Original Paper

Ecological Discourse Analysis of Environmental News Reports:

A Case Study of *China Daily* (2022)

Zhou Min[1*]

[1] School of English Studies, Xi'an International Studies University, Xi'an, China

[*] Zhou Min, E-mail: 304233268@qq.com

Abstract

As an emerging discipline, ecolinguistics has been of considerable interest to scholars at home and abroad in different fields, with the deterioration of global ecological situation and the improvement of people's ecological awareness. Ecolinguistics should be concerned not only with the studies on the relationship among human, nature and society, but also with the studies on the language itself, such as sound, form and meaning. Therefore, taking as a theoretical framework attitude system, a subsystem of Appraisal Theory, this paper will analyze how the attitudinal resources are distributed and then reveal the ecological meaning and the hidden ideology embodied in news reports as well as explore how environmental news reports affect human ecological awareness and the ecological environment in terms of environmental news reports selectively collected from China Daily in 2022.

Keywords

ecological, ecolinguistics, attitude system, attitude resource

1. Introduction

1.1 Research Background and Significance

With the rapid development of science and technology, human can be accessible to exploit and utilize natural resource in terms of convenient and efficient methods, thus getting considerable economic benefits. Accordingly, the unreasonable exploitation and utilization of natural resources have caused various environmental problems such as air pollution, water pollution and climate change. Therefore, human began to recognize the importance and urgency of protecting the environment and ecology faded into people's sight. Linguists have combined ecology and linguistics to study the relationship between language and environment from an ecological perspective. It was under this social background that ecolinguistics emerged.

Appraisal theory is an extension of Halliday's Systemic Functional Linguistics on the study of interpersonal function. The attitude system, as the core subsystem of appraisal theory, was put forward by Martin in 1999 and focused on language evaluation from the lexical level. It consists of three subcategories: affect, judgement and appreciation. In recent years, linguistics has applied appraisal theory to the analysis of different types of discourses, such as literature, political discourse and news reports and explored the ideology hidden in the discourse more accurately based on attitude resources. With the gradual deterioration of eco-environment, people have paid more attention to eco-environment and news reports related to environmental problems have also increased. These environmental news reports not only serve as the carrier of information about the current state of the environment, but also as the platform to spread some ideologies which can affect people's original ecological ideas and ecological behaviors.

China Daily is one of the most influential English papers in China and its content reflects the attitude of China government on major domestic and international events. Therefore, based on attitude system, an ecological discourse analysis of environmental news reports in China Daily in terms of the distribution of attitude resources can uncover the hidden ecological ideology of mainstream media and ecological discourse types.

1.2 Literature Review

Nowadays, ecolinguistics has drawn growing attention from academia. There are two basic paradigms in ecolinguistics: metaphor and non-metaphor. They are also called Haugen paradigm and Halliday paradigm. Haugen paradigm focuses on the analysis of ecological discourse and the research object is discourses about ecology. However, Halliday paradigm focuses on the ecological analysis of discourse and its research object is ecological factors of various discourse which can be extended to the study of ecological and non-ecological factors in the language system. It should be noted that these two paradigms complement each other instead of mutual exclusion. And under the influence of these two paradigms, foreign studies of ecological discourse analysis have begun to take shape: Muhlhausler studied ecotourism discourse; Alexander combined critical discourse analysis with corpus analysis; Stibbe proposed that discourse can be divided into three categories: ecological beneficial discourse, ecological destructive discourse and ecological ambivalent discourse.

In China, the studies of ecological discourse analysis have made rapid progress despite its late start. Huang Guowen, He Wei, Wei Rong and other scholars have developed a branch of new force in ecolinguistic studies and they have made their efforts to form the localization of ecological discourse analysis based on EDA approaches and Chinese philosophy. In the context of China, Huang put forward a new approach to the study of ecological analysis—"Harmonious Discourse Analysis", which provided scholars with a better way to deliver the voice of China. With the continuous development of Halliday's systematic functional linguistics and ecolinguistics, a large number of ecolinguisitic researchers have come to realize there is a possibility to combine ecological discourse analysis with systemic functional linguistics. He Wei and Zhang Ruijie constructed an ecological discourse analytical

framework in terms of ecological sense of place and systemic functional linguistics. In addition, there are quite a few postgraduate students who have conducted an ecological discourse analysis in terms of investigating different ecological discourse mostly based on transitivity.

