Original Paper

A Cognitive Approach to Expressions of English Metaphors

Li Xue[1]

[1] Foreign Language School, Nanjing University of Finance & Economics, Nan Jing, China

Abstract

This paper analyses the three expressions of English metaphors: nominal metaphors; verbal metaphors; adjective metaphors from the perspective of cognitive linguistics. For nominal metaphors, the author starts from metaphorical mapping mechanism, interpreting the different syntactic features of them: as a subject, an object, a predicate, an appositive and a possessive, figuring out the reasons for producing nominal metaphors and its cognitive approach. For verbal metaphors, this paper has, in detail, analyzed three different categories of them: the verbal metaphors with a logical subject predicate collocation; the ones with a logical verb, object collocation; and with a logical subject, predicate, object collocation with the above three kinds of linguistic theories, obtaining the forming mechanism of the verbal metaphors and its working ways in languages. For the adjective metaphors, this paper mainly applies the mapping theory between a source domain and a target domain in Conceptual Integration Theory. A comprehensive, detailed and systematical analysis of adjective meanings in basic adjective metaphors and metaphorical combinations of basic adjectives leads to the following conclusion: the combination of basic adjective metaphors is the result of the "Least Effort Principle" with characteristics of simplicity and popularity. In addition, it also possesses the capability to produce richer metaphorical expressions.

Keywords

Metaphor, expression, cognitive linguistics, popularity

1. Introduction

This chapter is an introduction to the whole thesis. The first section consists of a background, followed by the purpose and the significance of the study in the second section, the research questions and methodology in the third section and the research object and scope with a highlighting of the whole structure of the study in the final section.

Expressions of metaphors belong to one of the categories of linguistic research. The linguistic theories all come from man's life, which are the inductions of life. The examples supporting the theories also result from our life practice and they are deducting the origin and evolution of these theories.

A famous English rhetorician, I. A. Richards (1973) puts it that a kind of metaphor emerges in every two sentences in our daily conversations. Metaphor makes the broad and profound languages of the human beings much plumper. The systematical research about metaphor in the west can be traced back to Aristotle 300 B. C. Aristotle (1954) thinks that metaphor is a kind of linguistic method that is applied to substitute a word with another word to convey the same meaning. The both are in a comparative relation, whose main function is modification.

However, from the perspective of the development history of the metaphorical research, and it has broken through the rhetoric restrictions, which, in the west, can be divided into three stages: first, the research is carried out from the aspect of metaphorical rhetoric, which lasts from 300 B. C to 1930s. The second is the stage where metaphorical semantics is studied from two research directions: the metaphorical semanteme is studied from the perspective of logic and philosophy as well as linguistics for more than four decades until the early 1970s. The third stage is from 1970s to the present. The western scholars carry out all kinds of deep research and explorations about metaphor from the multi-angles and multi-levels, such as the perspectives of cognitive psychology, philosophy, pragmatics, semiotics, phenomenology, hermeneutics and so on.

The study of systematical metaphor in China starts late, however, recently in order to meet the requirements of the Chinese-foreign language and cultural exchanges. The linguistics and foreign languages in China start excavating and sorting the statements about metaphor made by Chinese authors. The research scopes, interests and levels of the metaphorical phenomenon are being improved little by little. In China, a civilized country with a long history of several thousand years, the Chinese scholars in every field are devoted themselves to exploring and studying metaphor.

Research can be defined as a systematical approach to finding answers to questions. Reflecting on one's experience and feelings, or giving unwarranted judgments and groundless viewpoints, is not a veritable study. Linguistic research is the systematical study of languages, usually with respect to a particular aspect of it which can be categorized into conceptual research and empirical research. The former depends heavily on speculation/deduction, e.g. the study of the origin of language. The latter, characterized by the use of induction and the process of hypothesis formation-confirmation, can be further classified into quantitative research (like an experiment and a survey) and qualitative research (like field work and case study), each type having its advantages and disadvantages. Quantitative research is empirical research where the data are in the form of numbers. Qualitative research is empirical research where the data are not in the form of numbers.

