“Brain Text” and a Theoretical Breakthrough in Ethical Literary Criticism: A Review of *A General Introduction to Language, Signs, and Brain Text*

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Abstract: *A General Introduction to Language, Signs, and Brain Text*, coauthored by scholars including Nie Zhenzhao and Ren Jie, represents a significant achievement in the field of ethical literary criticism. By proposing the concept of “brain text,” the book marks a major breakthrough in ethical literary criticism and achieves three key innovations. It systematically explicates the definitions of language, signs, characters, and text as well as their interrelationships; it deeply explores the definition, origin, and creative mechanism of literature; and it addresses the controversies over the nature and methodology of literary criticism, providing a theoretical foundation for literary creation and computational analytical criticism in the AI era. Ethical literary criticism, founded by Nie Zhenzhao, integrates the ancient and the modern, and blends Chinese and Western traditions, serving as a successful example of constructing China’s independent discourse system. In recent years, it has remained at the forefront of domestic and international academia. This theory is expected to lead international literary studies, drive new breakthroughs in literature and even the humanities, and make greater contributions.

Keywords: *A General Introduction to Language, Signs, and Brain Text*; brain text; ethical literary criticism; computational analytical criticism of literature; Nie Zhenzhao

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标题：“脑文本”概念与文学伦理学批评理论突破——评《语言、符号与脑文本概论》

内容摘要：聂珍钊、任洁等学者合著的《语言、符号与脑文本概论》是文学伦理学批评领域的一项重要成果。该书提出“脑文本”概念，标志着文学伦理学批评在理论建构上的重要突破，其创新主要体现在三个方面：一是系统阐释语言、符号、文字与文本的基本内涵及其相互关系；二是深入探讨文学的定义与起源，揭示文学创作的内在机制；三是回应有关文学批评本质与方

法论的诸多争议，为人工智能时代的文学创作、计算分析与文学批评提供理论依据。聂珍钊创立的文学伦理学批评贯通古今、融汇中西，为构建中国自主的文学理论与批评话语体系提供了具有代表性的范例，近年来在国内外学界产生了广泛影响。《语言、符号与脑文本概论》的出版进一步拓展了文学伦理学批评的理论空间，有望推动国际文学批评研究的发展，为文学研究乃至整个人文学科的创新作出新的贡献。

关键词：《语言、符号与脑文本概论》；脑文本；文学伦理学批评；计算分析批评；聂珍钊

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A General Introduction to Language, Signs, and Brain Text (2024, hereinafter abbreviated to *General Introduction*), coauthored by scholars including Nie Zhenzhao and Ren Jie, is another significant masterpiece following *Introduction to Ethical Literary Criticism* (2014) and *Ethical Literary Criticism Studies* (in five volumes, 2020). It marks the deepening and development of ethical literary criticism. In particular, the concept of "brain text" proposed by Nie Zhenzhao in this book addresses several fundamental theoretical questions urgently awaiting resolution in the field of literary criticism, integrates such fields as linguistics, literature, psychology, cognitive science, neuroethics, and psychoanalysis, and looks ahead to literary creation and computational analytical literary criticism in the AI era, marking a new breakthrough in ethical literary criticism. This article discusses the book's four major features and attempts to scrutinize the theoretical premises, argumentative force, and interpretive boundaries of brain text and related theories in the book.

1. Brain Text: The Significant Academic Contribution of *General Introduction*

Since Nie Zhenzhao established ethical literary criticism in 2004, this critical school has attracted significant attention from scholars worldwide, exerting considerable influence and sparking a surge in theoretical and critical studies of ethical literary criticism. However, Nie Zhenzhao argues that some fundamental issues of literature and literary criticism remain unresolved, such as the definition, origin, and interrelationships of language, signs, linguistic signs, characters, and text; the definition and origin of oral literature; and questions regarding the definition and origin of literature, the principles and mechanisms of literary creation. All these problems hinder deeper literary inquiry. Driven by a clear, acute, and profound problem awareness, Nie Zhenzhao has conducted careful analysis, rigorous argumentation, and offered well-reasoned solutions in *General*

Introduction in response to these issues. He proposes the concept of "brain text," which constitutes a major academic contribution of *General Introduction* and marks a significant breakthrough and further development in the theory of ethical literary criticism. What, then, is brain text? Nie Zhenzhao points out in *General Introduction*:

> Brain text refers to biological text stored in the human brain. Through the thinking process of perception, cognition, and understanding, the brain is able to store the results of thinking as memory text in the human brain, thereby forming brain text. With the human brain as its carrier, brain text is a special biological form. People's perception and cognition of objective things are first stored in the brain in the form of brain concepts, and then thinking is carried out by means of brain concepts, thereby obtaining the result of thinking: thought. Thought is the result obtained by the brain through processing objective or abstract things on the basis of perception, cognition, and understanding. As long as this result is stored in the brain, it forms brain text. Therefore, brain text is also thought stored with the human brain as its medium. As far as the medium is concerned, brain text is a special biological form and also the first form of text [...] Brain text is a method of preserving thought, while written text or electronic text is a method of preserving brain text [...] Brain text is an application program that maintains the operation of the brain and also an instruction that enables the human brain to function [...] Without brain text, there could be no thinking, no thought, no behavior, or no ethical consciousness. (474-475)[1]

Nie Zhenzhao's definition of brain text is clear, systematic, and specific, exhibiting multi-level, interdisciplinary, and multidisciplinary characteristics and spanning such disciplines as literature, biology, brain science, psychology, cognitive science, philosophy, neuroethics, and artificial intelligence. This concept tells us that human thinking, thought, ethical consciousness, and so on all come from brain text. In other words, thought is the precursor of action; brain text determines human thought, behavior, and ethical selection, thereby determining the writer's ethical consciousness and ethical choice as well as the reader's ethical consciousness and ethical selection. This deepens the theoretical study of ethical literary criticism. As

1 Quoted from Nie Zhenzhao, Ren Jie, et al., *A General Introduction to Language, Signs, and Brain Text*, Beijing: Peking University Press, 2024. All subsequent quotations from this work will only indicate the page numbers.

Nie Zhenzhao says, "Brain text is a predetermined program that determines human thought and behavior. It not only communicates and disseminates information but also determines human consciousness, thinking, judgment, choice, action, emotion [...] Brain text determines people's way of life and moral behavior, determines human existence, and determines human nature [...] What kind of brain text determines what kind of person one is" (142). At the same time, as a pivotal concept, brain text also links together fundamental questions in the field of literature that have hitherto remained unresolved, such as those concerning language, symbols, sound, writing, text, and oral literature. The reason why we call it a new breakthrough in this book is that it systematically explicates the definitions and interrelationships of language, characters, signs, and linguistic signs; it deeply explores the definition, origin, and creative mechanism of literature, including oral literature, and their interrelations; it addresses debates over the nature and methodology of literary criticism; and it foreshadows the birth of a new paradigm of AI literary criticism. These constitute the three innovations of the concept of brain text.

From the perspective of theoretical genealogy, the concept of brain text was originally proposed in response to the objection that "Oral literature has no text." Whether it is tenable depends on whether the concept of "text" can be reasonably extended to encompass three forms: brain text, written text, and electronic text. By distinguishing between the "mode of transmission" and the "mode of existence" of literature, the book offers a self-consistent account of the textual status of oral literature, and its argument holds; however, the boundaries of the concept of "text" remain to be clarified.

2. Explicating Definition and Interrelationships of Language, Characters, and Signs

The first innovation of the concept of brain text lies in its interrogation of the fundamental literary issues such as language, signs, linguistic signs, characters, and text. It redefines these concepts and provides rational and persuasive reinterpretations of their interrelationships.

First, the concept of brain text delves deep into the definition of language—the very foundation of literary studies. The question of how to define language has not been resolved over the years. The definition by Ferdinand de Saussure, the father of modern linguistics, has been profoundly influential. He defines language as "a system of signs expressing ideas" (Saussure 15). Then, what is a sign? The definition provided by Saussure and Barthes is as follows: First, a sign is the whole formed by the union of the signifier and the signified; second, a sign is the

combination pattern of a concept and a sound.[1] It is evident that the "sign" that they refer to is, in essence, "the linguistic sign." *General Introduction* notes that despite the arduous efforts that Saussure and Barthes made to define language, their definition remains ambiguous, for language is closely related to text. However, "Saussure overlooks the crucial role of text in the constitution of language" (85), and Barthes "has neglected to explain the fundamental questions concerning the form, function, and operational mechanisms of text" (93).

