The Representation and Cognitive Semantics of Ecological Metaphors

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Abstract: Taking the ecological discourse in the third and fourth volumes of Xi Jinping on the Governance of the Country as the corpus, this paper aims at exploring the ecological concepts refracted by conceptual metaphors, and promoting the ecologisation of language. Based on conceptual metaphor theory and architecture theory, the whole paper adopts MIP identification procedure, quantitative and qualitative analysis to identify, classify and count the ways of representation of ecological metaphors therein, selects colour metaphors and analyzes and interprets their cognitive semantics, and concludes that Xi Jinping shapes the economic view of ecological civilization construction through the discourse-constructing function of metaphors in the eco-corpora. This study demonstrates the Chinese government's ecological outlook and reveals that the state seeks to maintain a balanced and harmonious symbiosis between economic development and ecological civilisation construction.

Keywords: Conceptual Metaphor; Ecological Discourse; Xi Jinping on the Governance of the Country; Volumes III and IV

1. Introduction.

The study of metaphors in Chinese political discourse has become a focus of attention in domestic linguistics, with Xi Jinping's foreign speeches analysed mostly, (e.g., Wang Hui and Sun Jing 2016; Wang Shaohua and Zhang Wei 2017; Wen Qiuhua 2017). Some scholars also conduct discourse analysis and discourse analysis of Xi Jinping's speeches from the perspective of systemic functional linguistics. For example, Huang (2017) examined how Xi Jinping used anthropomorphic metaphors to present Chinese traditions and cultural values in his speeches through meta-functional analysis; Chen Fenghua and Cha Jian (2017) analysed the construction of the image of national leaders in Xi Jinping's speeches from a multimodal cognitive perspective. While most studies on Xi Jinping's ecological thought involve the formation background and characteristic meaning (Shen Manhong 2018; Wei Hua and Lu Lige 2019), the research on ecological discourse, especially the representation mode and cognitive semantics of metaphors, is still too insufficient. In this paper, we use Chapter 13 in Volume 3 and Chapter 14 in Volume 4 of Xi Jinping on Ruling the Country as the corpus, combine conceptual metaphor theory and architecture theory, and mainly adopt the analysis method of the MIP metaphor recognition procedure to explore the ecological view of the Chinese government and its discursive constructs.

2. Theoretical foundation and methodology

2.1 Conceptual Metaphors

Lackoff and Johnson (1980) creatively proposed the contemporary theory of metaphor in Metaphors We Live By, which completely changed the traditional view of metaphor. (McGlone, 2007). Lakoff introduced the concept of "domain" to explain the working mechanism of metaphor. The known domain is called "source domain" and the unknown domain is called "target domain". In fact, metaphor is a unilateral mapping from the source domain to the target domain, and the similarity between the two domains is the basis for this process (Lakoff & Johnson, 1980). For example, LIFE IS A JOURNEY, TIME IS MONEY, and ARGUMENT IS WAR, where JOURNEY, MONEY, and WAR are called the originating domain and LIFE, TIME, and ARGUMENT are called the target domain. In general terms, metaphor is the use of existing experiential knowledge as the cognitive basis for people to understand another more abstract or unfamiliar thing that is both related and different (Wen Xu, 2022). Thus, it seems that metaphor facilitates the dissemination of knowledge, the communication between people's ideas and the interaction of different contexts (Lin, 2024). In human societies, politics and metaphors are often closely linked, and Charteris-Black argues that metaphors are an important means of conceptualising political issues and constructing worldviews (Charteris-Black,

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2004:47).