At present, English corpora are adopted in metaphor research in China, while few Chinese corpora are used in it. In metaphor research, it is found that quantitative analysis only account for 5%, revealing that the ways of studying linguistics in which Chinese scholars adopt are not sufficient. Some Chinese scholars psychologically resist quantitative analysis, not willing to adopt the way, while adopting the ways of observance, introspection and reasoning, which are used traditionally by Chinese scholars. Maybe this is a deficit in metaphor research in China.

Qualitative approach is adopted as a research method in this study. Data collected are used to explore the cognitive mechanism of verb metaphors with a logical subject, predicate collocation; a logical verb, object collocation and a logical subject, predicate and object collocation. The Chinese Corpus CCL (Center for Chinese Linguistics PKU) and the English Corpus BNC (British National Corpus) are the supportive foundation for the data.

2. Method

As is known to all of us that, a large number of the contemporary disciplines, including linguistics, now that the descriptions of the research object cannot meet the satisfaction, they have begun regarding the interpretation as one of the most significant objects. The study about the expressions of English metaphors is supposed to have two objects: the descriptions for the expressions of English metaphors as well as the interpretations for this phenomenon. The full descriptions are the prerequisites of the interpretations, while the interpretation is one of the highest aims of any discipline. The interpretation for the expressions of English metaphors ought to involve psychology, sociology, philosophy, linguistic, etc. The definition of metaphor studied in this chapter will be elaborated in Chapter Three thoroughly. From the perspective of the cognitive linguistics, the author has analyzed the expressions of English metaphors and summed up the formation mechanism. The study about the expressions of English metaphors is a kind of interdisciplinary knowledge, which requires researchers to be entitled with a broad mind and profound knowledge.

3. Result

We can find out that the way of English metaphor is to compare a concrete thing to another concrete thing or to an abstract thing or to compare an abstract thing to another abstract thing. The English metaphor is not only similar to the Chinese metaphor but also to the Chinese metonymy, imitation and exaggeration. Namely, the English metaphor covers much more the Chinese metaphor, which means that among the English similitude figures of speech, except for the simile, any other analogy can be called metaphor.

Metaphor often adopts the shallow and common things to interpret the profound hows and whys and describe the features of the thing, making the thing more lively, vividly and concrete, giving the readers a distinct impression. Understanding the expressions of metaphor plays a significant role in literary creation and appreciation and English teaching.
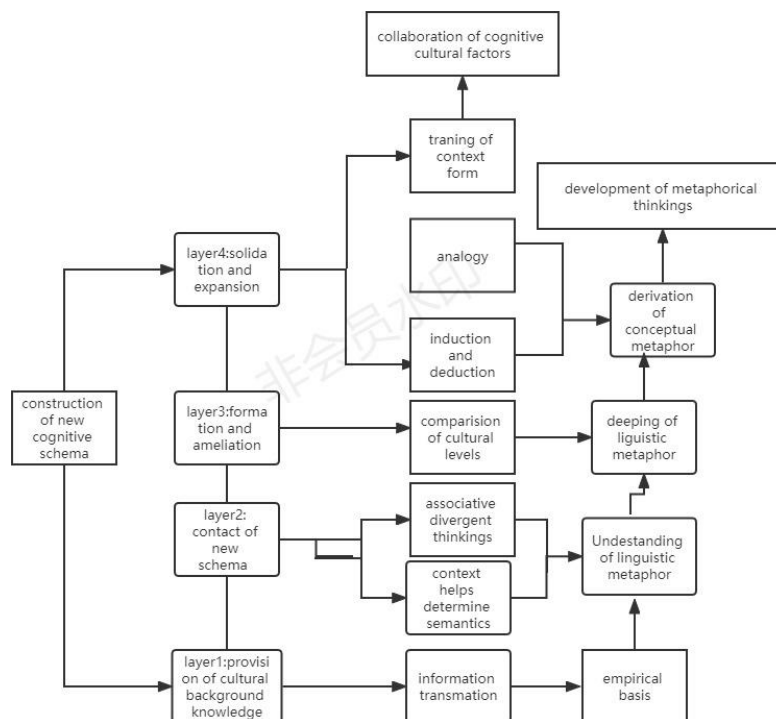
4. Discussion

