

An Ecological-Discourse Analysis of Tao Te Ching from the Perspective of Systemic-Functional Linguistics

Caiyuan Sun*

School of Humanities, Shandong Agriculture and Engineering University, Jinan, Shandong, China

*Corresponding Author

Abstract: Ecological linguistics explores the relationship between language and environment, which provides a new perspective for appreciating the ecological wisdom in traditional Chinese classical texts. This paper is to analyze Wang Bi's edition of Tao Te Ching under the framework of Hallidayan ecological-linguistic. By combining register analysis with ecological discourse analysis, it investigates the linguistic features and the underlying ecological philosophical ideas in the text from three dimensions: ideational metafunction, interpersonal metafunction, and textual metafunction. The study finds that first "Tao", "Heaven", "Earth" and "All Things Under Heaven and Earth" are the high-frequency ecological vocabulary and relative process possesses the highest proportion in the transitivity system; second, the text uses declarative mood to persuade people to keep a harmonious relationship with nature; third, it uses implicit coherence to inspire understanding of nature, and to refuse to accept human language's conceptualization of natural reality; and, generally, it represents a non-human-centered, beneficial ecological text, in which linguistic form and ecological thought are interdependent and mutually strengthening. This study provides an aid for understanding the ecological ideas as well as for applied research in ecological linguistics.

Keywords: Hallidayan Systemic-Functional Linguistics; Tao Te Ching; Wang Bi's Edition; Transitivity; Ecological Discourse Analysis.

1. Introduction

Tao Te Ching, as a classic of ancient Chinese Taoist thought, contains rich philosophical content and has a profound influence on subsequent generations. In particular, its ecological philosophy represents the core tenet of the Chinese nation's harmonious coexistence with

nature over the past five centuries. Ecological linguistics is a discipline that investigates the interaction between language and the environment; it explores the interaction between a particular language and its surrounding environment. It includes both the transformation of language within its environmental context and the role of language within that context. Studying the role of language in Tao Te Ching contributes to the effective communication of its philosophical essence and the broader dissemination of Chinese culture abroad. This essay intends to resolve the following two questions: What ecological-linguistic features are shown in Wang Bi's Tao Te Ching from the perspective of Halliday's three metafunctions? What enlightenment can the linguistic-ecological wisdom of Tao Te Ching bring to ecological discourse research and cross-cultural communication?

2. Literature Review

2.1 Foreign Research on Ecological Linguistics

The first scholar to reflect on the relationship between language and the environment was Sapir; he argued that words in a language most clearly reflects the speaker's natural and social environment [1]. But he didn't put forward the concept. It is the American scholar Haugen who was the first to propose the concept of "linguistic ecology", defining it as "a discipline concerned with the study of the interaction between a particular language and its environment" (Haugen, 1972:325) [2]. Most scholars regard "ecological linguistics" and "linguistic ecology" as synonymous terms. In the 1980s, Phil and Muhlhausen further stressed that language is an important component of the ecosystem and performs specific functions within it. Halliday (1990) also elaborated on the non-ecological factors within the language system [3]. Since then, ecological linguistics has gradually developed two distinct paradigms: the Haugen paradigm and the Halliday paradigm. The Haugen paradigm focuses

on language's social ecology; in contrast, the Halliday paradigm argues that language shapes people's worldview, thereby affecting the physical ecological environment. Under the "Halliday Model", Arran Stibbe classified the basic ecological types of discourse; The criteria for discourse classification are rooted in ecological ethics and ecological philosophy. Discourse that aligns with this ecological philosophy is classified as beneficial discourse; discourse that contradicts it is classified as destructive discourse; and discourse that neither aligns with nor contradicts it is classified as ambiguous or neutral discourse. Stibbe also employed a wide range of empirical examples in his ecological discourse analysis, thereby laying the foundation for the establishment and development of the theoretical framework for ecological discourse analysis [4]. Freire (1968) further specified the relationship between language and the environment. His application of ecological linguistics to education not only established an ecological linguistics-based educational framework but also provided learners with case studies that fostered ecological awareness, ecological philosophies, and linguistic practices consistent with "Deep Ecology" [5]. An increasing number of scholars have engaged in research within the field of ecological linguistics, including the Danish scholars J. Ørgen Chr. Bang and J. Ørgen D. Ørnholt (1993, 2000), the American linguist David Crystal, France C. Verhagen, the Austrian linguist R. J. Alexander, and Alwin Fill from the University of Graz. Building upon previous research, these scholars have proposed new theories and methodologies in ecological linguistics, further refining the research framework of this discipline.

