

Original Paper

A Study of Transitivity System of News Reports on Fukushima Nuclear-contaminated Water from the Perspective of Ecological Discourse Analysis

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Abstract

As environmental topics have become the focus of attention in recent years, this study conducts a study of transitivity system on news reports about Fukushima nuclear-contaminated water in the English version of People's Daily from the perspective of ecological discourse analysis, aiming to find out how the process of transitivity is distributed in news reports about Fukushima nuclear-contaminated water in Japan, as well as what kind of ecological awareness is reflected in news reports. By manual selection of the corpus with the help of UAM Corpus Tool 6, the study found that the proportion of material process in such reports is high, while the proportion of behavioral process is low. The study aims to call on people to raise awareness of environmental protection, promote harmonious coexistence and sustainable development of human beings and nature, and protect the common home of the earth.

Keywords

transitivity system, ecological discourse analysis, Fukushima Nuclear-contaminated Water

1. Introduction

Environmental issues are becoming more and more a topic of concern for the public today, as we are facing problems such as water pollution, marine pollution, reduction of forest cover and desertification. Against this backdrop, however, the Japanese authorities have announced that they will discharge contaminated wastewater into the ocean on August 24, 2023, a move that has sparked discontent in many countries and among the general public. Despite the large number of articles exploring its transitivity system from the perspective of ecological discourse analysis, there are few studies on the news related to the discharge of nuclear wastewater in Japan, and the novelty of this corpus makes it of high research

value. In this paper, we take the report in the English version of People's Daily as the corpus and study its transitivity system from the perspective of ecological discourse analysis, analyzing how the process of transitivity system is distributed and what kind of ecological consciousness is embodied in the process.

2. Theoretical Basis

2.1 Ecological Discourse Analysis

Fill (1998), has mentioned several times that there are two models for ecolinguistic research, one is Haugen's model, and the other is Halliday's model. Haugen (1972) treats ecology of language as a metaphor, emphasizes the diversity of languages, compares the relationship between language and speech community to the relationship between organisms and their natural environment, and focuses on "the interaction of any given language with its environment". Rather than viewing ecolinguistics as a metaphor, the Halliday (1990) treats language as an integral part of society and even of the entire ecosystem, and therefore examines the role of language in the ecosystem as a whole; he places particular emphasis on the role and impact of language in the issues of environmental protection and degradation. He Wei and Wei Rong (2018) constructed the international eco-philosophical concept of "pluralism and harmony, interactive symbiosis" based on the traditional Chinese philosophical thought which contains rich ecological wisdom and the diplomatic concept of traditional Chinese philosophical thought. They believe that the analysis of international ecological discourse under the guidance of this ecological philosophical outlook is not only in line with the study of international relations in the Chinese context, but also suitable for the study of international relations in the global context.

2.2 Transitivity System

Halliday (2004) proposes that adult language carries more functions, that is, meta-language functions, including ideational, interpersonal and textual functions. The ideational function mainly covers "transitivity" and "morphology". The whole system of transitivity is an important part of ideational function. Transitivity is a semantic system whose function is to categorize people's experiences in real life, to break them down into several "processes", to categorize experiences grammatically, and to point out the "participants" and "circumstance" related to various processes. Halliday (2004) suggests that through the transitivity system, one can divide human experience into six different processes, namely, material, mental, relational, verbal, behavioral, and existential.

3. Research Methodology

3.1 Data Collection

The discharge of Fukushima nuclear-contaminated water in Japan has been a matter of great concern. The announcement by the authorities concerned that the discharge of wastewater will begin on August 24 has aroused widespread public concern and discussion. Despite opposition from many quarters, Japan is bent on its course. The behavior of the Japanese authorities is in clear contradiction with the ecological concepts promoted by our country. The world is a community of human destiny, and the discharge of

wastewater poses a threat to the lives and health of people around the world. It is therefore essential to continue to follow the news about the discharge of the Fukushima nuclear-contaminated water. People's Daily is an authoritative newspaper, and the author used the keyword "Fukushima nuclear-contaminated water" in the English version of People's Daily (<http://en.people.cn/>) from August 24th to September 23rd. Eighteen news reports were obtained. The eighteen news articles were studied from the perspective of ecological discourse analysis.