4.1 Nominal Metaphor

A nominal metaphor refers to a metaphor that is composed of nouns, which belongs to one of constitutional features of metaphorical syntax. Next we are going to start from the mapping mechanism of metaphor with some concrete examples, explaining reasons for producing nominal metaphors with different syntactic features and the cognitive approaches from the perspective of cognition.

4.1.1 As Subjects

Take the following sentence for example:

(12) Another challenge of the sponsor comes from his rival.

In this sentence, "challenge" is derived from a root metaphor, "Economy competition is a battle.", where the source domain is "battle" and the target domain is "economy competition". A structural metaphor refers to a corresponding relationship between the mapping from the source domain to the target domain, where the cognitive structure of the source domain is systematically mapped into the target domain. This kind of mapping relationship is in a single direction but with a multi-layers. Therefore, the above nominal metaphors belong to structural metaphors.

4.1.2 As Objects

Let's look at the following two sentences:

(13) Over mountains, through mist, I love you as pure as morning dew.

(14) We may have to go our separate ways.

The above two sentences depict love. We can see that the two"loves" both metaphorically refer to a journey, which implies a conceptual metaphor, "love is a journey". In these two sentences, "journey" is a source domain and "love" is a target domain. "Mountains" and "mist" reveal "entities of barriers during travelling" and "difficulty in an episode of love". "Our separate ways" shows "a fork in a road" and "emotional differences in a love", which corresponds with "travelers get together" and "harmony and division between lovers".

4.1.3 As Predicates

Let's look at the following two sentences:

(15) The earth is human's mother.

(16) An interest is a best teacher.

Judging from the above two sentences, they both adopt the rhetoric device: personification. The former compares "earth" to "mother", the latter "interest" to "teacher". Lakeoff and Johnson state in *Metaphors We Live By* that the most apparent ontological metaphors refer to the fact that a physical object is further identified as a person, which enables us to understand various experience of non-human entities from human motivations, features and activities (Lakeoff & Johnson, 1997, p. 116). However, the personification is not a single and unified process, and every personification varies with divergent aspects of these chosen persons. It is obvious that the two both sentences belong to an ontological metaphor. The former transfers the vehicle, a mother's bringing up her posterity to the tenor, the earth, and the latter transfer the vehicle, a teacher's enlightening students to the tenor, "interest". Moreover, another kind of nominal metaphor as a predicate in a sentence is derived from a root metaphor. These metaphors tend to be stored in human's conceptual systems, which cannot be perceived by people reflecting an early cognition to the nature and the whole world. According to statistics, 70% expressions of metaphors in general languages are derived from root metaphors. These metaphorical concepts are not only systematical in thinking and languages but also are consistent with cultures of different countries.

4.2 Verbal Metaphors

Verbal metaphors are linguistic phenomena which are formed by the conflict between a verb and a logical subject or an object. The verb constitutes a novel collocation relationship with its front noun so that a kind of non-conventional semantic relationship is formed. Different from a conventional relationship, this non-conventional possesses a meaning relevance in a specific context and the noun collocation with the verb possesses an actual reference. At this moment, the verb is recognized as a verb metaphor, in this kind of metaphors, a tenor and a vehicle seldom directly emerge, while they will emerge by verbal reflection, that is to say, the action structure, a behavior mode and a logical relationship keep unchangeable. Compared with nominal metaphors, verbal metaphors are difficult to recognize, for it is hard for us to judge whether there is an inconsistency between a source domain and a target domain especially those verbs, such as, "make", "put", "have" etc. In order to recognize the verbal metaphors, firstly we should clarify the collocation relationship and meaning related to verbs in a discourse so as to define the metaphorical meanings of the logical subject and object located before and after the verb, and

