

An Ecological Discourse Analysis of China's Ice and Snow News Based on Theme-rheme Theory

Guoye Wu and Yi Zhang*

School of Foreign Studies, Northwestern Polytechnical University (NPU), Xi'an, China

Email: 2788156640@qq.com (G.Y.W.); yizhang@nwpu.edu.cn (Y.Z.)

*Corresponding author

Manuscript received April 18, 2024; revised June 7, 2024; accepted September 25, 2024; published October 23, 2024.

Abstract—This study, based on theme-rheme theory, conducts an ecological discourse analysis of the ice and snow news in *China Daily* to uncover the features of theme choices and ecological implications and ecological philosophy. It is found that China's ice and snow news convey a philosophy of harmonious existence of human beings, nature and society although human participants in themes reflect a kind human-centered development concept of this industry. At the same time, it calls for action to balance the development of ice and snow economy and environmental protection.

Keywords—*China Daily*, Ecological Discourse Analysis (EDA), ice and snow news, theme-rheme theory

I. INTRODUCTION

With the rising of public awareness of high-quality and green development, ice and snow economy has emerged as a popular mode of development. The ice and snow economy refers to economic activities that utilize ice and snow resources in an open and sustainable manner. This mode of development is characterized by its low investment requirements, low energy consumption, minimal pollution, and high efficiency. Since 2020, the number of winter ice and snow tourists across the country has risen sharply, and tourism revenue has increased significantly. Various provinces and cities have seized the favorable opportunity of development and began to build winter ice and snow tourism venues on a large scale to operate ice and snow tourism industries.

Linguists have been constantly trying to reflect and solve social problems through language and many linguists regard it as their responsibility to raise people's ecological awareness and encourage environment-protective behavior with language. Thus, they began to conduct ecological researches based on language and linguistic researches from ecological view and ecolinguistics came into being as a new discipline providing perspectives for linguists to explore the ecological implications behind language.

In 2023, cities like Harbin have attracted thousands of tourists at home and abroad with their natural ice and snow scenes, delicate works of ice and snow as well as hospitable locals and social media have covered the prosperity of ice and snow tourism in lots of news articles. The construction of the ice and snow tourism industry will inevitably affect the sustainable development of the ecological environment. Studying the sustainable development path of this industry from the standpoint of ecological civilization is therefore extremely important practically.

"Ice and snow news" refers to the information and updates related to ice and snow activities, festivals, or industries. This can include events like the Harbin International Ice and Snow

Festival, which is one of the largest of its kind in the world. The news may cover a range of topics such as the opening ceremonies, ice sculpture exhibitions, winter sports competitions, tourism statistics, and economic impacts of these festivals on the local communities and beyond. It could also involve advancements in ice and snow technology, safety measures for winter sports, and environmental concerns associated with climate change affecting the ice and snow seasons.

This research investigates the characteristics of themes and reveals ecological philosophy viewpoints inherent in the ice and snow news by conducting an ecological discourse analysis of the ice and snow news in *China Daily* based on thematic structure in Systemic Functional Linguistics (SFL). Studies on the interactions between people and the natural world, other people, or society in particular news sources can draw attention to ecology and the sustainable growth of the ice and snow economy at a linguistic level, help people develop a positive ecological awareness, and ultimately help them lead harmonious ecological relationships in the ecosystem. To fulfill these purposes, through a combination of qualitative and quantitative analysis, the author employs theme-rheme theory to investigate the ecological features and implications of the selected ice and snow economy news from *China Daily*.

There is both theoretical and practical significance of this study. Theoretically, it enriches research on thematic structure from the perspective of ecological discourse analysis. Practically, through the ecological analysis, this study can convey Chinese harmonious and beneficial ecological philosophy to readers. At the same time, the awareness of ecological protection of both news reporters and readers can be enhanced and more ecology-focused discourses are expected to be produced. Additionally, the findings could serve as a guideline for news reporters in composing effective messages with harmonious ecological philosophy.

