaphor and metonymy can be a mode of thinking. A Concept is inseparable from perception and perception is inseparable from thinking. The basic composition of metaphor and metonymy is a concept. That is the way they are associated with. This paper aims to build conceptual structures of metaphor and metonymy from the micro perspective and probe into their working mechanisms. The author also lays out their distinctions in terms of basis, principles, span, and effectiveness through analyzing some examples extracted from literary works.

Keywords: metaphor, metonymy, difference, conceptual structure, thinking

I. Introduction

Metaphor and metonymy have long been the research objects of rhetoric, literature and other disciplines. Since the 1980s, with the rise and development of cognitive linguistics, metaphor and metonymy have become the focus of cognitive linguistics. Linguists try to study metaphor and metonymy from a cognitive perspective. Actually, metaphor and metonymy are based on the mental mode and basic experience in human brain. They are conceptual, spontaneous and unconscious human activities.

Lakcoff and Johnson (1980) elaborated on metaphor and metonymy in his book *Metaphors We Live By*. "We have found, on the contrary, that metaphor is pervasive in everyday life, not just in language but in thought and action. Our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature" (Lakcoff & Johnson, 1980). Actually, from the operational mechanism of metonymy and metaphor, they are all under the "conceptual" structure. Metaphor occurs in different cognitive domains, the essence of which is to use one concept to recognize another concept, and eventually realize the mapping from the source domain to the target domain (Wolff & Gentnerb, 2011). To sum up, metaphor is based on similarity. While metonymy is based on proximity, which usually uses one entity that is easy to highlight and be perceived to explain another entity. From the perspective of cognitive linguistics, this paper will analyze the essentiality of metaphor and metonymy from basic cognitive elements like concepts, mind and mode of thinking.

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II. The Conceptual Structure of Metaphor and Metonymy

2.1 What is Concept?

Concept refers to people's understanding of the essence of entities and the most basic unit and form of logical thinking. For example, when people mention "highway", they often associate with the characteristics of its speed and convenience. Concepts exist in human mind and can be perceived and understood. The formation of any concept is the product of people's induction and generalization of experience or knowledge gained in their experience, as a result of which, people can perceive and extract the essential and deep-seated information based on specific concepts. As is shown in the above example, people not only associate with specific roads, but grasp their essence and characteristics when this concept is mentioned again after their recognition increasing the information about the fast and convenient characteristics of expressway. The whole process is regarded as a process of thinking operation. From experience to concept generalization, or from concept to essence extraction, all need people's mind to perceive and understand.

2.2 Concepts and Mind

Metaphor and metonymy are usually regarded as linguistic phenomenon, in other words, rhetorical devices. From a cognitive perspective, what is the relationship between people's mind and metaphor / metonymy? This section will discuss the question in detail.

In everyday life, people use metaphors or metonymy, such as "information superhighway", which is a more concrete concept that people can easily understand, to express "information" (rapid dissemination and circulation), and here metaphors are used to realize the mapping of two different concepts, so as to make the language easier to grasp. Metonymy enables the concept behind the language to be perceived, imagined and understood in the most effective way. For example, the sentence "I can speak English" usually can be understand the speaker can read, speak and write English, which is more concise, clear, and in a sense, more enlightening way of expressing the concept of "I can speak, read and write English." The expression of this concept must be accompanied by a mental cognitive process in the human mind, that is, the way of thinking.