182

at last the concrete category of metaphorical terms can be defined. For example, (23) Their dream slipped away. In this sentence, the verb "slipped away" collocates with the noun, "dream". As we all know, "somebody" often collocates with "slipped away", therefore, here, a metaphorical meaning is produced, and at this point the verb realizes the metaphorical interpretation.

According to collocation relationship among subject, predicate, object in a syntactic form, Wang Yin (2007) divides verb metaphors into three sorts: the metaphors produced by conceptual conflicts of a logical subject; the metaphors produced by conflicts of a logical verb and object; the metaphors produced by a logical subject, predicate and object. That is, the metaphors with collocation of a logical subject and predicate; the metaphors with collocation of a logical verb and object; the metaphors with collocation with a logical subject, predicate and object. This part of study on expressions of metaphors recognizes verbal metaphors in the masterpiece *Six Chapters Of A Floating Life* (《浮生六记》) to explore its cognitive mechanism. *Six Chapters Of A Floating Life* is a typical masterpiece of art in Chinese literature. This part adopts corpus from it, exploring cognitive mechanism of verb metaphors in the original text, effectively promoting the dissemination of cultural and aesthetic connotations of this literary work. Based upon the classification of verbal metaphors, the author has summed up 55 kinds verbal metaphors. Among them, there are 24 examples of verbal metaphors of Logical Subject Predicate Collocation, accounting for 46.2%, 17 examples of verbal metaphors of Logical Verb Object Collocation, accounting for 32.7% and 11 samples of Logical Subject Predicate Object Collocation, accounting for 21.1%. Accordingly, the below comparisons of verbal metaphors classification in *Six Chapters Of A Floating Life* is shown in Table 1 as follows:

Table 1. Comparisons of Verbal Metaphors Classification in *Six Chapters Of A Floating Life* (Notes: LSPC: Logical Subject Predicate Collocation; LVOC: Logical Verb Object Collocation; LSPOC: Logical Subject Predicate Object Collocation.)

	LSPC	LVOC	LSPOC
Language Examples	29	17	14
Proportion	52.7	30.9	25.4

From this table, it is obvious that the highest proportion of verbal metaphors is Logical Subject Predicate Collocation, followed by Logical Verb Object Collocation, and the lowest is Logical Subject Predicate Object Collocation. The main reason for this phenomenon is that syntax dominated by a logical subject predicate is a common sentence pattern, while the implementation conditions of a logical subject predicate object is that a logical subject predicate object contains metaphorical meanings in syntax, therefore, there are the fewest metaphors among the three kinds of verbal metaphors.

4.2.1 The Verbal Metaphors Cognitive Mechanism of a Logical Subject and Predicate Collocation

The logical subject predicate collocation metaphors in verbal metaphors are non-conventional meaning collocation metaphors caused by conflicts between a verb and a logical subject. In a discourse, a logical subject uses a non-conventional verb to collocate and then an intense conflict is produced between the two both, forming a verbal metaphor. For example, (24) I went up the tower one snowy day; the beautiful snow-flakes dancing in the sky above and silver-clad hills and jade bedraggled tree below gave one the impression if a fairy world.

Six Chapters Of A Floating Life

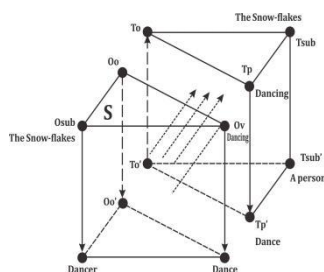This sentence describes an event when Shen Fu with his friend climbed the Yellow

Crane Tower.