3.2 Data Analysis

In this paper, with the help of UAM Corpus Tool 6, an automatic annotation system, the author manually picked and screened the processes involved in each clause on the basis of the six processes classified by Halliday for ideational function. After the analysis, the author found that there are 760 processes in total in the news text involved, and that in the news report of People's Daily English version about the Fukushima nuclear-contaminated water, the material process accounts for the most, accounting for 69.9% of the total ratio; while the behavioral process accounts for the least, accounting for only 0.3%, and the proportion of the process types is shown in Table 1.

Table 1. Distribution of Transitivity System

Type of process	Material process	Mental process	Relational process	Verbal process	Behavioral process	Existential process	Total
number	531	19	105	91	2	12	760
percentage	69.9%	2.5%	13.8%	11.9%	0.3%	1.6%	100%

4. Findings and Discussion

4.1 Material Process

(1) On the same day, South Korean police detained 16 student activists for allegedly trying to enter the Japanese Embassy illegally to protest the contaminated water dumping.

(2) Japan's release of the Fukushima nuclear-contaminated water into the ocean seriously jeopardized the rights and interests of the marine environment and undermined the security and development interests of the global nuclear energy industry, said China's atomic energy authority Thursday.

In Example 1, the word "detained" shows the South Korean police's inability to distinguish between right and wrong. In Example 2, the word "jeopardized" reflects the fact that Japan's discharge of nuclear wastewater has seriously jeopardized the marine environment. This kind of behavior by the South Korean police and the Japanese authorities is contrary to the concept of protecting the ecological environment that we advocate. China's firm stance on this matter reflects our philosophy of always upholding the harmonious development of mankind and nature.

4.2 Mental Process

(3) China has opposed and condemned Japan's release of the Fukushima nuclear-contaminated water into the ocean and has asked the Japanese government to stop this wrongdoing.

(4) "I hope that the trial will stop it [the dumping process] as soon as possible. I will continue to do what I can and raise my voice. We are by no means satisfied with this dumping," said Oda, who lives in Iwaki, Fukushima Prefecture. "We will continue to fight [against the dumping]."

In Example 3, "opposed" is China's attitude towards Japan's discharge of nuclear wastewater. In Example 4, the word "hope" reflects his strongest desire to stop the discharge of nuclear wastewater in Japan. In the mental process, these words show the speaker's strong opposition to Japan's discharge of nuclear wastewater, reflecting the idea of protecting the environment.

4.3 Relational Process

(5) Although the move of dumping is a fait-accompli and the majority of the Western world remain silent, fishermen, environmental activists and the wider public in Japan and the world at large vowed to fight till the end and some have even asked Japanese Prime Minister Fumio Kishida to step down.

(6) To let the world pay for Japan's ocean discharge is an extremely selfish and irresponsible act. Some far-sighted personages in Japan pointed out that the Japanese government's extremely irresponsible act of forcibly discharging nuclear-contaminated water into the ocean violates the United Nations Convention on the Law of the Sea, and will incur a disastrous aftermath to mankind.

In Example 5, "remain" reflects the indifference of the Western world, in contrast to the attitude of the masses that follow. In Example 6, "is" is an identification of what Japan is doing, identifying this behavior as very selfish and irresponsible. The above examples of relational process exemplify the irresponsibility of the Western world and the egregiousness of Japan's discharge of nuclear wastewater, which is grossly incompatible with the concept of ecologically sustainable development.

4.4 Verbal Process

(7) A spokesperson for the Chinese embassy in Britain has expressed deep concerns over the British government's attitude to Japan's dumping of nuclear-contaminated wastewater into the ocean.

(8) China calls for attention of the UN rights body to Japan's nuclear-contaminated water discharge.

In Example 7, a spokesman for the Chinese embassy in the Britain expressed deep concern over the British Government's attitude towards Japan's dumping of nuclear-contaminated wastewater into the sea. In Example 8, China appeals to the United Nations human rights organizations to pay attention to the nuclear pollution incident in Japan. Both examples show China's strong opposition to Japan's discharge of nuclear wastewater. Through this verbal process it better reflects the imminence of protecting the environment and calls on the public to raise their awareness of protecting the environment, but the U.S. alliance has shied away from talking about this matter, which also reflects the ugly behavior of the Western countries.