Based on the above, it is found that although a number of scholars have made researches on ecological discourse analysis in terms of systemic functional linguistics, researches in different types from perspective of transitivity are dominant and ecological discourse analysis of environmental news reports in the framework of appraisal theory, especially from attitude system are not enough. Therefore, this thesis selects 10 environmental news reports from the official website of China Daily as research subject, which belongs to the ecological discourse. By adopting attitude system, the thesis will expose the hidden ideology and ecological discourse types in environmental news reports.

1.3 Research Question and Data Handling

Based on the mixed methods research, the goal of the thesis is mainly to explore the use and distribution of attitude resources used in environmental news reports, to reveal the ecological ideology of mainstream media embodied in these environmental news report and to demonstrate the impact of ecological discourse analysis of environmental news report on people. In order to achieve the goal, the following three research questions are formulated:

(1) What attitude resources are used in the reports?

(2) What kind of ecological ideology do attitude resources reflect?

(3) What kind of impact do attitude resources exert on people/readers?

The thesis has randomly selected 10 environmental news reports from *China Daily* issued in 2022, mainly in June. Sticking to the principle of helping the world know China better, *China Daily* is widely recognized as the most influential and authoritative English-language daily newspaper in China. Therefore, the collected 10 environmental news reports from China Daily can better reflect the ecological ideology held by China who advocates the harmony and coexistence between human and nature. The release time of selected news reports is set in 2022 as it can not only intensively show the environmental status at a given time in China but also directly embody China's unremitting efforts to achieve the goals of carbon neutrality in 2035 and emission peal in 2050 although China have suffered from the several impact of epidemic.

In order to know the specific distribution of attitude resources and save time, this research has applied UAM Corpus Tool 6 to create a corpus, then analyze the collected data by manual annotation and finally get the result.

2. Appraisal Theory

The appraisal theory is an analytic framework for the realization of interpersonal meaning at the stratum of discourse semantics within systemic functional linguistics. It is concerned with the linguistic resources by which a text/speaker comes to express, negotiate and naturalize particular inter-subjective and ultimately ideological positions. According to Martin in 2005, the appraisal resources can be

divided into three semantic domains: attitude, engagement and graduation and each of them forms its own system.

According to Martin and White, attitude system has three semantic areas: affect, which deals with the expression of positive and negative feelings; judgement, which is concerned with attitude toward behavior (to admire or to criticize, to praise or to condemn); and appreciation, which involves evaluations of semiotic and natural phenomena according to the ways in which they are valued or not in a given field. The relationship among them can be interpreted by Martin in 2003 as follows: "JUDGEMENT and APPRECIATION might be interpreted as institutionalizations of AFFECT which have evolved to socialize individuals into various uncommon sense communities of feeling—JUDGEMENT as AFFECT recontextualized to control behavior (what we should and should not do), APPECIATION as AFFECT recontextualized to manage taste (what things are worth)." They all follow the distinction between positive and negative polarity.

Affect refers to the semantic resources for constructing emotion and it groups emotions into four major subcategories that can be positive or negative: un/happiness, dis/satisfaction, in/security and dis/inclination. Judgement can be subdivided into two major groups: Social Esteem (values of normality, capacity and tenacity) and Social Sanction (values of veracity and propriety). The former involves admiration and criticism and the latter constitutes praise and condemnation. Appreciation deals with norms about how products, performances and naturally occurring phenomena are valued. It can be subdivided into reactions, composition and valuation.
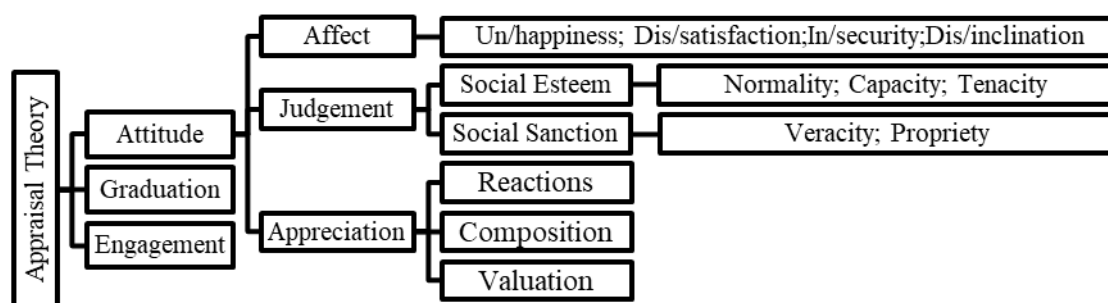

Figure 1. Appraisal Theory Framework

In order to better understand the structure of appraisal theory, the following framework of appraisal theory is based on the original figure derived from Martin & White and has been made slight adjustment based on the need of the thesis.