Figure 2. The Cognitive Model of the Verbal Metaphor with Logical Subject and Predicate Collocation

According to the Figure 2, Original Text, "O" for short and Translated Text, "T" for short implied the two parts (left and right triangular prism) in the same verbal metaphor as a whole (a cube) and the arrows from left to right shows the cognitive process from "O" to "T". According to the logical structure of subject, predicate, object in the sentence three vertices (triangular prism) of "O" and "T" respectively highlight as the logical subject (Sub), predicate verb (V) and logical object (O). In this logical subject predicate verbal metaphor, "the beautiful snow-flakes dancing in the sky above", the logical subject is "snow-flakes" and the predicate verb is "dance". These are mapping verbal metaphors from the source domain, "snow-flakes" to the target domain, "dance" from top to bottom.

In this verbal metaphor, this predicate verb, "dance" makes the logical subject, "snow-flakes" produce a semantic conflict with it so that a novel verbal metaphor of the logical subject and predicate is formed. Through this verbal metaphor, the scene of snow-flakes being blown disorderly by strong winds and dancing aimlessly in the air instantly emerges, enhancing the vividness of depicted images. Original subject (Osub) is similar to "dancer" in terms of behavioral features. And the metaphorical meaning is represented by the restriction of the verb, "dance" to the noun "Osub". In the above sentence, "the beautiful snow-flakes dancing in the shy above" the logical subject, "the beautiful snow-flakes" corresponds to "Osub", reproducing the verbal metaphor of flying in the original language so that vivid

184

views depicted in the sentence is holistically copied. There is a close metaphorical relationship between the source and input language with similar semanteme and strong dynamic roles.

4.2.2 The Verbal Metaphors Cognitive Mechanism with Logical Verb and Object Collocation

The verbal metaphors of the logical verb and object collocation is a non-conventional meaning collocation metaphor caused by the conflict between a verb and a logical object. In a discourse, the verb uses a non-conventional logical object to collocate and an intense conflict is produced between the two both, producing a verbal metaphor. For instance, (25) the fifteenth of the seventh moon was All Souls' Day.Yun prepared a little dinner, so that we could drink together with the moon as our company.

<p align="center">*.........Six Chapters Of A Floating Life*</p>

This sentence describes that after Shen Fu married Chen Yun, they recited poetry and enjoyed music, leading a happy life.
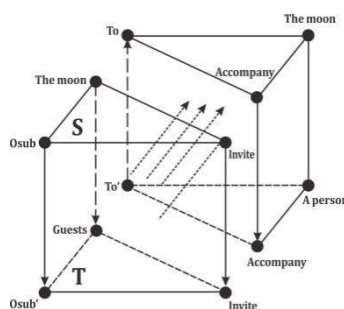

Figure 3. The Cognitive Model of the Verbal Metaphor with Logical Verb and Object Collocation

As the Figure 3 shows, the triangular prim on the left denotes the source language "the moon" and the right one denotes the Translated Text "together with the moon as our company". The logical verb object collocation, "the moon on the left source, in this mapping of the verbal metaphor, the highlighted vertex is the predicate verb "invite" and the logical object "the moon". In this sentence "Yun prepared a little dinner so that we could drink together with the moon as our company", the original meaning is that Chen Yun was drinking while enjoying the moon with Shen Fu, where the logical object "the moon", this novel collocation is adopted to regard the moon as our guests invited by Chen Yun to drink and sing together. The predicate verb "invite" activates common features of the logical object "the moon" and the noun "the guests", both of which can be as accompanies while drinking, completing the mapping process between the source domain, "the moon" and the target domain, "the guests" in this verbal metaphor (top-to-bottom arrows in the Figure 3), vividly conveying Chen Yun's leisure and elegance drinking happily in moonlight. During understanding the verbal metaphor "Yao Yue", the translation "invite the moon" is not used, while the translation "together with the moon as our company" is produced, which does not only abandon the verbal metaphor of the original text but also is consistent with English expression. In this triangular prim of Figure 3 on the right, the vertex is turned into the logical subject "the moon", the

<p align="center">185</p>

predicate verb "company" and the noun "the moon" is formed and then the sentence is bestowed with a metaphorical meaning.