Concept is inseparable from perception, of course, from thinking. Thinking is initially a process of generalization and indirect reaction of the human brain to objective things by means of language, a reaction process that requires the human being to mobilize the perceptual system, which naturally gives rise to concepts under the influence of perception. Therefore, concepts are static, a result; thinking is fluid, a process; and the way of thinking is a path that records the operation of thinking from the beginning to the end. The logical relationship can be seen in the diagram below:
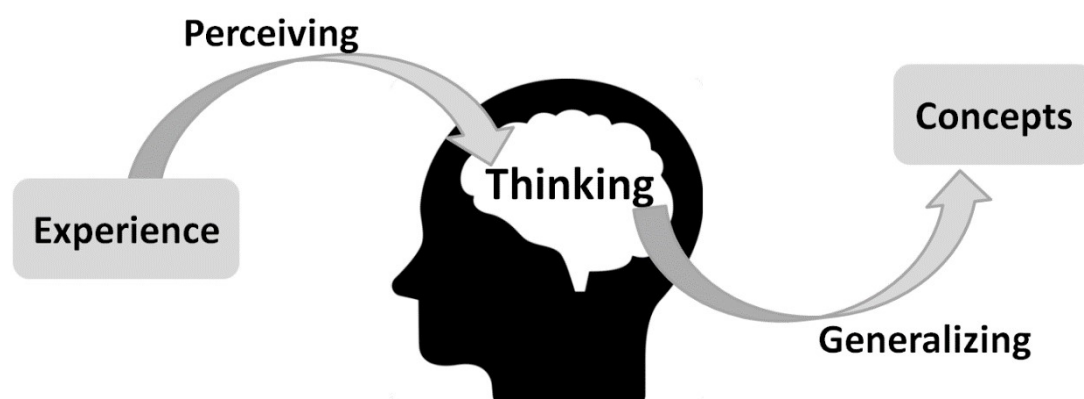
Figure 1. The relationship between concepts and thinking.

2.3 The Interpretation of Conceptual Metaphor and Conceptual Metonymy

Current academic research has focused on conceptual metaphor and conceptual metonymy, i.e. analyzing how metaphor and metonymy operate based on conceptual phenomena, generally involving two objects or two concepts: one is a more familiar and easily understood concept *A*, and the other is an unfamiliar and difficult concept *B*. Based on the conceptual meaning, this paper attempts to construct mechanisms for the operation of metaphor and metonymy from a cognitive linguistic perspective. Both metaphor and metonymy are ways of thinking that link different concepts in the brain and form some conceptualized language representations through gestalt transformation, yet the cognitive interpretation of conceptual metaphor and conceptual metonymy from a cognitive linguistic perspective is very different, as shown by the different cognitive mechanisms.

2.3.1 The construction of cognitive mechanisms of metaphor

Metaphor is the mapping from one concept to another (Wolff & Gentnerb, 2011). The whole mapping process needs the perception, extraction and understanding of different concepts, in which thinking mechanism operates, and the operation track is our way of thinking. The operation mechanism of metaphor is shown as following:
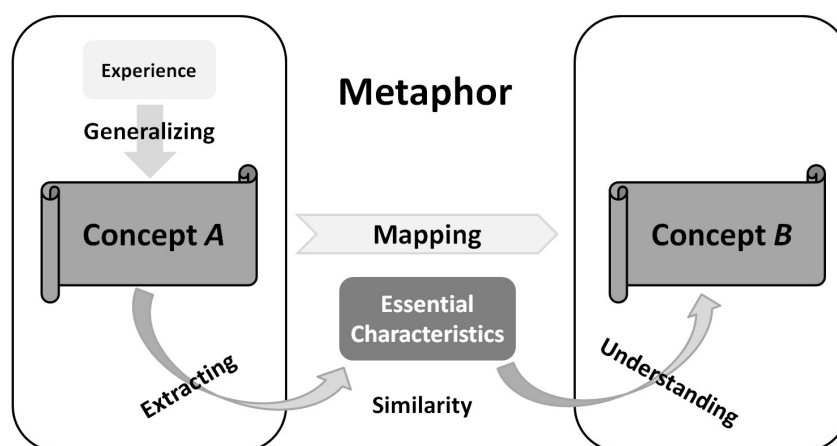

Figure 2. The cognitive mechanism of metaphor.