3. Ecological Discourse Analysis of Environmental News Reports

3.1 Overview of Attitude Resources in Environmental News Reports

By the analysis of corpus, the distribution of attitude resources employed in 10 environmental news reports from China Daily is conspicuous: judgement resources appear most frequently, appreciation

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resources take second place and affect resources appear lowest. The specific distribution is shown in the following Table:

Table 1. Frequency and Proportion of Attitude Resource

Attitude-Type	Positive		Negative		Total	
	Number	Percent	Number	Percent	Number	Percent
Affect	24	19%	6	4.8%	30	23.8%
Judgement	54	42.9%	4	3.1%	58	46.0%
Appreciation	26	20.7%	12	9.5%	38	30.2%
Total	104	82.6%	22	17.4%	126	100%

As is shown in the Table, there are 126 attitude resources altogether in 10 environmental news reports. Among them, 30 affect resources are used, accounting for 23.8%; judgement resources appear for 58 times, occupying a major percent of 46% and appreciation resources occur for 38 times, with a rate of 30.2%. The positive evaluation is 104, accounting for 82.6% and the negative evaluation is 22, accounting for 17.4%, showing that the positive evaluation is far greater than the positive evaluation. Because the collected 10 environmental news reports mainly report China's concrete actions and substantive achievement in dealing with eco-environmental problems, it can be found that collected news reports have positively evaluated ecological beneficial behaviors and policies that are conducive to environmental protection and ecological balance.

The primary principle of news reports is to follow a certain factual basis and spread a positive and correct thoughts of eco-environmental protection. Based on the uses of these evaluation resources, news reports can not only present the status quo of eco-environment and spread ecological ideology but also trigger people's sense of ecological crisis and push them for taking active actions to protect eco-environmental protection.

3.2 Affect Resources in Environmental News Reports

Affect refers to the characterization of phenomena by reference to emotion and include four parts. In 10 environmental news reports, affect resources are used for 30 times, including 24 positive affect resource and 6 negative affect resource.

Table 2. Distribution of Affect Resources

Attitude-Type	Positive		Negative		Total	
	Number	Percent	Number	Percent	Number	Percent
Un/happiness	0	0	0	0	0	0
Dis/satisfaction	17	13.5%	0	0	17	13.5%
In/security	3	2.4%	6	4.7%	9	7.1%

| Dis/inclination | 4 | 3.2% | 0 | 0 | 4 | 3.2% |
| Total | 24 | 19.1% | 6 | 4.7% | 30 | 23.8% |

The attitude resource un/happiness does not appear. Therefore, I will explain how these three affect resources are employed in 10 environmental news reports from *China Daily* by analyzing some typical sentences.

3.2.1 Dis/satisfaction

(1) To achieve that transition and the commitment, the country has made changes to the economic structure, introduce industrial ungraded, further optimized the energy structure and .... (Report-8)

(2) Meanwhile, the proportion of juvenile dolphins grew from less than 10 percent to 13 percent, showing an improved age structure in the reserve. (Report-5)

Example (1) and (2) are both positive attitude resources. According to Example (1), it illustrates China will adopt the following concrete actions to achieve the sustainable development with the commitment to peak carbon dioxide emission before 2030 and achieve carbon neutrality before 2060. Example (2) states the fact that the increasing number of juvenile dolphins makes an improved age structure of dolphins and confirms the achievement made by China. These two examples shows that China is making efforts in reducing carbon dioxide and conserving biodiversity, which will make people realize their responsibility and take according actions in their daily life.

3.2.2 In/Security

(3) Li Ruohong, …said that finding a proper way to view globalization, health, human culture and the modernization of the atmospheric environment is a challenge to safeguarding human rights. (Report-3)

(4) For the next week, the temperature is estimated to jump to 40C in most parts of China, the Nation Meteorological Center said. (Report-1)

Example (3) is a positive attitude resource and Example (4) is a negative attitude resource. Example (3) demonstrates that China adheres to the idea of harmony between human and nature and safeguards the human rights while dealing with the challenge of climate change. Example (4) shows that the temperature in China changes dramatically. Under the context of climate change and global warming, Example (4) will give people an alarm and make them realize the severity of ecological environment situation. Therefore, they may pay more attention to their actions which will cause a damage to the nature and trigger the temperature to increase.