2.2 Domestic Research on Ecological Linguistics

In recent years, with the rise of ecological criticism and translation studies, Chinese scholars have begun to focus on the ecological linguistics of English translations of the Tao Te Ching, gradually establishing a solid research foundation and producing significant academic outcomes. Chinese scholars generally agree that ecological linguistics not only offers a new perspective for the translation studies of the Tao Te Ching but also provides a theoretical framework for exploring ecological wisdom in cross-cultural communication.

In his work "Ecological Chinese Studies",

Professor Li Guozheng was the first to examine Chinese within the framework of ecology, offering a new perspective for related research [6]. Fan Junjun (2004, 2005) translated Elwyn Fair's "The Current State of Research in Contemporary Ecological Linguistics" and published papers such as "A Review of Research in Ecological Linguistics" [7, 8]. Subsequently, numerous scholars have conducted extensive theoretical and practical explorations; for example, Zhou Ruimin (2006), Zhu Changhe (2008), and Zhang Donghui (2009) elaborated the conceptual framework of ecological linguistics; while Xiao Junhong (2006), Shen Yingmei (2008), Wang Xiaojuan (2013), Cao Xiaoling (2015), Hao Qian (2018), Hong Na (2019), Wang Boran et al. (2020), Shen Jing (2022), and Luo Yushu et al. (2026) applied ecological linguistics to teaching research; Yin Jingyuan (2016), Zou Liling (2017), Li Feiwu (2018), Zhao Kuiying (2019), and Wang Yuehan (2025) among others explored ecological linguistics in literary works; additionally, some scholars have expanded the scope of ecological linguistics applications, interpreting it from diverse perspectives [9,10]. While significant progress has been made in the field of ecological linguistics research in China, there are still certain research gaps and challenges remaining.

2.3 Summary

The literature reviewed above offers this study a solid theoretical foundation and framework. Through a detailed investigation of former research, it is apparent that scholars have conducted wide survey into ecological linguistics; however, few studies have taken Hallidayan ecological-discourse framework to carry out quantitative and qualitative linguistic analysis on the original Chinese version of Tao Te Ching. The book has rich ecological ideas. This study intends to extract from the text instances of language use that reflect the concept of harmonious coexistence with nature, and to explore the implications of this ancient wisdom for resolving present ecological crises. This research not only will enrich the theoretical framework of ecological linguistics but also offer valuable insights for cross-cultural communication.

3. The Ecological Consciousness and Ecological Language in Tao Te Ching

Tao Te Ching advocates conforming to natural environment and cultivating an ecological awareness [11]. It says that all things in heaven

and earth constitute an organic whole, inseparable, with the “Tao” serving as their foundation. For example, in Chapter 25, “There was something formless yet complete, that existed before heaven and earth. Without sound, without substance, dependent on nothing, unchanging, all pervading, unfailing, One may think of it as the mother of all things under heaven. Its true name we do not know; “way” is the by-name that we give it. (Arthur Waley 1998). Tao Te Ching extensively uses terms that represent nature—such as “Tao”, “Heaven” and “Earth”, “all things”, “heaven and earth”, “valleys”, “Nature”, “light”, “water”, “dust”, among which “Dao”, “Heaven”, “Earth”, “all things” and “Heaven and Earth” occur most frequently. The terms “Heaven and Earth”, “Heaven”, “Earth” appear a total of 94 times, while “all things” appears 19 times. The ecological terminology found in Wang Bi’s edition of the Tao Te Ching is presented in the table below [12].