II. RESEARCH METHODOLOGY

A. Theoretical Framework

Haugen model and Halliday model are two main traditional models in ecolinguistics, with Haugen model paying attention to the influence of the environment on language and focuses on language ecology, while the Halliday model concentrating on the influence of language on the ecological environment [1]. Linguist He demonstrates that the Halliday model should be given a clear and definite name: Ecological Discourse Analysis (EDA) [2]. As the

primary research method of ecolinguistics, EDA focuses on the role of language in the ecosystem and aims to reveal ecological views and ideologies behind discourses. This study follows the Halliday model, aiming to explore the ecological meanings of the selected ice and snow economy news.

1) Ecosophy

EDA is supposed to be conducted within an ecological framework [3]. The ecological framework consists of two basic parts: Ecosophy and an analytical framework. On the one hand, EDA cannot be separated from the guidance of ecosophy.

The term ecosophy put forward by Naess is an important research content in ecolinguistics [4]. It refers to the ideological system of value priority that individuals hold regarding the relationship between humans and nature. Chinese philosophy, with particular emphasis on harmony between humans and nature, will play a more and more significant role in the development of ecolinguistics. The ecosophy in Chinese Confucianism emphasizes harmonious coexistence, which does not refer to a subjective idea but underlines an actual process where humans, society and nature coexist harmoniously [5]. Nowadays, Chinese social values are more deeply embedded in ecosophy. The 20th National Congress of the CPC has further emphasized that great attention needs to be paid to the good relationship between social development and ecology. Based on the above discussion, the ecosophy which reflects the social value of China in the new era can be concluded as the guidance of this analysis, that is, the harmonious coexistence of humans, nature, and the development of society. To be specific, this ecosophy contains three spheres: harmony among people, harmony between humans and other species, and harmony among humans' benefits, the usage of natural resources and social development. Fig. 1 shows the ecological place view by He Wei and Wei Rong.

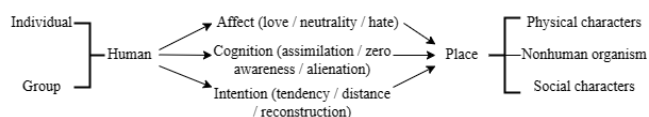


Fig. 1. Ecological place view by He and Wei [2].

2) Theme-rheme theory

On the other hand, to carry out EDA, a practical analytical tool or analytical framework is needed. EDA can borrow any functional linguistic theory as its analytical framework [2].

In order to study the distribution of information in utterances, Mathesius, the founder of the Prague School, divided sentences into three parts from the speaker's point of view, "Theme", "Rheme" and "Transition", in his article *On the Functional View of Sentence* in 1939 [6], which is the original Theme-Rheme Theory and belongs to the category of information structure. He considers Theme as the "starting point of the discourse", the object of the discourse, and "the known information, or at least the information that is obvious in a given context"; Rheme is what is said around the Theme, which is often the core of the discourse; and the Transition is the transitional component that connects the Theme and the Rheme. However, Halliday revised the theory from the perspective of receivers, arguing that "the known

information" and Theme are not identical [6]. In his view, Theme is the starting point of the communicative content, which does not necessarily contain known information, but is usually reflected in the initial component of a sentence, and is divided into marked and unmarked themes according to the form of the theme in different sentence types. Rheme, on the other hand, refers to components other than the theme.

According to the complexity of the structure of the Theme itself, Halliday divides it into 'Simple Theme,' 'Multiple Theme' and 'Clausal Theme'. However, in the view of Hu [3], "Clausal Theme" belongs to "Simple Theme" because it contains only conceptual components. According to He and Ma [7], Our division of the theme should be extended to the first participant role (declarative sentence and interrogative sentence) or process component (imperative sentence) of the clause should not stop at the environmental role component at the beginning of the sentence. The theme can be classified as a simple theme, multiple themes, or coincidental theme based on the amount of structural components: A simple theme is a single topical or experiential theme; The textual theme and interpersonal theme are included in the multiple theme in addition to the topical theme. A theme that embodies at least two of the three meanings of experience, interpersonal, and literary meaning is referred to as a coincidental theme. The theme can be separated into three categories based on the meaning conveyed by the structural elements: topical, textual, and interpersonal. The environmental component may come before the participant or process component in the subject theme, or it may just contain the participant role or process component at the same time; Interpersonal theme refers to mood, modality, or collative components; The textual theme is the structural, connected, or continuous component theme. Based on the above classification of theme, the EDA of ice and snow news reports will be implemented under the following framework through Figs. 2–4.