3.2.3 Dis/inclination

(5) She hoped that civil wisdom can contribute to the reform and innovation of global climate governance. (Report-3)

(6) China is willing to share the experience with other WTO members and work together to actively deal with plastic pollution from the trade side, he added. (Report-7)

Example (5) and (6) both are positive attitude resources. In Example (5), *she*, the vice-chairman of China Association for NGO Cooperation, expressed a hope and pointed out that civil wisdom is important to reform and innovate global climate governance in copying with climate change and contributing human's sustainable development. Example (6) expresses China's willingness to cooperate with other WTO members in plastic pollution. These two examples will let Chinese people know that they need to do their parts on the issue of climate as their country does in international community.

3.3 Judgement Resource in Environmental News Reports

Judgement refers to the evaluation of human behavior with respect to social norms. It can be seen from the following Table 3 that there are 58 judgement resources and the occurrence number of social sanction resources are much fewer than the type of social esteem in collected 10 environmental news reports from *China Daily*.

Table 3. The Distribution of Judgement Resources

Attitude-Type	Positive		Negative		Total	
	Number	Percent	Number	Percent	Number	Percent
Social-esteem	40	31.7%	1	0.8%	41	32.5%
Social-sanction	12	9.6%	5	3.9%	17	13.5%
Total	52	41.3%	6	4.7%	58	46%

Normality means how unusual someone or behavior is. An example is as follows.

(7) Last year, the country saw its highest coastal sea level since 1980, which has been 84 mm higher than that of normal years. (Report-9)

The abnormal situation of coastal sea level in China since 1980 is explained in Example (7), which is a negative attitude resource. Moreover, the use of "highest" can make people know sternness of global warming and make them reflect why this occurs and what they can do to control it as soon as possible.

Capacity resources are used to judge how capable someone is and the example is listed as follows.

(8) The WTO can play a unique role in coordinating member to take collective actions to deal with plastic pollution, said Li. (Report-7)

Example (8) is a positive attitude resource. It not only elaborates the unique role of WTO—the ability to unite its members and take measures collectively in dealing with plastic pollution, but also confirms the leadership of WTO in international affairs. That is to say, China is always with WTO.

Tenacity is regarded as modulations of inclination for proposals. "Will" is a typical word used as a symbol of tenacity in some sentences.

(9) China has announced that it will strive for peaking carbon dioxide emission by 2030 and achieving neutrality by 2060. (Report-4)

In Example (9), "announced" and "will strive for" show China's tenacity to achieve two carbon goals: peaking carbon dioxide emission by 2030 and achieving carbon neutrality by 2060. It displays that China takes pains to fulfill its role as a responsible greater power.

Social sanction is composed of veracity and propriety. Veracity is concerned with the degree of truthfulness. An example is listed in the following. Propriety is analyzed from the ethical level. In addition, modulation of obligation, such as *should* can be regarded as propriety. There is an example in the following.

(10) It also noted that China's forest stock volume is expected to reach 19 billion cum by the same year. (Report-8)

(11) The notice said that companies should be given out high temperature subsidies and set flexible working hours for outdoor workers. (Report-1)

Example (10) is a positive attitude resource and explains what achievement China will make in forest stock volume. They embody China will strive to meet his commitment to world by concrete actions and visible results. Example (11) presents the necessity of setting policies for outdoor workers by providing subsidies and setting flexible working hours in order to stick to the people-centered development philosophy and show solicitude for people working outdoor in high temperature. Thus, it also is a positive attitude resource.

3.4 Appreciation Resource in Environmental News Report

From the following Table 4, appreciation attitude resources have 38 in total. Among them, reaction resources have the highest occurrence number with 20, followed by valuation resource with 13 and composition resource just appear 5 times. In addition, the positive attitude resources appear with the number of 28 while the negative attitude resources with the number of 10.