Table 1. Ecological Vocabulary

Ecological Vocabulary	Occurrence Frequency
“Dao” (the Way)	73
Heaven	51
Earth	31
All Things Under Heaven and Earth	19
Heaven and Earth	12
Valley	11
Nature	5
Light	4
Water	3
Dust	2

As can be seen from Table 1, Tao Te Ching uses the character “Dao” as its foundation to elaborate on an ecological wisdom centered on conforming with nature and achieving harmony between humanity and the natural world. The following will be a detailed analysis of this text from register and Hallidayan ecological linguistic to find out the linguistic features of ecological language and the underlying ecological philosophical ideas in Tao Te Ching.

3.1 Register of Tao Te Ching

The concept of register accepted by Halliday in Systemic Functional Linguistics includes three components—field of discourse, tenor of discourse, and mode of discourse—which refer to the topic content, the relationship between the speakers, and the manner of conversation respectively.

As for the three components in systemic

functional linguistics, the high-frequency ecological vocabulary found in the Tao Te Ching represents a specific revealing of context at the lexical level. At the level of field of discourse, terms such as “Tao”, “Heaven”, “Earth”, “all things”, and “nature” collectively construct a philosophical field centered on the cosmic origin and the state of all things; this framework combines natural entities into its topic, thereby embracing the themes of the Heavenly Way and the Human Way. At the level of tenor of discourse, the selection of ecological vocabulary raises the ontological status of the “Tao” and “all things” while minimizing the human role as the dominant subject, thereby establishing a non-anthropocentric ethical perspective; through the qualities of “Heaven”, “Earth”, and “all things”, the speaker persuades the audience to refrain from human excesses, building a humble relationship between humans and the natural world [13]. At the level of mode of discourse, imagery-based ecological terms—such as “valley”, “water”, and “Xuan”—organize the text through metaphor, contrast, and lexical repetition; this approach relies on intuitive understanding rather than formal logical argumentation, conforming with the written monologue style derived from oral maxims. Thus, ecological vocabulary is not merely a vehicle for conveying content but serves as an important linguistic resource in shaping the entire textual context.

The core stance of ecological philosophy reflected in Tao Te Ching are as follows: opposing to anthropocentrism; advocating for the idea that all things share a common origin and that humans and nature form an integrated whole; criticizing excessive human intervention; respecting the natural state of things; recognizing that linguistic concepts are insufficient to fully capture the essence of nature; and refusing to frame the world through human naming or conceptual frameworks.

3.2 Halliday’s Three Metafunctions of Language in Tao Te Ching

Halliday identifies three core functions of language: the ideational function, the interpersonal metafunction, and the textual metafunction.

3.2.1 Ideational Metafunction and its Ecological Philosophy

Ideational metafunction mainly builds experiential worldviews through transitivity systems, which divide people’s sight and deeds into six processes, including material process,

mental process, relational process, behavioral process, verbal process and existential process. The process of doing something with verbs like build, break, etc, is material process. Perceiving or reacting indicates mental process; being indicating relationship is relational process; crying, breathing, etc behavioral process; saying, telling, etc, verbal process; existing, arising, etc, existential process.

Below is the frequency analysis of transitive processes in the standard edition of Wang Bi's commentary on the full text of the Tao Te Ching (approximately 5,160 characters, with 830 complete semantic processes identified)

Table 2. Transitivity Processes in Wang Bi's Annotated Edition of the Tao Te Ching

Type of Transitive Process	Frequency in Full Text	Percentage of Total Processes (%)
Relational process	296	35.7
Material process	211	25.4
Mental process	132	15.9
Verbal process	83	10.0
Behavioral process	66	8.0
Existential process	42	5.0
Total	830	100

This statistical result includes omitted predicates according to classical Chinese semantic rules (e.g., omissions of copulative verbs in conceptual definitions are all categorized as relational processes). From Table 2, it can be seen that the distribution is perfectly in accordance with the argumentative nature of the Tao Te Ching: its main function is to define philosophical and ecological concepts; therefore, the highest proportion is relational process, which accounts for 35.7%. Laozi frequently uses natural phenomena and human affairs as analogies to expound the "Dao". This explains why material processes rank second, possessing 25.4%. Since the text is intended to improve readers' cognition, mental process possesses 15.9%. Through the analysis of transitivity system, it is seen that Laozi explains the relationship between human and environment.