As is shown in Figure 2, concept *A* is familiar to people, from which essential things can be extracted through perception, and this essence has the characteristics of prominence and easy to be identified; While concept *B* is unfamiliar to people. Although its essence is similar to concept *A*, it is more obscure and difficult to perceive and understand, therefore, mapping the essential characteristics of concept *A* to concept B with metaphor can enable people to obtain the essence of concept *B* and make the language representation more accurate and effective.

2.3.2 The construction of cognitive mechanisms of metonymy

Different from metaphor, metonymy is cognitive process of one concept to refer to another concept which requires the mind to participant in from the reference point, and finally to represent concepts in form of language so as to achieve the purpose and effect that the speaker wants to express. The cognitive mechanism of metonymy can be represented as below:
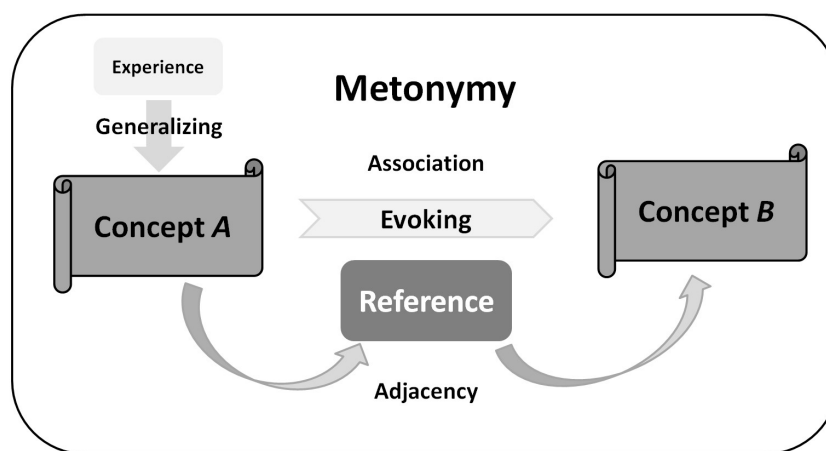

Figure 3. The cognitive mechanism of metonymy.

As is shown in *Figure 3*, concept *A* is more prominent and more likely to stimulate people's perceptions with evocative and enlightening effect; concept *B* is commonly more complex or less prominent. While concept *A* and concept *B* actually belong to the same domain and are associated with each other. The metaphor operates by using concept *A* as the reference point, the original starting point, to evoke the perception of concept *B*, while cognitively linking the two and building the perception of concept *B* based on the understanding concept *A* so as to deepen the understanding of concept *B*.

Human beings are born with the ability to think and gradually develop specific ways of thinking in practice (Lakcoff & Johnson, 1980). Metaphors and metonymy have a vital communicative function, which usually convey more obscure information precisely in the most effective way while realizing the maximization of information, and these mechanisms of cognitive operation for language representation is ubiquitous.

III. The Differences Between Metaphor and Metonymy

Since the rise of cognitive linguistics in Europe and the United States, language has been observed and studied from a cognitive perspective, and it is argued that both metaphor and metonymy are basic human cognitive modalities and that they have something in common. Firstly, in terms of origin, both metaphor and

metonymy are based on human cognitive experience (Zhang & Lu, 2010). Based on human experience, one concepts can be used as a metaphor or metonymy to create a cognitively understandable or concrete image of another concept. Secondly, in terms of structure, both metaphor and metonymy have a source domain and a target domain, and the interpretation must be based on a way to achieve cognitive expression through the relationship between the source domain and target domain. In terms of function, both metaphor and metonymy are cognitive devices, which can also be narrowly understood as rhetorical devices, and, both can convey poetic, social, and cognitive functions, etc. (Shu, 2008). Rooted in basic human experience and evolving as human understanding develops, metaphor and metonymy are both vital means for human beings to understand the world (Lakcoff & Johnson, 1980). However, there are essential differences between them, therefore, this section will distinguish them through specific examples, mainly from the four aspects: foundation, principle, span and effect.