4.5 Behavioral Process

(9) In South Korea, thousands of fishermen, activists and politicians staged a protest in central Seoul on Saturday. They shouted “immediately stop dumping radioactive wastewater into the ocean” and “Japan must store nuclear-contaminated wastewater on its soil,” urging the South Korean government to file a lawsuit with the International Tribunal for the Law of the Sea against the Japanese government.

(10) Facing strong domestic and international opposition to the contaminated water dumping plan, Japanese authorities have launched massive public relations campaigns to promote the water’s “safety”, which became a focal point of the country’s diplomacy.

In Example 9, the word “shouted” better reflects the anger of the people, who want to stop Japan from discharging wastewater but are unable to do anything about it. In Example 10, “facing” demonstrates the urgency of dealing with the negative impacts of nuclear wastewater, but rather than stopping the discharge of sewage, Japan is seeking ways to promote water “safety”. In the face of the enormous impact of the sewage, it is clear that measures to salvage the water will not help. The use of behavioral process reflects the anger of the people and the indifference of the Japanese authorities.

4.6 Existential Process

(11) Since the Fukushima nuclear accident, Tokyo Electric Power Company’s handling of the aftermath has been riddled with loopholes, with multiple instances of data concealment and manipulation. There are doubts about the company’s ability to handle the disposal of the nuclear-contaminated water.

(12) The Fukushima nuclear accident is one of the world’s most serious nuclear disasters. As a result, the contaminated water is known to have more than 60 radioactive elements, known as radionuclides. No viable technology exists to treat this multitude of nuclides, and long-lived variants might disperse through ocean currents, leading to unforeseeable repercussions for marine ecology and human health.

Example 11 mainly describes there are doubts about the company’s ability to deal with nuclear-contaminated water. Example 12 states that the Fukushima nuclear accident was one of the world’s worst nuclear disasters. The contaminated water is known to contain more than 60 radioactive elements known as radionuclides. There is no viable technology to deal with this wide range of nuclides, and long-lived variants may be dispersed through ocean currents, with unforeseen effects on marine ecology and human health. These two examples indicate the objective facts exist in reality. Japan’s concealment of the nuclear wastewater incident and the existence of 60 radioactive elements in the nuclear wastewater, which are real, better reflect the bad behavior of Japan’s discharge of nuclear wastewater, which not only destroys the marine environment but also jeopardizes the health of people, which is a kind of its irresponsible behavior and the ecological environment. This is an irresponsible behavior and a serious damage to the ecological environment.

5. Conclusion

By analyzing the transitivity system of the People's Daily English news report on Japan's nuclear wastewater discharge, the authors conclude that the material process accounts for the highest proportion of this kind of news discourse, while the behavioral process accounts for the lowest proportion. The material process mainly involves the process of the subject's "doing". By analyzing the process of "doing", the study found that the behavior of the countries supporting Japan's nuclear wastewater discharge is contrary to the ecological concept we advocate. Mental process is mainly about the process of "knowing", which is the mental activity of the actors, and the use of these words can better reflect the public's opposition to Japan's behavior. The relational process is mainly concerned with the process of "being". In this kind of news, it is mainly about the identification of Japan's behavior of discharging nuclear wastewater, and it also highlights Japan's stubbornness and irresponsibility, which is against the ecological concepts. The verbal process mainly contains a strong appeal from the opponents for the Japanese authorities to repent and take the initiative to assume the responsibility of protecting the environment. The behavioral process, which mainly involves the action of shouting by the general public, highlighting the powerlessness of the general public in front of the national policy; Finally, The existential process is mainly the fact of what has existed and happened. The process reflects Japan's attitude of knowing the hazardous elements of nuclear wastewater well but still remaining unchanged, and Japan's extremely irresponsible attitude towards the ecological environment. This study aims to call on the public to raise the awareness of environmental protection, protect the marine environment, and promote the harmonious development of man and nature.

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