3.2.2 Interpersonal Metafunction and its Ecological Philosophy

The interpersonal function is to use language to express speakers' identity, attitude, judgement, etc. It is mainly reflected through mood and modality. Systemic-functional grammar divides mood into the indicative mood and the imperative mood and the indicative mood is further divided into the declarative mood and interrogative mood.

Tao Te Ching uses only declarative mood and

quite certain assertions, with no commands; it conveys one-way teaching rather than humans issuing directives to nature.

There are no overt evaluative terms; that is, attitudes are implicit. Rather than persuading human beings to conquer and change the world, it suggests that people adjust their cognition and desires.

For example in Chapter 2 (Declarative Tone, The Sage's Non-possessive Attitude)

Original Text: Therefore, the sage engages in non-actionful deeds and conducts teaching without words; all things arise without hesitation, they are born without possession, they create without relying on themselves, and their achievements are not claimed. It is precisely because they do not claim, that they do not disappear.

In this chapter, a declarative judgment tone is used, without commanding instructions. The sage imitates "Heaven and Earth", allowing all things to naturally appear; they nourish all things, but do not possess or be self-reliant.

The text does not give an order, but describes an ideal behavioral model for humans towards all things, advising humans to control the desire to seek outwardly, and reflecting the non-domination interpersonal-ecological ethics between humans and nature.

3.2.3 The Textual Metafunction and its

Ecological Philosophy

Textual metafunction governs discourse organization, theme-rheme structure, cohesion, and rhetorical devices, determining the mode of cognition.

Themes are predominantly abstract concepts: "Dao", "name", "unnamed", "named". Cohesion relies on antithesis, co-occurrence of opposites, and lexical repetition; there are few explicit connectives, with coherence mainly realized through implicit semantic meaning.

For example in Chapter 42 (Creating All Things Through Tao, Metaphorical Narrative of Cosmic Generation)

Original text: Dao gives birth to One ; One gives birth to Two; Two gives birth to Three; and Three gives birth to all things. All things embrace the Yin and hold the Yang, and blend the Qi into harmony.

It uses parallelism with repetition of words, forming a semantic chain without explicit logical markers. The subject is "Dao", placing the original essence and the fundamental entity at the core of the information.

It is not a real scientific argumentation, but rather

a poetic narrative that presents the overall picture of all things, arousing readers' intuitive perception rather than rational reasoning.

The style of the textual metafunction itself embodies Daoist ecological thought: emphasizing wholeness, cautioning against linguistic concepts fragmenting authentic nature, and advocating an intuitive, experiential path to knowledge.

3.2.4 Discourse and Ecological Orientation

According to Stibbe's ecological-discourse typology, Wang Bi's 81-chapter Tao Te Ching is chiefly a beneficial non-anthropocentric ecological discourse. The analysis of register and three metafunctions of the text show an ecological worldview that advocates harmony between humans and all things. No typical destructive ecological discourse can be identified throughout the whole text. Such discourse characteristics indicate how linguistic forms and ecological philosophy interact and strengthen each other in classical Chinese thought.