3.1 Different Spans: Different Cognitive Domains vs. the Same Cognitive Domain

Metaphors are inter-domain mappings and metaphors are intra-domain references. The most obvious difference between metaphor and metonymy lies in their span, with concept *A* and concept *B* in metaphor belonging to different cognitive domains which are arguably irrelevant but highlights the cognitive mechanism of metaphor. By extracting the familiar, easily perceived essential features of *A* in order to understand *B*, metaphor spans two different cognitive domains, offering the possibility of language representation. For example,

(1) I judged that there was going to be a crash by and by, but I was in now and must ***swim across*** or ***drown***. (Mark Twain, *The Million Pound Bank Note*)

The context here is that the protagonist knows that a disaster is imminent and that there are two outcomes: safe or dangerous, both of which belong to the cognitive domain of *calamity*; but the author uses "swim across" and "drown" to represent both outcomes, which belong to another cognitive domain related to *swimming*. The terms *calamity* and *swimming* are hardly related for belonging to different cognitive domains, but they have the same merit that they both point to two outcomes in extremis *live* and *death*.

In contrast, metonymy involves two concepts in the same cognitive domain (or category), i.e. the source domain and target domain belong to the same category. In metonymic representation, concept *A* may be a part of concept *B*, substituting the part for the whole, or vice versa. On account for that source and target domain belong to the same cognitive domain, concept *A* can serve as a referring point to evoke or inspire *B*, so as to achieve the perception and understanding of concept *B* and make the language representation achieve the desired effect. For example,

(2) ***Punch*** caricatured me! (Mark Twain, *The Million Pound Bank Note*)

"Punch" originally refers to the name of a magazine and is the most iconic feature. In sepcfic context, a report in this magazine made a savage satire on the protagonist. As the name of the magazine, "Punch" itself is part of the magazine, naturally belonging to the same domain as it. Metonymy uses a distinctive concept to express another concept linked to it in the same domain, making the language more concise and logical. The difference between the cognitive mechanisms of metaphor and metonymy can be better illustrated by the following example.

(3) Everything about him was old except ***his eyes*** and they were the same color as the ***sea*** and were cheerful and undefeated. (Ernest Hemingway, *The Old Man and the Sea*)

(4) But you went truly-ing for years off the Mosquito Coast and your *eyes* are good. (Ernest Hemingway, *The Old Man and the Sea*)

Both (3) and (4) use the imagery of *eye*, but use the cognitive devices of metaphor and metonymy respectively. In (3), *eye* is a human body part, while sea is a nature entity; the two belongs to different cognitive domains, constituting a metaphorical mapping based on the similarity in colour. Example (4) is an excerpt from the dialogue between the little boy and the protagonist Sandiago. In the specific context, what the little boy is trying to convey is that Sandiago has good eyesight. Hemingway uses "*eyes*" instead of "*eyesight*" to construct a metonymic model.

3.2 Different Foundations: Similarity vs. Adjacency

The foundation of metaphor and metonymy is different; The former is similarity and the latter is proximity. Similarity refers to a gestalt principle of organization holding that parts of a stimulus field that are similar to each other. The figure of speech of simile is based on similarity between things of different kinds usually formed with "like" or "as". While metaphor is actually used to refer to something that it does not literally denote in order to suggest a similarity. From the cognitive mechanism of metaphor, it can be clarified that concept *A* and concept *B* are located in two different cognitive domains without any connection. Instead, it is through extracting the more prominent and perceptible essence of concept *A* and map it to concept *B* that the understanding of *B* can be realized. For instance,

(5) I am confused. My head was in a *fog*. (Mark Twain, *The Million Pound Bank Note*)

Fog is an atmosphere in which visibility is reduced because of a cloud of some substance, sharing the features of unclarity. What the speaker is trying to convey in example (5) is that his mind is confused, chaotic, which has similarities to the essential characteristics of *fog*. The mapping from the concept of *fog* to the concept of *confusion* is based on such kind of similarity, as *confusion* is an abstract feeling and not an easily expressed concept, whereas the characteristics of *fog* are more familiar.