4.2.3 The Verbal Metaphorical Cognitive Mechanism of Logical Subject Predicate and Object Collocation

The verbal metaphors of logical subject predicate and object collocation are mainly caused by a kind of semantic conflict when a logical subject collocates with a non-conventional logical object. In other words, the semantic conflict is formed between a logical subject and a verb; between a predicate verb and a logical object. And then the kind of metaphors is called verb metaphors with a logical subject predicate collocation. For example, (26) when I went up on board the boat, I saw the peach and pear trees on the banks were in full bloom, but I felt like a lonely bird that had lost its companions and as if the world was going to collapse around me.

The sentence describes the scene that Shen Fu will depart with his wife for further education.
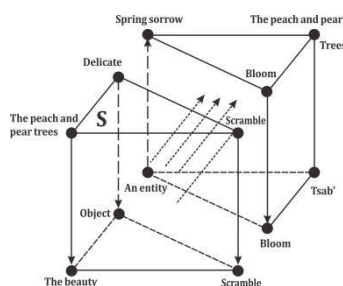

Figure 4. The Cognitive Model of the Verbal Metaphor with Logical Subject, Predicate and Verb Collocation

At departure, it is a sunny and blooming season. At this time, Shen Fu is solitary like an abandoned bird in woods. In this sentence, "the peach and pear trees on the banks were in full bloom" shows a beautiful scene. Just as the Figure 4 shows, in the triangular prim of the source language on the left, the subject, predicate and object collocation is three highlighted vertexes, "Osub" stands for the logical subject, "the peach and pear trees" "OV" for the predicate verb, "scratch" and "Oo" for the logical object "beauty". On one hand, the logical subject, "the peach and pear trees" forms a novel collocation with the predicate verb, "scratch", on the other hand, the predicate verb, "scratch" also forms a novel collocation with the logical object "beauty". Through association meaning, "the peach and pear trees" are compared to "beauties". The scene of blooming peach and pear trees is like beauties flocking together to be selected. The two possess similarities. "The beauty" of the peach and pear trees is like an article which can be "scratched". The verb "scratch" activates the metaphorical semanteme of this sentence. In the triangular prim on the left, from up to down is respectively a conceptual domain "beauties" and "the peach and pear trees"; "ontological objects" and "beautiful scene". They are interactively mapping, depicting a beautiful scene of garden flowers blooming in a lively manner, which contrasts sharply with Shen Fu leaving alone in a boat, indirectly highlighting his reluctance to part with his wife.

186

4.3 Adjective Metaphors

Adjectives are the words that are used to describe qualities or attributes. Basic adjectives directly come from interactions between human beings and nature, reflecting basic cognition of physical attributes. This part explores habitual expressions where adjectives are put in front of nouns, such as, "a soft ear--- a credulous person", "soft tasks". From the perspective of cognitive linguistics, they are metaphorical collocations.