2.2 Architecture Theory

Lakoff (2004, 2008) considers architecture to be a deep-rooted cognitive structure about how the world works. For example, when we learn about a murder, we activate the architecture of murder: murderer, victim, accomplice, suspect, motive for murder, etc. The architecture exists in our brain and reflects our values. Structures exist in our brain and reflect our values. We usually activate them in our thinking and in our communication. Structures construct our ideas and concepts, determine how we reason, and even influence how we perceive and act. We use them automatically and unconsciously in most cases. Architecture can be categorised into surface architecture and deep architecture: the mental structure activated by words is the surface architecture, while deep architecture refers to the most fundamental architecture that constitutes the moral worldview and political philosophy, which can only be deeply rooted in people's minds and accepted when people's architecture is in line with their values (Wang Shaohua, 2008: 5). Architecture is also a kind of metaphorical thinking, except that architecture also has some characteristics that conventional metaphors do not have. Architecture begins with narrative, provides logic for our thinking and reasoning, is dynamic, more infectious, more acceptable, and can be used to look into the deeper socio-ethical values, so architecture theory is more suitable for analysing the political discourse (Wang Shao-hua, 2011).

2.3 MIP

Metaphor Identification Procedure (MIP) is a metaphor identification mechanism developed by Pragglejaz Group (2007). It is based on providing a set of universal rules and easy-to-follow rules for the exhaustive identification of metaphors in large-scale corpora and discourse facts (Pragglejaz Group 2007:3).The steps of the MIP procedure are as follows: (1) Read the text to grasp the overall meaning, (2) Locate the lexical units (lexical units), (3) 1) Pair the lexical units (lexical units), (4) Pair the lexical units (lexical units), and (5) Pair the lexical units with the lexical units (lexical units). (3) 1) For any lexical unit, grasp as much as possible its meaning in context, i.e., how it relates to a particular matter, relation, or attribute activated by the discourse text. 2) Determine whether all lexical units have more basic meanings in other contexts than they do in the present context: more concrete (generating associations and triggering activation of the senses such as seeing, hearing, touching, tasting, smelling, etc.); related to bodily behaviours; more precise (as opposed to ambiguous); historical; more accurate (as opposed to vague); and more precise. 3) If the lexical unit has a more basic meaning in other contexts than in the present context, check whether there is a difference between the contextual meaning and the basic meaning, and make it understandable by comparing the two. If the above three conditions are fully satisfied, the lexical unit can be recognised as a metaphorical lexical unit (Chen Lang 2022).

3. Types of Conceptual Metaphorical Representations

3.1 Statistical Table of Conceptual Metaphor Representation Types

In order to identify the metaphorical expressions appearing in the third and fourth volumes of Xi Jinping on the Governance of the Country, this paper uses the MIP metaphor recognition procedure proposed by Pragglejaz Group, and extracts 803 metaphorical expressions using the four speeches in the thirteenth unit of the third volume of Xi Jinping on the Governance of the Country and the five speeches in the fourth volume of the fourteenth chapter of the third volume of Xi Jinping on the Governance of the Country, which are a total of 20,251 words as the corpus. At the same time, this paper takes the source domain of metaphor as the classification criterion and categorises the above metaphorical expressions into 13 types of conceptual metaphors. In order to avoid the subjectivity of manual analysis as much as possible, the author and another teacher with linguistics background cooperated in the first round of identification and determination of the corpus, and the degree of overlap reached 94%, and then discussed the parts with different opinions, and then asked peer experts to adjudicate for the parts that were still in disagreement, and finally reached an agreement, and the results are shown in Table 1.

In order to better describe the application and distribution of conceptual metaphors in Xi Jinping on the Governance of the Country, this paper will adopt the concept of resonance of source domain proposed by Charteris-Black (2004). This

value is applied to the measurement of the frequency of occurrence of the source domain in a given corpus, i.e., the prevalence of the

source domain. The formula is as follows:

Resonance ＝Σtype ×Σtoken

The formula can also be interpreted as "source domain resonance value" is obtained by the product of "total number of metaphorical keywords" (Σtype) and "total number of metaphorical keywords" (Σtoken).

The "source domain resonance value" is obtained by the product of "total number of metaphorical keywords" (Σtype) and "total number of metaphorical keywords" (Σtoken). For example, the originating domain A has three metaphorical keywords a, b, and c only, and the number of occurrences of a is 1, and the number of occurrences of b is 1.