Adjacency refers to the attribute of being so near as to be touching. In the cognitive mechanism of metonymy, concept *A* and *B* are often interrelated with varying degrees of proximity, so that concept *A* can be used as a reference point to evoke or stimulate a response to concept *B*. For example,

(6) 世间那有什么爱情，纯粹是生殖冲动。(钱钟书《围城》)

Here "生殖" refers to sexual impulses. The author's intention here is to satirize the idea that love is out of sexual impulses, which is directly linked to the obscure concept *sex* with a distinct adjacency. Actually, the concept of "生殖" gives rise to the complex, multi-layered and unclear concept of *sex*. The adjacent relationship between "生殖" and *sex* forms the foundation of metonymy.

In brief, sharing similarities, the source domain and target domain in metaphor belong to different categories, while source and target domain in metonymy belong to the same categor which are interrelated with each other by adjacency.

3.3 Different Principles: Mapping vs. Referring

Mapping is the operating principle of metaphor, while reference is the operating principle of metonymy. In metaphor, concept A and concept B belong to two different domains. A is easy to perceived and understood, and its essential features are mapped or transferred to B based on similarity, allowing B to be better perceived.

Metonymy is a reference point phenomenon that operates by regarding concept A as a point referring to concept B in the same domain. The accumulation of experience enables human minds to achieve their expressions by evoking or stimulating source domain. The following examples illustrate the different cognitive principles of metaphor and metonymy.

(7) It's the Arabian Nights come again. (Mark Twain, *The Million Pound Bank Note*)

(8) 自己没有文凭，好像精神上赤条条的，没有包裹。(钱钟书《围城》)

"*The Arabian Nights*" is a typical metaphor. *The Arabian Nights* actually is a book written by Andrew Lang, which by extension means something absurd and improbable. The original context in (7) is that the speaker was surprised that the protagonist becoming a millionaire. Therefore, Mark Twain used familiar allusions "the Arabian Nights" to describe its unpredictability and implausibility. Example (8), on the other hand, implies a metonymic cognitive mechanism. The concept "文凭" is concrete and easy to perceive, while concepts *educated* is more abstract and less easily perceived. The former is a certification of educational level. In the cognitive mechanism, it works as the reference point to evokes the obscure source domain *educated*, so that the target concept can be fully perceived.

3.4 Different Effects: Creativity vs. Reinforcement

As a matter of fact, metaphor creates association between two concepts in different domains, while metonymy exploits and reinforces an existing association. The former extracts the perceptible essence of concept *A* from one domain and then creatively establishes a previously non-existent association with concept *B* from another domain, creating a subtle artificial connection which makes *B* understandable. For example,

(9) But these were setting my ***feet in the road*** to eventual ***fortune***. (Mark Twain, *The Million Pound Bank Note*)

Mark Twain's comparison of the process of achieving "fortune" to "feet in the road" is similar to the metaphor in "Life is a journey", creatively linking two concepts from different domains to enhance its effect.

Different from the cognitive mechanism of metaphor, concept *A* and concept *B* in metonymy have some certain connection due to their adjacent relationship. Slightly adjusting the connection between *A* and *B* and stimulate *B* with *A* can make the language representation more accurate and effective. Since the salient concept *A* and obscure concept *B* belong to the same domain in the cognitive mechanism of metonymy, conceptual metaphor uses *A* as a referential point to realize the reference of *B*. The cognitive process of metonymy is in reality a bilateral interactive process of using and reinforcing the association of adjacency. For example,

(10) About the tenth day of my fame I went to fulfil my duty to ***my flag*** by paying my respects to the American minister. (Mark Twain, *The Million Pound Bank Note*)

In the above example, "my flag" actually refers to *my country*, both of which are closely linked and belong to the same domain or category. National flag is one of the most distinctive symbols of a country, and therefore in some instances, the national flag can represent the country. It is owing to this pre-existing link that the "flag" in the example above enables to evoke the target concept of the *country*. In contrast, it has a more literary charm than the direct use of the expression country, and makes this association reinforced. After perception and understanding, people will subconsciously strengthen the connection between the two in the cognitive mechanism.