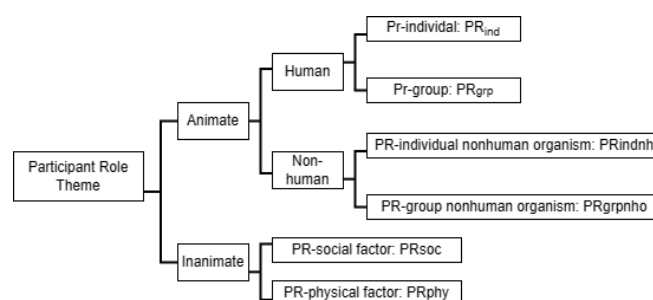


Fig. 2. Ecological perspectives of participant role theme by He and Ma [7].

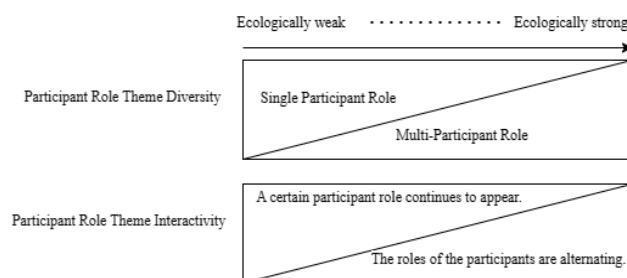


Fig. 3. Ecology of participant role theme in social ecological discourse by He and Ma [7].

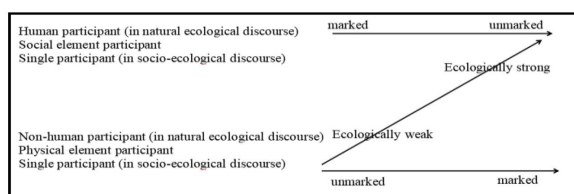


Fig. 4. Ecology of different marked participants as themes by He and Ma [7].

B. Research Questions

Two research questions are expected to be answered through the analysis:

- 1) What are the features of themes chosen in the news of ice and snow economy?
- 2) Based on the theme system, what ecological philosophies and implications are reflected in the news of ice and snow economy?

C. Data Collection

China Daily is regarded as one of the most authoritative mainstream media in China with high-quality reports. The author searched the website of *China Daily* with the key words “ice and snow” and time limit before January 30th 2024, for corresponding news reports. Then, the author browsed these articles and selected 10 of them with topics highly related to ice and snow industry according to the reported time as the research object of this study.

D. Procedure of Annotation and Analysis

Both qualitative and quantitative analyses are employed in this study to analyze the thematic structure of the reporting discourse and find the ecological philosophy contained in it. The quantitative analysis is achieved by the UAM Corpus Tool 6, a tool for annotation. The author uses the automatic annotation function of this software to annotate themes and rheme in the selected text. The qualitative analysis is conducted in discussing the ecosophy reflected by themes. The combination of qualitative analysis and quantitative research enables the final result to be more reliable and convincing.

III. RESULTS AND DISCUSSION

The theme is the starting point of discourse and refers to the known information. Rheme is the new information to be transmitted by the speaker [3]. Concentrated on the theme, the content of rheme is expanded. He Wei and Ma Chen also pointed out in beneficial discourses, non-human organisms serving as themes convey a stronger ecological sense than human beings [7]. Accordingly, the author annotated the themes in poems as “human” and “non-human”, and the statistics is shown as follows.

Table 1. Distribution of marked themes and unmarked themes

Theme	Marked theme	Unmarked theme
Number	71	558
Percentage	11.2%	88.7%

Themes serve as the starting point of a message, which is the information the speaker or writer wishes to emphasize [8]. They are divided into the textual theme, interpersonal theme,

and topical theme in line with their functions. The thematic structure the speaker or the writer chooses will reflect the message the speaker or the writer intends to highlight. From the ecolinguistic perspective, different thematic choices can embody the speaker’s different ecological preferences. This section will focus on how the thematic choices contribute to conveying the ecological meanings of the selected reporting news.