4.3.1 Motivations and Mechanism of Basic Adjective Metaphorical Collocations

A metaphor consists of a source domain and a target domain, whose essence is to use a kind of thing to experience and understand another thing. A conceptual metaphor is made up of four aspects: a source domain, a target domain, an experiential basis, and a mapping. Metaphorical cognition is to project schema structure of a source domain onto a target domain. Such a mapping is realized between two different cognitive domains, whose basis is experience. Next, adjective metaphors are analyzed from syntactic category, such as, "melancholy flowers", "thunderous applauds". Adjective metaphors represent metaphorical features of thinking. Attributes of the things are mapped onto another thing, acquiring understanding of the thing. The similarities between a source domain and a target domain are direct which can be shown by adjectives in adjective metaphors. For example, "soft ears", it doesn't mean that ears are soft, while this phrase refers to a person without the ides of his/her own, who is credulous. Since "ears" are organs used to hear something, and the adjective "soft" is used to describe a man's characteristic. Such similar adjective metaphors are as follows: "a jelly-fish", "soft heart", "long tongue", "frank" and so on. This kind of adjective metaphors, nouns are human body's organs metonymy of people's feelings, personalities, abilities and behaviors. Since basic adjectives are highly generalized with many similarities, the different things with the same attribute can give different feeling to people under the different circumstances. For example, people will get the different feelings when they eat ice-cream in cold winter and sultry summer. When people metaphorically use basic adjectives to convey their subjective feelings, the source domain is covert, concealed in people's experiential schema formed by daily life, thus, the source domain tends to be featured by its non-uniqueness and non-fixity. The source domain of the basic adjective metaphorical collocation, which is concrete or abstract but mainly is abstract, such as, "soft knife" and "soft nail", here, "knife" and "nail" are respectively compared to "methods of harming people" and "refusal". "Soft knife" and "soft nail" seem to be unnatural, for they are against people's conventional experience. However, it is not hard for us to understand, for people have a good command of "softness" of its natural attribute. The collocations between "soft" and "knife"; "soft" and "nail" respectively add the meanings, "subconsciousness" and "euphemism". This kind of adjective metaphors produce the effect of "the whole is greater than the sum of its part". In a certain context, on a social occasion and under a certain cultural background, if a speaker and a hearer have common sense, a hearer is able comprehend a metaphorical meaning by virtue of people's unique metaphorical thinking without a series of pragmatical processing procedures and principles.

4.3.2 Adjective Meaning in Basic Adjective Metaphorical Collocation

About semanteme, Shao (1996) points out that semanteme is divided into two parts: objective conceptual meaning and subjective color meaning. The conceptual meaning reflects that contents of an objective thing's own, and the color meaning mostly reflects people's subjective cognition, where rhetoric meanings are included. Feng Zhicun (1995) points out that word meanings can be divided into two types: conceptual and subsidiary meanings. Conceptual meanings have something to do with concepts, reflecting a real phenomenon significance. A monosemy word has only one conceptual meaning, and for a polysemous word, it has at least two kinds of conceptual meanings. The original, basic, extended and metaphorical meanings in a polysemous word all belong to the conceptual meaning. The above contrasts show that a conceptual meaning is less wider than a terminological meaning. The reason is that the perspective of concept is different. The former tends to recognize an objective base of cognition, while the latter more clearly reflects dynamic conceptualization of diachronic.

5. Conclusion

English metaphor is a special cognitive phenomenon occurring in human languages. English metaphor is not only a kind of cognitive phenomenon but also a sort of special phenomenon of language use. It occurs in almost every field, such as literature, education, art, medicine and so on. Based upon what I have analyzed in the above chapters, the following conclusions can be drawn:

1) This paper studies the expressions of English metaphors from the perspective of the cognitive linguistics: nominal metaphor, verbal metaphor, adjective metaphor. Through the study, the author has found that the understanding of English metaphor is a hierarchical structure that integrates language, cognition and culture into one unit. In addition, the understanding of English metaphors mainly depends upon the construction of new cognitive schema to realize the cognition and the understanding of the target language.

2) Through the study about the expressions of English metaphors, the author has made the following discoveries. First, the transfer of the cognitive schema of culture prevails in the process of metaphorical comprehension. Second, the contexts can provide the informational basis for the inference, playing a significant part in understanding metaphor. The author has also found that their understandings of metaphor, to some extent, relies upon the co-texts and the contexts.

References

Aristotle. (1954). *Rhetoric and Poetics*. New York: The Modern Library.

