

Cognitive Teaching of English Polyseme

Metonymic Interpretation of lexical sense extension

Bianqi Sun

Department of Foreign Language
Beijing Institute of Graphic Communication
Beijing, China
e-mail: sunbianqi@bigc.edu.cn

Haifang Zhao

Department of Foreign Language
Beijing Institute of Graphic Communication
Beijing, China
e-mail: zhaohaifang@bigc.edu.cn

Abstract—This paper aims at expounding the nature and mechanism in lexical sense extension with the help of metonymy, and exploring an effective way of polyseme teaching and learning from a cognitive perspective. Metonymy is traditionally viewed as a figure of speech used for rhetorical effect, but in cognitive linguistics, it serves as a mode of thought and perception. Its function as a cognitive approach is discussed for language learners to acquire the polysemous words. By analyzing the cognitive models in lexical extension of related senses, the students can somewhat overcome the bottleneck of vocabulary acquisition and understand better the denotation, connotation of polysemous lexical items.

Keywords—metonymy; polysemy; polyseme; polysemous words; cognitive linguistics

I. FOREWORD

Over the past three decades, metonymy has been seen as a means of poetic trope, an ornament in pure language category. However, advent of cognitive linguistics in 1980s revolutionized the traditional view. Cognitive Linguistics scholars believe that metonymy and metaphor are not just a linguistic phenomenon, but also a cognitive means of knowing the outside world based on experience, a common way of thinking and perception. Like metaphor, metonymy exists in all areas of human society, history, culture, philosophy, psychology. It is generally accepted that, in cognitive linguistics, metonymy is probably more basic to language and cognition than metaphor [1]. People usually take the easily perceivable aspect of something and use it to refer to either the thing as a whole (the best-known form of metonym: synecdoche) or some other aspects. In contrast, metaphor is different in that it is based on two different conceptual domains: the source domain and the target domain, the cognitive ground is similarity, while metonymy is based on continuity and salience, with the two entities in the same domain. Compared with that of metaphor, study of metonymy is ignored. Only in the past ten years, it is gradually catching up. Research on metonymy is involved with almost all aspects in linguistic language, and fruitful results have been achieved. Yet the study of transferred meanings in lexical polysemy is relatively few. Based on the cognitive mechanism of metonymy, this paper intends to explore the nature of polysemy and how the meanings of a

polysemous word are semantically related and extended from the literal meaning.

II. POLYSEMY IN HUMAN LANGUAGE

Language is the most important communicative tool for people to express ideas. People record and pass on accumulated knowledge and civilization by means of language. With the technological development and social progress, new inventions and ideas constantly appear, corresponding lexical concepts coming out with them. Limited to the principles of language economy and clarity, humans either add new meaning to the already-existing words or create new semiotic words to seek a balance between them, and the result is a combined effect of two ways leading to new vocabulary creation and birth of polysemous words. Diachronic evolution of language results in the phenomenon of polysemy. Compared with Chinese language, polysemy in English language is more common, which poses a big difficulty for Chinese language learners. The ESL learners often complain about the confusion of the numerous meanings in a polysemous word, and are puzzled with the relatedness of the meaning. For example, when asked what “spring” means, even some college students can only tell you the basic meaning: “the first season of the year”, as to the other meanings like “water, twisted wire, sudden jump, elasticity” etc, they have no idea. One of the causes is that the other meanings are seldom used, but the main reason is that they have no training in a cognitive linguistic interpretation. It isn’t difficult to associate the transferred meanings with the basic meaning of season. They are either the act happening in spring or result of spring. Most of the meanings are derived from the primary meaning “spring season” in a metonymic way. Another example I like to cite is the word “school”, as in the dictionaries, sense distinctions are not explained, and the subtle differences of some meanings are so slight that students often take it as a monosemy. In fact, the word “school” not only refers to 1) place of instruction, but also 2) the educational institution, 3) teachers and students in the institution, 4) department or college in a university, and 5) the act of education, etc. In this way, the collocations like “school of thought” or “a school of fish/whale” might be better understood and remembered. In a metonymic mode of cognition, the extended meanings are apparently all derived from the

first/basic meaning--- place of instruction. In metonymy, one expression is used to refer to the referent of a related one, like the use of animal chicken for the meat or flesh of chicken. In fact, chicken can also refer to "someone who is not at all brave; coward ", which is the result of metaphorical extension based on similarity.

As is shown in the above examples that metonymy plays a key role in lexical meaning extension, along with metaphor. For students, to distinguish metonymy from metaphor is by no means easy; sometimes it is even confusing for language teachers or researchers. It has to be pointed out that image-schema is also a useful cognitive mode in lexical extension, esp. in the interpretation of prepositions and other analogical profile-related words.