A. Ecological Discourse Analysis of Marked Themes

When the subject of the clause serves as the theme, it is called “unmarked theme” and when the theme is not the subject of the clause, it is called “marked theme”. In general, the speakers tend to take the subject as the starting point of discourse, i.e., the theme. Generally, according to the above statistics, the number of unmarked themes is rather less than that of marked theme, which is in accordance with the outcomes of previous studies in theme structure of news discourses. However, if the speaker wants to emphasize some components in the clause, he/she can make a clause with a marked theme by putting the component at the starting point of the sentence [6]. This part of will focus on the marked theme in the selected discourses and reveal its function as a certain component to be emphasized. Therefore, Xin and Huang proposed that the choice of theme is meaning-driven and serves for the expression of meaning [9]. In the ecological discourses, the marked theme of non-human participants delivers more ecological information than that of humans.

The marked themes of the following examples of quotations in the researched news emphasize speakers’ feelings, thoughts and suggestions.

Example 1: “*The water is frozen and the weather is not sunny, so solar power and hydro power are not reliable,*” he said.

In example 1, the utterance is put forward as the theme to attract more attention and emphasize the problem of in the development of ice and snow industry in winter. It indicates that there are still great challenges from the environmental limits faced with ice and snow industry to be solved.

Example 2: “*Electric cars and their batteries in China have developed rapidly, and they can now run smoothly in such winter climates,*” Zhao said.

Example 3: “*It is necessary to maintain the heat of winter tourism in Harbin and seize the opportunity to promote its summer tourism,*” said Jiao Hongwei, a deputy and head of Heilongjiang Jiao’s Eye Hospital.

Example 4: “*In my proposal, I have suggested fully mobilizing the resources of ice and snow literature, sports and tourism to create a batch of literature and art works for the Games, which can also show the unique charm of Heilongjiang’s ice and snow culture,*” said Zhang, also deputy director of Harbin Symphony Orchestra.

Similarly, the majority of the marked themes in the researched discourses are found in direct quotations from other people, and these sentences can be summed up as “utterance +said +subject.” By employing such marked themes, the opinions, assessments, and recommendations of tourists and the actions made to further the growth of the ice and snow economy are fully acknowledged, suggesting a harmonious relationship within Chinese society.

B. Ecological Discourse Analysis of Nonhuman Participant Role Theme

Table 2. Distribution of participant role theme

Participant role theme	Number		Percent
	Human	Pr-ind	
	49%	Pr-grp	21%
	Non-human	Pr-soc	29%
		Pr-phy	22%

As is presented in Table 2, the proportion of nonhuman as the theme is a little bit larger than that of human themes. The non-human organisms serving as the themes will be discussed firstly.

Example 5: *Taking a relaxing stroll through the park, I was captivated by the vibrant colors and breathtaking views, rejuvenating my spirit and connecting me with nature.*

In example 5, “taking a relaxing stroll through the park” is the theme, which highlights a feeling of relaxation of the speaker in the beauty of the natural scenes in the park. The rheme provides new information of the colorful natural scenes and the harmony between the person and nature.

Example 6: *The expansion of the ice and snow industry has also translated into substantial incomes for farmers and herders.*

In example 6, the theme “the expansion of the ice and snow industry” is a nonhuman social participant role which reflects the economic increase brought by the leverage of the natural resources. Farmers and herders have benefited from such an economic increase, which implied a human-centered ecosophy.

Example 7: *The province, known for its rich coal resources, is also a popular winter tourist destination, with its snow and ice attractions.*

In example 7, the theme “The province” entails a nonhuman physical participant. In natural ecological discourses, the more physical participants in the themes, the more ecological the discourse is [7]. In the selected text, physical participants entailed in themes account for a relatively large proportion, reflecting that the news about ice and snow industry do not focus only on economic increase, but also respect the significant role of natural objects. Therefore, it is suggested that themes contain a greater variety of physical objects as participants in order to help readers cultivate an awareness of the importance of respecting nonhuman natural objects and to decrease the notion that “human beings come first.”

Example 8: *“The air is clear, and I did not smell any coal burning here,” Lizak said.*

In the above example, the utterance of Lizak serves as the theme and it includes both physical participants and human participants, conveying that Mudanjiang owns high-quality natural environment and tourists like it very much, expressing the ecosophy of “harmony between human and nature”.