1, b 3, and c 4, then the resonance value of the originating domain A is (1+1+1)

× (1+3+4)=24.

Table 1.Statistics on the types of conceptual metaphorical representations in The Governance of the State (Volumes III and IV)

Representation	times	Total words	Percentage	echo values
Colour Metaphors	23	83	13.6%	1909
Imagery Metaphors	13	29	7.7%	377
Disease Metaphors	6	10	3.6%	60
Human Metaphors	23	95	13.6%	2425
War Metaphors	38	167	22.5%	6308
Building Metaphors	21	176	12.4%	3906
Family Metaphors	6	58	3.6%	348
Animal Metaphors	1	1	0.6%	1
Plant Metaphors	3	19	1.8%	323
Mechanical Metaphors	8	98	4.7%	784
Financial Metaphors	2	6	1.2%	36
Product Metaphors	2	57	1.2%	114
Game Metaphors	3	4	1.8%	12
Travel Metaphors	20	224	11.8%	4460

From this, the colour metaphor, which has a high number of occurrences in the conceptual metaphors, is selected for analysis, and its keyword results are shown in Table 2.

As can be seen from Table 1, war metaphors, human metaphors, and colour metaphors are the three most frequently used conceptual metaphors in Xi Jinping on the Governance of the Country in Volumes III and IV, accounting for 22.5%, 13.6%, and 13.6% of the overall usage, respectively; financial metaphors, product metaphors, and animal metaphors are the three least frequently used types of metaphors, accounting for 1.2%, 1.2%, and 0.6%.

Table 2.Keywords and number of occurrences of colour metaphors in Xi Jinping on the Governance of the Country, Volumes 3 and 4.

Colour Metaphors							
Keywords	Times	Keywords	Times	Keywords	Times	Keywords	Times
Red Line	12	Green Finance	1	Green Lifestyle	1	Green Schools	1
green technology	1	White Pollution	1	Green Living	2	Green Values	1
Green map	1	Green Belt and Road	1	Green Family	1	Green Community	1
Green Economy	2	Greening Action	2	Green Revolution	1	Green Travelling	2
Green Transforms	8	Green Civilisation	1	Green Home	1	Green System	2
White and greening	1	Green mountains are golden mountains	5	Green Development	34		

Colour metaphors are a metaphorical way of understanding and expressing abstract concepts or emotions through the symbolism of colours. Its core lies in mapping the physical properties or cultural symbols of colours to the target domain, giving abstract things an intuitive emotional, value or social meaning. From the above data, we can see that colour metaphors are more frequently used in Xi Jinping on Governance, which has become an important discourse strategy for the construction of the Chinese government's ecological outlook. Among them, "green" is used throughout the text as a synonym for China's economic and ecological development.

3.2 Cognitive Semantics of Ecological Metaphors

As an innovative discourse strategy, Xi Jinping's eco-metaphor focuses on economic development and environmental protection, the concept of sustainable development, and conveys the Chinese government's eco-view to the public in an easy-to-understand way.

Example 1 In the past nine years, blue skies and white clouds have reappeared, the green map has been expanding, the green economy has accelerated, energy and material consumption has been decreasing, thick smoke and heavy haze have been effectively suppressed, the number of black-smelling bodies of water has been significantly reduced, the urban and rural environments have become more livable, and the construction of a beautiful China has taken a solid step forward. (Speech by General Secretary Xi Jinping at the 29th Collective Study Session of the Political Bureau of the 19th Central Committee, 30 April 2021)

"Green" refers to meeting environmental protection requirements and being pollution-free, and in May 2015, the Opinions on Accelerating the Construction of Ecological Civilisation put forward the concept of "greening" for the first time, juxtaposing it with the "four new types of civilisation", and giving it a new meaning of "greening". The concept of "greening" was first proposed in the Opinions on Accelerating the Construction of Ecological Civilisation in May 2015, and it was listed alongside the "new four", which is a theoretical innovation in ecological civilisation construction. The term "map" mostly refers to the territory and boundaries of a country. In Example 1, "green map" is used to map China's ecological environment, activating the ecological architecture, and a good ecological pattern is conducive to the appreciation of ecological assets. Xi's emphasis on the fact that the continuous improvement of the quality of the ecological environment can contribute to the value of economic utilisation reflects the ruling party's determination to strive for a win-win interaction between the ecology and the economy.