III. PROTOTYPE THEORY IN POLYSEMY INTERPRETATION

As is discussed above, a word, besides the primary meaning, may have numerous extended/transferred meanings, which are highly motivated. Strictly speaking, all English words can be thought to be polysemous. Language is not a photo-like reflection of the real world, but involved with human thoughts and perceptions. With the referential function, language also serves the function of contextual understanding. How people view the referents varies from person to person. A word is both the symbol of the referent and the referent-related concept, and the concept is always vague, for anything can have countless attributes. That is why the number of meanings of the same word is always different in different dictionaries. Despite the difference, the underlying metonymic and metaphoric links are supposed to establish coherence in radial/family-resemblance categories. According to Lakoff [2], "There is nothing more basic than categorization to our thought, perception, action and speech." In this view, the polysemous word is a result of human categorization, and the individual meanings of a word are the members of the category.

It is generally accepted the initial meaning of a word is mostly arbitrary, with no reasonable ground, and the later acquired meanings are rational and justified, which are the processing results of human cognition and conceptualization. The later-added meanings of a word are built on our experience and perception of the world. Constructing new words is a cognitive ability of human creativity.

Over time, newly-added meanings constantly come into being in a lexical item, some of which last through evolution, while others meet the fate of demise due to lack of use and marginalization. In this course, certain meaning gradually becomes the central meaning. Consequently, the original literal sense or meaning might not be the primary meaning. It is acknowledged that polysemy not only enriches our language, but also reduces the clarity. To address the problem of memorization, it is advisable to consider that all the meanings form a semantic network---organic semantic category. On this matter, the organic link among the meanings is no longer simply a question of language evolution, but that of human cognition and perception based on their experiences and accumulated knowledge. Like language concepts, semantic categories are involved with

language symbols, the outside world and cognitive brain. Cognitive language scholars claim that language is not a mirror reflection of the objective world, but that of human cognition. The world in the language is processed by human brain, which incorporates many subjective factors. The semiotic referent and the objective world do not coincide with each other, and can never be exactly the same. Due to the limited nature of human perception and complex diversity of the outside world, the border dividing the limitations of fuzzy description and the continuity of the world is ambiguous. Classical theory claim: a) categories are defined in terms of necessary and sufficient features; b) Features are binary; c) Categories have clear boundaries; d) All members of a category have equal status. In many cases, the classical category theory falls short to explain certain categories. After the study of "games", Wittgenstein [3] put forward the theory of "family resemblance", proposing family resemblance categories-- categories in which not all members share the same set of attributes but in which members are disjunctively related in a chain-like fashion by sharing at least some attributes with each other. As he puts it:

I can think of no better expression to characterize these similarities than "family resemblance"; for the various resemblances between members of a family: build, features, colour of eyes, gait, temperament, etc. ,etc. overlap and criss-cross in the same way, ---And I shall say: "games" form a family.

Later, linguists incorporated the prototype category theory (Rosch) [4] into cognitive linguistics. In prototype theory, we can summarize the principles as such: 1) categories are defined in the principle of family resemblance rather than by means of a set of necessary and sufficient features. 2) membership in a category is determined by the perceived resemblance to the prototype, there is no clear-cut boundaries. But there is a continuum. 3) All members of a category don't enjoy equal status; there are typical members and atypical ones. The advent of prototype category theory produces profound influence on interpretation of polysemy. Meaning is taken as categorization in the sense that, for instance, a pigeon is a bird escalates to birds as a category of which pigeon is a member, or as a subcategory. In this case, "bird" is thought to be the basic level category, while "sparrow" is seen as a subset at subordinate level. Conversely, "animal" belongs to the higher level category than "bird." - superordinate level. Semantically, different levels are inherently linked. People view metonymy as a prototypical category, and take part-for-whole as the prototype. In this way, different levels of category constitute a metonymic relationship. It has to be pointed out basic level of an entity is not fixed, depending on one's varied conceptual ability and encyclopedic knowledge.

As regards the prototype, scholars have different views. Some tend to think the prototype in a category is the best/typical/central example or member, while others take it as schematic representation, which abstracts away from the properties of individual instances and individual subcategories. According to Langacker:

A prototype is a typical instance of a category, and other elements are assimilated to the category on the basis of their perceived resemblance to the prototype; there are degrees of similarity. A schema, by contrast, is an abstract characterization that is fully compatible with all the members of the category it defines.

[...] a lexical item is typically polysemic – comprising a family of interrelated senses, forming a network centered on prototypical values. Although the precise array of senses conventionally associated with the expression is not fully predictable, neither is it arbitrary – as the Marta Degani (654) network evolves from the prototype, each extension is motivated in some cognitively natural fashion, and often in accordance with a general pattern or principle [5].