Example 9: *The local government has actively worked to protect ice and snow resources and boost the winter tourism economy, said Zhao Wenzheng, an official at Mudanjiang’s foreign affairs office.*

In example 9, the local government serves as an unmarked theme which is also a social group participant role, represents the authority. The government’s endeavor to protect natural

resources and boost the winter tourism economy shows that the government puts environmental protection in a highly important position and tries to balance the relationship between economic development and environmental protection.

C. Ecological Discourse Analysis of Human Participant Role Theme

Human beings are the major components of the planet and help to construct a society with a series of activities. Human organisms serving as themes also account for a large proportion in the 10 news reports. Human-centered ecosophy is revealed in the following analysis.

Example 10: *“After numerous visits, I want to delve deeper into understanding the local ethnic customs and culture,” she added.*

Example 11: *I found myself gliding on ice skates, my heart racing with happiness.*

In example 10 and 11, the participant included in the theme belongs to human individual role, and their rhemes correspondingly illustrate tourists’ satisfaction with ice and snow tourism, which is in accordance with the ecological philosophy of the harmonious coexistence of humans, nature, and the development of society.

Example 12: *The locals here know how to make the most of chilly winters.*

Example 13: *Locals here are known for their hospitality, always ready to share a smile and strike up a conversation.*

The above two examples both choose human group “locals” as participants in the theme, illustrating the hospitality of the local people and their leverage of natural resources in winter, creating a harmonious relationship between human and human, as well as between human and the nature.

It is easily found that themes appeared in the researched news are various, including tourist’s experience, tourist(s), operations of tourism attractions, official(s), tourism authority, tourists’ feelings, place, financial situations, ice and snow events, cities, etc. In other words, the development of the newly emerging industry of ice and snow is to a large extent human-centered.

D. Analysis of Degree of Ecology

Based on the eco-philosophical concept of “pluralism and harmony, interactive symbiosis,” He Wei and Ma Chen advocates that discourse creation on social ecology should choose as many participants as possible to act as the topical themes, and the more participants in themes there are, the stronger the ecological nature of the discourse will be [7]. On the contrary, the more single participant roles acting as topical themes, especially those representing the speaker’s position, the less ecological the discourse will be, namely, the ecological nature of the discourse is weaker. In this study, themes summarized above cover people from both the authority and the customers of the ice and snow industry, psychical things, objects, etc. With various participants included in themes, the whole reporting discourses show an ecosophy of harmonious existence of people and things.

Furthermore, since it can more accurately capture the interaction and symbiosis of various elements in a particular ecosystem, the ecological nature of the discourse is strengthened when different participant roles alternate in

serving as the theme rather than when a single participant role does so throughout successive clauses (He and Ma 2020). The author will elaborate it by analyzing themes of the first piece of news in this study. Participants in the themes in the first news are listed in the following table.

Theme 1: Flights and passengers

Theme 2: The two figures

Theme 3: the passenger volume

Theme 4: The paper

Theme 5: the season of ice and snow begins

Theme 6: As well as the flow of tourists

Theme 7: The record of the passenger...

Theme 8: The passenger load factor ...

Theme 9: In order to satisfy people's traveling demand

Theme 10: the Harbin Taiping International Airport

There are 10 themes in this piece of news which include totally different participants from human beings to social factors, showing a well-organized ice and snow tourism scene. It can be regarded as beneficial discourse. In other pieces of news, natural participants like water, climate, etc. also serve as themes, together creating a harmonious environment.

IV. CONCLUSION

A. Major Findings

By analyzing the thematic structure of 10 pieces of ice and snow news in *China Daily* from the perspective of ecological discourse analysis, this study aims to uncover the ecological implications and ecological philosophies in the development of ice and snow industry. In this section, major findings are summarized by answering the research questions raised before.