IV. Conclusion

Metaphor and metonymy are integral parts of the linguistic research. In daily life, people unconsciously use metaphors and metonymies to understand and interpret the world. Traditional linguistics regarded metaphor and metonymy as rhetorical devices, remaining at the level of rhetorical and stylistic studies. With the development of cognitive linguistics, metaphor and metonymy have broken away from their traditional understanding as not just a rhetorical device, but as a conceptual system and a way of thinking. Both metaphor and metonymy are powerful tools for the perception and expression of abstract concepts, not only linguistically but also, and more importantly, cognitively and conceptually.

This paper analyses the importance of metaphor and metonymy in language representation from a more microscopic perspective, interpret conceptual structures of metaphor and metonymy based on concepts and ways of thinking, and constructs the cognitive mechanism of conceptual metaphor and conceptual metonymy. Based on cognitive mechanism of metaphor and metonymy, the author analyses the differences between metaphor and metonymy from four aspects: foundation, principle, span and validity with specific examples.

Metaphor and metonymy have permeated all aspects of human language, culture, thinking and social life, and are ubiquitous in daily life, not only in language, but also in people's thinking and behaviors, and they directly participate in and implement the process of people's thinking and cognitive activities, becoming a basic way of human activities, helping people better understand human world. It is metaphors and metonymy that the world is so richly enriched.

References

Dirven, R. (2009). Metonymy and metaphor: Different mental strategies of conceptualisation. *Metaphor and metonymy in comparison and contrast* (pp. 75-112). Berlin: De Gruyter Mouton.

Dirven, R., & Pörings, R. (Eds.). (2009). *Metaphor and metonymy in comparison and contrast* (Vol. 20). Berlin: Walter de Gruyter.

Hudson, R. A. (1992). Concept, image and symbol: the cognitive basis of grammar. *Journal of Linguistics, 28*(2), 506-509.

Lakoff, G., & Johnson, M. (2008). *Metaphors we live by*. Chicago: University of Chicago press.

Langacker, R. W. (1990). *Concept, image and symbol: the cognitive basis of grammar* (pp. x+ 395). Berlin & New York: Mouton de Gruyter..

Ortony, A. E. (1993). *Metaphor and thought*. Cambridge: Cambridge University Press.

Wolff, P., & Gentner, D. (2011). Structure-mapping in metaphor comprehension. *Cognitive science, 35*(8), 1456-1488.

纪燕. (2015). 隐喻, 在认知中感受语言的魅力. *大学教育科学*, (3), I0001-I0001.

束定芳. (2004). 隐喻和换喻的差别与联系. *外国语*, (3), 26-34.

束定芳. (1998). 论隐喻的本质及语义特征. *外国语*, (6), 11-20.

束定芳. (2000). 论隐喻产生的认知, 心理和语言原因. *外语学刊*, (2).

束定芳. (2002). 论隐喻的运作机制. *外语教学与研究: 外国语文双月刊, 34*(2), 98-106.

束定芳. (2001). 论隐喻的认知功能. *外语研究*, (2), 28-31.

束定芳. (2000). 论隐喻的理解过程及其特点. *外语教学与研究: 外国语文双月刊*, (4), 253-260.

张辉, & 卢卫中. (2010). *认知转喻*. 上海外语教育出版社.

丁晓宇. (2015). 隐喻与转喻的界面研究——以英语 "fire" 和汉语 "火" 的隐转喻为例. *现代语文: 下旬. 语言研究*, (11), 156-157.

徐盛桓. (2014). 隐喻的起因, 发生和建构. *外语教学与研究: 外国语文双月刊, 46*(3), 364-374.