Table 4. The Distribution of Appreciation Resources

Attitude-Type	Positive		Negative		Total	
	Number	Percent	Number	Percent	Number	Percent
Reaction	12	9.5%	8	6.3%	20	15.9%
Composition	4	3.2%	1	0.8%	5	4%
Valuation	12	9.5%	1	0.8%	13	10.3%
Total	28	22.3%	10	7.9%	38	30.2%

Appreciation refers to the evaluation of objects and products (rather than human behavior) by reference to aesthetic principles and other systems of social value.

Reaction deals with whether things attract a person's attention. There is an example as follows. (12) The strongest heat wave of the year so far continues sweeping across China as the country is expected to experience worse climate conditions and more extreme weather events in July and August, national

weather forecasters said. (Report-1)

(13) Over the past years, 3.6 million hectares of forests have been added, over double the area of Beijing. (Report-8)

Example (12) expresses the severity of current climate situation by the use of "strongest", "worse" and "more extreme" but it can make people realize the urgency of taking effective actions to prevent the climate conditions from deterioration. In Example (13), "over double the area" explains what 3.6 million hectares of forests means in a way easy to understand and at the same time it presents what tremendous achievement China has made in terms of forest coverage when dealing with climate change. Composition is related to our perception, which consists of balance and complexity. There is an example as follows which embody balance.

(14) Zhang said that .... building an inclusive, green and low carbon in economy in China is a complex and urgent mission. (Report-2)

(15) Li said that China will stay committed to development as a priority, ...to harmony between man and nature as well as to results-oriented actions, and will continue... (Report-7)

Zhang in Example (14) refers to Zhang Yuzhuo, Vice-President and Chief Executive Secretary of the Secretariat of CAST (The China Association for Science and Technology). According to the news, China is determined to reach peak carbon dioxide emission by 2030 and achieve carbon neutrality before 2060. The word "complex" shows there are many difficulties when achieving these two goals, which at the same time appeals Chinese people to overcome these difficulties with their country. In Example (15), Li refers to Li Chenggang, China's Ambassador to the WTO and the word "harmony" implies that China attaches more attention to holistic approach and thinks human should learn to deal with the relationship with nature in the pursuit of economic development. Valuation is about our cognition, which represents people's evaluation of things. Specific example is listed as follows.

(16) China has made substantial progress in the conservation of marine ecosystem and environment in recent years, data from the Ministry of Ecology and Environment showed Thursday. (Report-6)

(17) It has also designated three key areas as pioneers of an all-out battle against marine pollution, namely.... (Report-6)

Example (16) and (17) both describe the conservation of marine ecosystem and environment and are positive attitude resources. In Example (16), the word "substantial" demonstrates the progress made by China have a firm basis in reality and therefore is meaningful. In addition, it not only embodies the effectiveness of measures adopted, but also confirms China's endeavors to protect ecological environment. In Example (17), "it" refers to China. By adopting rhetorical device metaphor in "all-out battle", it reflects that China regards marine pollution as an enemy and is determined to defeat it at full strength. People also should form an alliance and work against a common enemy

All the above make people know the fact that no matter how powerful the enemy, how difficult the journey, or how grave the challenges, China has followed the vision of a community with a shared future for mankind and pitched in to tackle climate and other environmental challenges and try his best

to protect our blue planet.

4. Conclusion

Based on attitude system in Appraisal Theory, this paper has chosen 10 environmental news reports from *China Daily* and applied the UAM Corpus Tool 6 to find out the distribution of attitude resource and disclose the ecological ideology. The research findings shows that China attaches great importance to ecology and makes every effort to move the world toward the Vision of "Living in harmony with nature." In addition, this paper can make the following contribution: firstly, theoretically, this study will further prove the applicability and practicability of the Appraisal Theory in ecological discourse analysis; secondly, the reporter can better master how to employ attitude resources to convey attitudes and construct ideology in environmental news reports in terms of distribution of attitude resources and improve their ability to writing news reports; thirdly, the reader can correctly distinguish ecologically protective news discourse from ecologically destructive news discourse by realizing the impact of media discourse on people's ecological consciousness. Therefore, they can naturally accept the ecological protection thoughts conveyed by ecological protection news reports and resist the ecological destruction thoughts conveyed by ecological destruction news reports.

However, the study has its limitations. Firstly, the corpus is small, so the results can not represent the whole distribution situation of attitude resources embodied in environmental news report in *China Daily*. Secondly, if the attitude system can be divided more specifically, then the category of the results may be clearer. Thirdly, in the process of manual annotation, it more or less involves my subjectivity even though I have asked my classmates for help in order to improve the reliability.

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