Firstly, the subject's position indicates that there are far more unmarked themes than marked themes in these news reports. The majority of the marked themes are employed in direct quotations from various people to emphasize the positive experiences that tourists have with the ice and snow industry, the efforts of the local government and the hospitality of the locals in cities with thriving ice and snow activities, and recommendations for the continued development of this industry based on environmental protection, demonstrating a kind of human-centered philosophy and fostering harmonious relationships between people. Secondly, as for the participant role in themes of these news reports, the proportion of human participant and nonhuman participants both account for large proportions, indicating that in addition to human beings, other participants, either social factors or physical factors, are also paid attention to. In nonhuman participants, delicate ice and snow works, government's support as well as the beautiful natural things are mentioned, together provides capital for the boom of the ice and snow industry in winter. In human participants serving as themes, local people's wisdom and hospitality and visitors' enjoyment constitutes the main part, indicating the harmonious relationship between humans and humans, which is in accordance with the traditional Chinese philosophy of harmony. Thirdly, as the ice and snow news belong to the social ecological discourse, participants in themes of these news reports are various and alternates in hundreds of sentences, indicating a high degree of ecology in which the

nature provides places and resources for people's entertainment, human beings stay in harmony with others and the whole society booms with all these participants, in accordance with the eco-philosophical concept of "pluralism and harmony, interactive symbiosis". At the same time, too many human participants in themes, especially as the subject, indicates that the news broadcasts currently covering the ice and snow industry are largely focused on human interests and emphasize the industry's economic growth. However, visitors' satisfaction to the natural environment, the government's skillful leverage of natural resources and challenges the industry meet due to the climate limit show that people have known the significance of balancing the development of ice and snow economy and environmental protection. Therefore, more natural things are advocated to be put in themes of news reports on ice and snow industry to raise people's awareness of cherish natural resources and call for public action to protect our environment.

B. Limitations and Suggestions for Further Studies

There are some limitations in this study. Firstly, not every theme in the selected news can be unscrambled from ecolinguistics because some of the clauses do not contain any ecological meaning or belong to eco-ambivalent discourse, so this study focuses only on those with magnificent ecological tendency, i.e., eco-beneficial or eco-destructive discourse. Secondly, the corpus is a little bit small because the author restricts the time of the news to before 2024 and only choose ten pieces of news reports as research object. Therefore, a diachronic investigation with a larger corpus is expected in order to fully define the ecological ramifications and ecosophy in news about the ice and snow industry.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

Wu made a main contribution to this paper; Wu conducted this work and wrote the article; Zhang helped to revise and perfect the paper; both authors had approved the final version.

ACKNOWLEDGMENT

The authors wish to thank School of Foreign Studies, Northwestern Polytechnical University (NPU) for providing a good environment and rich resources for the authors to carry out the research.

REFERENCES

- [1] M. A. K. Halliday, *An Introduction to Functional Grammar*, London: Arnold, 1994, ch. 3.
- [2] W. He and R. Wei, "Diversity and harmony, interaction and co-existence—Ecosophy for international ecological discourse analysis," *Foreign Language Research*, no. 6, pp. 28–35, Nov. 2018.
- [3] W. He and R. J. Zhang, "An ecological analytical framework for discourse," *Foreign Languages in China*, vol. 14, no. 5, pp. 56–64, Sept. 2017.
- [4] A. Naess, "The shallow and the deep, long-range ecology movement: A summary," *Inquiry*, no. 16, pp. 95–100, 1973.
- [5] A. Stubbe, *Ecolinguistics: Language, Ecology and the Stories We Live By*, London: Routledge, 2015.
- [6] Z. L. Hu, Y. S. Zhu, D. L. Zhang, and Z. Z. Li, *Introduction to Systemic Functional Linguistics*, Beijing: Peking University Press, 2005, ch. 6.

- [7] W. He and C. Ma, "Theme System from an ecolinguistic perspective," *Foreign Languages in China*, vol. 17, no. 4, pp. 23–32, July 2020.
- [8] G. Thompson, *Introducing Functional Grammar*, London: Arnold, 2004, ch. 4.
- [9] Z. Y. Xin and G. W. Huang, "Systemic functional linguistics and ecological discourse analysis," *Foreign Language Education*, vol. 34, no. 3, pp. 7–31, May 2013.

Copyright © 2024 by the authors. This is an open access article distributed under the Creative Commons Attribution License which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited ([CC BY 4.0](https://creativecommons.org/licenses/by/4.0/)).