Before we end this section, we have to clarify the definition of categorization: it is an ability of classification to perceive and group together the entities with similarities. Now the concept of a word is considered a category, and the meanings are the members. In this way, we no longer treat the various meaning as disorganized chaos, but establish a reasonable order. Though the array of meanings sometimes is not predictable, the exploration of the meanings does help us interpret the connotative features and identify the underlying relatedness of them. In a sense, cognitive analysis of the lexical field on the basis of categorization makes it possible for ESL learners to avoid rote learning, and achieve the high efficiency in polysemous words acquisition..

IV. DEFINITION OF METONYMY

Traditionally viewed, metonymy is a figure of speech used for rhetorical effect. It is a stylistic language ornament that makes use of the name for one thing for that of something else by a mental association. The best-known form of metonym is part-for-whole: synecdoche. In the view of Langacker [6], metonymy is a reference point and an activation phenomenon in that "the entity that is normally designated by a metonymic expression serves as a reference point affording mental access to the desired target, i.e. the entity actually being referred to" (p.199). Thus, metonymy is not just linguistic ornaments but a basic cognitive process that is pervasive in both thought and language. Metonymical expressions in language have cognitive function in being used in logical reasoning, and they actually embody how we human beings conceive of entities and events within human cognitive frames.

In literary works and everyday communication, constrained by language economy and clarity, people choose to highlight the salient part for the whole, or for other parts of the whole. Such a way of thinking pervades in every aspect of our life, therefore, in a sense, language is essentially metonymical. Jonathan Charteris-Black [7] points out that corpus analysis of the figurative phrases occurring in the English reference works shows there is a strong preference for metonymy in English. According to him, over 80% of all the corpus lines analyzed had a figurative phrase that showed some evidence of metonymy; 54% had metonyms, whereas less than 20% of lines had pure metaphors. Goossens' [8] claim that figurative language in

English is orientated to metonymy; he found that 67 out of 109 instances of a body part in figurative expressions were metonyms. In cognitive linguistics, it might be safe to say metonymy is basic to language and cognition. It is common for people to take one well understood or easy-to-perceive aspect of something and use it to refer to whole or substitute it for other part.

In term of metonymy, it exists not only in the semiotic level (such as WTO for World Trade Organization), but between language and its referent, and the concept of the meaning and the referent. Language is the concrete embodiment of cognitive perception of the objective world, involving individual judgment and stance. Language can roughly reflect the essence of the entity. In terms of language, there is a lot of metonymy on lexical, sentence and discourse levels.

From cognitive perspective, Lakoff [2] proposed a new concept: Idealized Cognitive Model (ICM), claiming knowledge is organized not only by metaphoric and metonymic "mappings" but also by "propositional frames" and "image-schematic structure." According to Lakoff, ICMs are the products of human conceptualizing capacities and correspond to the conceptual structures available for making sense of their experience. Furthermore, they offer the complex background for human to synthesize and interpret new knowledge. Out of the four types: schema, propositional model, metaphor and metonymy models, metonymy model is the basis to generate the basic level concept, and responsible for the output of cognitive processing. In Chinese culture, whale, a marine mammal, is considered a kind of fish; hyena is taken as a kind of dog. Scientifically, such naming and categorizing based on human experience is not right, but still it helps organize the chaotic order of the world. Similarly, the expression of "The sun rises." is not a rhetorical figure of speech, but people do think that way.

Up to now, some may still be confused about what metonymy is and its working mechanism. Linguists try to define metonymy in various ways, with controversies, though. Here I present the different definitions so that you may have an overview of how metonymy works as a cognitive mechanism. Croft [9] claims "A metonymic mapping occurs with a single domain matrix, not across domains (or domain matrices)". Barcelona [10] put it:

Metonymy is a mapping of a conceptual domain, the source, onto another domain, the target. Source and target are in the same functional domain and are linked by a pragmatic function, so that the target is mentally activated.

V. COGNITIVE TYPES AND MECHANISM OF METONYMY

Like metaphor, metonymy is also regarded as a way of thought, often derived from language, but based on conceptual association in other minds, highlighting contiguity and salience of the relevant entities. Papafragou [11] contradicts the preset conditions in which a metonymy occurs, arguing that the production or reception of metonyms does not need to depend on any previous actual association between its terms or their referents. Any ad hoc concept can prompt any other concept in the right contextual situation.

The only thing standing between a metonymy and its understanding is the relationship between the writer and reader. In a sense, this is right. The attributes of an entity could never be exhaustive; either the explicit or implicit, put in the right communicative situation, any attribute can be the appropriate one.

All along, classification of metonymy has been the focus. Whatever the classification is, specific or abstract, it does not affect our understanding of the interpretation of polysemy. The following are the usual metonymic patterns. By analyzing with examples, we can better understand how the extended meanings of a lexical item are processed, and how human cognition is involved in the process of interpretation.