Example 2 The second is that green water and green mountains are golden mountains and silver mountains. This is an important development concept and a major principle for promoting modernisation. Green water and green mountains are golden silver mountains ...... Green water and green mountains are both natural and ecological wealth, as well as social and economic wealth ...... (Xi Jinping's speech at the National Conference on Ecological Environmental Protection, 18 May 2018)

In Example 2, "Green mountains and green waters are golden mountains" is a typical "compound metaphor". "Green water and green mountains" refers to natural resources in the natural environment in general. In Example 1, the concept of "green water and green mountains" is mapped onto China's economic assets, emphasising that a good ecological environment is the greatest wealth, and suggesting that China's economic development must be premised on the protection of the ecological environment. The first activates the ecological architecture, referring to a good ecological environment, which is a familiar but seldom felt benefit of people's well-being, and a public good with public welfare. The activation of the wealth architecture through the "golden mountains and silver mountains" signifies people's demand for economic development and a higher level of quality of life. Xi Jinping likens "green water and green mountains" to "gold and silver mountains", using two concepts that are well-known to the Chinese people to discuss the profound truth that improving the ecological environment means developing productive forces, activating the idea that "ecological environment" is "wealth" and "wealth". This activates the metaphorical structure of "ecological environment" is "wealth".

Xi Jinping, then party secretary of Zhejiang Province, first creatively put forward the concept of "green water and green mountains are golden silver mountains" in a small village in northern Zhejiang, which fundamentally renewed people's traditional understanding of the pricelessness of natural resources and broke the constraints of thinking that simply pits development and conservation against each other. In this regard, the key is how to achieve the inner unity, mutual promotion and co-existence of development and protection. From the first stage of exchanging "green mountains" for "mountains of gold and silver" to the second stage of both "mountains of gold and silver" and "green

mountains", and finally to the final stage of "green mountains". "The second stage, and finally to the "green mountains" itself is the "mountains of gold and silver" advanced stage. People's understanding of the relationship between green wealth production and green wealth production has deepened, and a new concept of green productivity has been identified, placing ecological environment in a crucial position.

4. Conclusion

This paper takes the ecological metaphors in the third and fourth volumes of Xi Jinping on the Governance of the Country as the research material, and classifies and counts the representations of ecological metaphors based on the conceptual metaphors, architectural theories, and combined with the MIP identification procedure, quantitative and qualitative analysis methods. Among them, the green metaphor is the most representative and has a high frequency of occurrence. Therefore, this paper takes it as a typical metaphor to explore the deep meaning it expresses and the ecological economic view it constructs. The author finds that Xi Jinping's metaphorical expression activates the deep structure with the surface structure, elaborates the close connection between the construction of ecological civilisation and the construction of the economy, and demonstrates the Chinese government's determination to write a new green miracle, which is conducive to arousing the Chinese people's positive emotional attitudes towards the construction and development of ecological civilisation and the establishment of a correct value of ecological protection. In addition, this study also focuses on the naturalistic expression of metaphors in political thought, providing a practical case study for constructing a discourse system with Chinese characteristics, which helps to strengthen China's international discourse in the context of globalisation. However, because this study used manual data collection and analysis methods, it is impossible to avoid the problems of incomplete generalisation of metaphor types and subjective identification of metaphors. In future research, digital tools can be used to reduce the possibility of missing metaphor types and increase the objectivity of metaphor identification.

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