Basso, K. (1976). Wise words in Western Apache. In R. Lasson (Ed.), *Language, culture and cognition*. Macmillan Publishing Co. Inc., 1981.

Black, M. (1962). *Models and metaphors*. Cornell University Press. https://doi.org/10.7591/9781501741326

Burke, K. (1945). *A Grammar of Motives*. New York: Prentice Hall.

188

Cameron, L. (2007). Patterns of metaphor use in reconciliation talk. *Discourse & Society*, 197-222. https://doi.org/10.1177/0957926507073376

Chilton, P. (2006). Manipulation, memes and metaphors: The case of Mein Kampf. In L. de Saussure, & P. Schulz (Eds.), *Manipulation and Ideologies in the Twentieth Century* (pp. 15-44). Amsterdam and Philadelphia: John Benjamins. https://doi.org/10.1075/dapsac.17.03chi

Chmosky, N. (1965). *Aspects of the theory of syntax.* Cambridge, Mass: MIT Press.

Croft, W. (2002). The Darwinization of linguistics. *Selection*, *3*, 75-91. https://doi.org/10.1556/Select.3.2002.1.7

Croft, W. (2004). *Cognitive Linguistics*. New York: Cambridge University Press. https://doi.org/10.1017/CBO9780511803864

Dawkins, R. (1976). *The Selfish Gene*. Oxford: Oxford University Press.

Dediu, D., & Levinson, S. (2015). The time frame of the emergence of modern language and its implication. In D. Dor, C. Knight, & J. Lewis (Eds.), *The Social Origins of Language* (pp. 184-195). Oxford: Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199665327.003.0014

Dennett, D. (1995). *Darwin's Dangerous idea: Evolution and the Meaning of Life* (pp. 176-192). London: Penguins Books.

Domínguez, M. (2015). Evolution of metaphors: Phylogeny of oil slick cartoons in Spanish press. *Discourse & Society*, *26*(2), 184-204. https://doi.org/10.1177/0957926514556208

Domínguez, M. (2015). On the origin of metaphors. *Metaphor and Symbol*, *30*(3), 240-255. https://doi.org/10.1080/10926488.2015.1049858

Domínguez, M. (2015). The metaphorical species: Evolution, adaptation and speciation of metaphors. *Discourse Studies*, *17*(4), 433-448. https://doi.org/10.1177/1461445615578963

Domínguez, M., & Mateu, A. (2014). Are the winds of change blowing in Spain? Cartoonists' critical analysis of King Juan Carlos' elephant-hunting trip. *Journalism Studies*, *15*(2), 187-203. https://doi.org/10.1080/1461670X.2013.805014

Domínguez, M., Pineda, F., & Mateu, A. (2014). Life in a nutshell: Evolution of a migratory metaphor in Spanish cartoons. *Media, Culture & Society*, *36*(6), 433-448. https://doi.org/10.1177/0163443714536073

Dunbar, R. (2010). Why only humans have language. In R. Botha, & C. Knight (Eds.), *The Prehistory of Language* (pp. 12-35). Oxford: Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199545872.003.0002

Durham, W. (1991). *Coevolution: Genes Culture and Human Diversity*. Stanford: Stanford University Press. https://doi.org/10.1515/9781503621534

Fauconnier, G., & Turner, M. (2002). *The Way We Think: Conceptual Blending and the Mind's Hidden Complexities*. New York: Basic Books.

Feldman, J., & Narayanan, S. (2004). Embodied meaning in a neural theory of language. *Brain Language*, *89*(2), 385-392. https://doi.org/10.1016/S0093-934X(03)00355-9

Fitch, T. (2008). Glossogeny and phylogeny: Cultural evolution meets genetic evolution. *Trends in Genetics*, *24*(8), 373-374. https://doi.org/10.1016/j.tig.2008.05.003

Fitch, T. (2010). *The Evolution of Language*. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511817779