There are many metonymic models in a rich conceptual system, and they are used for a wide variety of purposes. A member or subcategory can stand metonymically for the whole category for the purpose of making inferences or judgments. One kind of entity refers to another kind of entity in various ways. Basically the metonymic models include:

THE PART FOR THE WHOLE (There are some new faces in this room);

THE PRODUCER FOR THE PRODUCT (He bought a Ford);

AUTHOR FOR WORK (I'm reading Shakespeare);

THE PLACE FOR THE EVENT (Watergate changed our politics);

THE PLACE FOR THE INSTITUTION (The White House isn't saying anything);

INSTRUMENT for ACTION (She shampooed her hair);

MANNER OF ACTION FOR THE ACTION (She elbowed me hard);

THE PLACE FOR THE INSTITUTION (Taipei sent out a dangerous signal);

THE CONTROLLER FOR THE CONTROLLED (Nixon bombed Hanoi);

INSTITUTION FOR PEOPLE RESPONSIBLE (You'll never get the university to agree to that);

OBJECT USED FOR USER (The sax has the flu today).

It is impossible to list all the examples of such models, because anything can stand for anything else in the right context.

VI. CONCLUSION

Polysemy is linguistic phenomenon that a word or phrase with distinct, but related senses. Loosely speaking, almost all the words in language are polysemous to a greater or lesser extent. In this paper, the formation of ambiguous vocabulary is explored, and focus is put on metonymy; metaphor also plays a role, though. We attempt to delimitate and distinguish the vague senses and interpret the relatedness and extension of the senses by use of metonymy with the help of prototype theory. As powerful tool of cognition, metonymy

is not primarily linguistic ornaments but also a basic cognitive process that is pervasive in both thought and perception. They offer mental access to the interpretation of the sense relationships in a lexical field along with image schema, which is frequently used in comprehending spatial prepositions. This paper proposes that a word should be taken as an overall concept, and all word senses are contextually related and dependent. Such interpretation of polysemous words can somewhat help language learners overcome the difficulty faced by the second language learners in the understanding of figurative meanings, and achieve a long-term in-depth memory of English vocabulary.

It needs to be pointed out that metonymy research is not just limited to the lexical level, and combination with the study of metaphor, prototype theory might achieve a better result.

ACKNOWLEDGMENTS

This research is supported by the Social Science Research Common Program of Beijing Municipal Commission of Education (No. 18190114/004) and the Major Teaching & Reform Program of Beijing Institute of Graphic Communication (No. 22150114015).

REFERENCES

- [1] Rūta Sirvydė, "Metonymy – A sister or a stepdaughter? A case study of the colour of anger," *Respectus philologicus*, 2007.
- [2] George Lakoff, *Women, Fire, and Dangerous Things: What Categories Reveal about the Mind*. The University of Chicago Press, 1987, pp. 5.
- [3] Ludwig Wittgenstein, *Philosophical Investigations*. Oxford: Blackwell Publishing, 1953, pp. 27-28.
- [4] Eleanor H Rosch, "On the Internal Structure of Perceptual and Semantic Categories," in Timothy E. Moore (ed.), *Cognitive Development and the Acquisition of Language*. New York: Academic Press, 1973, pp. 77-78.
- [5] R. W Langacker, "Review of George Lakoff: *Women Fire and Dangerous Things*", *Language* 64(2), 1988, pp. 392.
- [6] R. W Langacker, *Grammar and conceptualization*, Berlin: MoutondeGruyter, 1999, pp. 171-202.
- [7] Jonathan Charteris-Black, "Speaking With Forked Tongue: A Comparative Study of Metaphor and Metonymy in English and Malay Phraseology", *METAPHOR AND SYMBOL*, 18(4), 2003, pp. 289-310.
- [8] L. Goossens, "Metaphtonomy: The interaction of metaphor and metonymy in figurative expressions for linguistic action," In L. Goossens, P. Pauwek, B. Rudzkaostyn, A. Simon-Vandenbergen, & J. Vanparys (Eds.), *By word of mouth* (1995, pp. 160-172). Philadelphia: John Benjamins.
- [9] W. Croft, "The role of domains in the interpretation of metaphors and metonymies", *Cognitive Linguistics*, 1993, 4: pp. 335-370.
- [10] A. Barcelona, "On the plausibility of claiming a metonymic motivation for conceptual metaphor," In A. Barcelona (Ed.), *Metaphor and metonymy at the crossroads. A cognitive perspective* (*Topics in English Linguistics*, 30) (2002, pp.246). Berlin.
- [11] Anna Papafragou, *On Metonymy*, *Lingua* 99, 1996, pp. 169-195.