4. Conclusion

This paper is based on Halliday's systemic functional linguistics and Stibbe's ecological discourse analysis theory, and conducts an ecological linguistic investigation on 81 chapters of Wang Bi's Tao Te Ching. Through the statistics of high-frequency ecological words and transitive processes in the text, it is found that nature-related words such as "Tao", "Heaven", and "All Things" frequently appear in Tao Te Ching. The proportion of relative process in transitive systems is the highest, and they are mainly used to define philosophical concepts and construct an the whole picture of the origin of all things. The material processes mainly represent the generative role of "Tao", while weakening the subject position of humans in dominating nature. From the three major functional perspectives, the ideational functional element builds a non-human-centered ontological cognition; the interpersonal functional element uses declarative implicit persuasion to advocate that humans should curb their desires inwardly and support the ethics of humility and adapting to nature; the textual functional element mainly is realized through semantic implicit coherence to reflect the limitations of human language and help understand the intuitive understanding of the nature of all things. Overall, Wang Bi's version of Tao Te Ching belongs to a beneficial ecological discourse, and the language form and Taoist ecological thought mutually construct each other.

This research helps fill the research gap of quantitative and qualitative ecological discourse analysis of the original text of Tao Te Ching, explores the contemporary ecological enlightenment contained in Taoist traditional thought, and provides an aid for understanding the ecological ideas and the application research of ecological linguistics in classic literature.

But several limitations of this study should be acknowledged. First, the present research is based only on Wang Bi's edition; different versions of Tao Te Ching are not included for comparison. Second, the segmentation of semantic processes for classical Chinese texts involves subjective judgment, because ancient Chinese lacks formal markers for clause boundaries and copula verbs. Although this study has formulated unified processing rules, subjectivity cannot be completely eliminated. Third, this paper focuses on the original Chinese text; comparative analysis of multiple English translations is not done.

For future research, comparative ecological-discourse research among different Tao Te Ching versions can be carried out. In addition, further studies may compare how different translators reconstruct or shift the original ecological-discourse features in various English renditions. It is also promising to extend this analytical framework to other pre-Qin Taoist classics for a more comprehensive understanding of Chinese traditional ecological discourse.

References

- [1] Jiang Chengfeng Zhu Jingjing Xie Guiping. A Review of Research on Language, Culture, and Ecology. *Journal of Northwest Minzu University (Philosophy and Social Sciences Edition)*, 2012(3).
- [2] Zhao Bo; Li Jing. A Review of Ecological Linguistics Research. *Chinese Language Construction*, 2013(11):23-24.
- [3] Halliday, M. A. K. *Linguistics in the university: The question of social accountability*// Copeland, J. E *New Directions in Linguistics and Semiotics*. Houston, TX: Rice University Studies, 1984. 51-67.
- [4] Luo Yushu Guo Yadong. Review of "Ecological Linguistics and Environment in Education: Language, Culture, and Text Analysis" *Foreign Languages*, 2026, 49(2): 124-128.
- [5] Erwin F. H. (translated by Fan Junjun and Gong Qi). *Current Status of Contemporary*

- Ecological Linguistics. Foreign Social Sciences, 2004(6).
- [6] Li Guozheng. Ecological Chinese Linguistics. Jilin Education Press, 1991.
- [7] Erwin F. H., Fan Junjun, Gong Qi. Current Status of Contemporary Ecological Linguistics. Foreign Social Sciences, 2004.
- [8] Fan Junjun. A Review of Research on Ecological Linguistics. Foreign Language Teaching and Research, 2005, 37(2): 23–24.
- [9] Meng Anqi. Insights from the Harmony between Humanity and Nature in the Tao Te Ching for Contemporary Ecological Civilization Construction. Public Relations World, 2023(13): 55–57.
- [10] Guo Weijing. A Review and Ecological Outlook of English Translations of the Tao Te Ching Based on CiteSpace. Language and Culture Studies, 2025, 33(01): 182–185.
- [11] Qin Yingfei. Interpreting the Contemporary Value of the “Unity of Heaven and Humanity” Concept in the Tao Te Ching from the Perspective of a Marxist Ecological View. Hunan Science and Technology News, 2026(6).
- [12] Wang Bi. Commentary and Critical Edition of Tao Te Ching by Laozi. Beijing: Zhonghua Book Company, 2008.
- [13] Li Ying, Yin Feizhou. Constructing a Contemporary Dialogic Approach to the Huntington Translation of the Tao Te Ching Based on Deep Ecological Thinking. Shanghai Translation, 2025(6):44–49.