Through deep reflection and meticulous analysis, Nie Zhenzhao proposes the concept of "brain text" to further explore the origin, definition, nature, mode of conversion, and essence of language. He argues that language is a meaningful sound produced by human vocal organs; it is not innate but generated in real time. Language originates from brain text stored in the human brain, but brain text itself is not language—only when brain text is converted into sound form is language generated. Accordingly, Nie Zhenzhao states that "Language is the sound produced by human vocal organs that can express meaning. When a person converts brain text into sound through the movement of the vocal organs, this sound is language. Therefore, language is converted from brain text and is the sound form of brain text" (457-458). He further points out that the two essential attributes of language are "sound form" and "real-time generation," and then discusses the basic characteristics of language.

Secondly, *General Introduction* also clearly defines concepts such as signs, linguistic signs, characters, and text, and explores their interrelationships by proposing the concept of "brain text." The sign defined by Saussure and Barthes is always associated with sound, essentially constituting a linguistic sign. They also believe that signs are arbitrary. *General Introduction* argues that the definition by Saussure and Barthes leaves logical gaps because it fails to distinguish between tangible signs and intangible sounds. *General Introduction* maintains that "Signs are symbolic objects used to denote and represent other things" (460), and that they serve as carriers for expressing meaning, media for the formal transformation of meaning expression, and methods for recognizing and understanding things. Therefore, signs must have definite referents, and hence are "not arbitrary" (83). *General Introduction* maintains that a linguistic sign is composed of two parts—the signifier (sound) and the signified (meaning). Language is the sound produced by humans, and thus is not a linguistic sign. Linguistic signs are tangible, visible, and material, whereas language, as the sound form of brain text, is immaterial,

1 See Nie Zhenzhao, Ren Jie, et al., *A General Introduction to Language, Signs, and Brain Text*, Beijing: Peking University Press, 2024, 71.

intangible, invisible but audible. Therefore, a linguistic sign is not language.

General Introduction points out that text refers to "fixed written symbols that express certain meanings" and is "the combination of written symbols and their carriers" (472). Written symbols are a type of linguistic sign, referring to "ideographic signs that can be fixed onto writing materials," which essentially means characters (461). Texts are divided into three forms: brain text, written text, and electronic text. With the help of characters, people can transform brain texts into written texts for preservation, and convert intangible language into tangible characters. Different characters combined together become complex written texts with intricate meanings. Written text, namely the written form of text, cannot be equated with the sound form of brain text, i.e., language. This is because language is immaterial and intangible, while characters are material and tangible. Brain texts are ideas stored in the brain and can be transformed into sound, i.e., language, by human vocal organs, and they can also be transformed into written text by means of characters. Brain text and written text can be transformed into electronic text, i.e., digital text, with the aid of electronic devices. Therefore, "brain text is the method for preserving thoughts, while written text or electronic text is the method for preserving brain text" (473).

Thus, Nie Zhenzhao has clearly defined signs, linguistic signs, language, characters, and text, and elucidated their interrelationships. He further points out that human beings are the agents of language generation, ethics is the essential attribute of human beings, and language generation possesses an ethical nature, which means that ethics is the foundation of language generation. In this way, Nie Zhenzhao finally finds the key to defining language: brain text, thus providing a clear and rigorous definition of language. He manages to interconnect related concepts and resolves the fundamental theoretical problems that have long perplexed the fields of linguistics and literary studies "for over a century since Saussure constructed semiology" (94). This can undoubtedly be regarded as Nie Zhenzhao's significant academic theoretical contribution.

Reflection on the Saussurean tradition of linguistic semiotics did not begin with this book. Its contribution lies in proposing, from the standpoint of brain text, alternative definitions such as "sound form" and "real-time generation," thereby forming a systematic and self-contained approach. Whether it can withstand linguistic scrutiny and whether it replaces or complements the Saussurean tradition remain to be determined through dialogue and verification; nevertheless, its contribution in offering new ideas deserves recognition.

3. Delving Deeply into the Definition, Origin, and Creative Mechanism of Literature

The second innovation brought about by the concept of brain text lies in the book's exploration of the definition, origin, and creative mechanism of literature, and their interrelationships. First of all, it delves deep into the definition and origin of literature. Representative definitions of literature in literary circles are as follows: Literature is the art of language; literature is a form of ideology. Nie Zhenzhao argues that such definitions are unscientific. This is because language is the sound form of brain text. It remains debatable whether literary works, produced when brain text is expressed through writing, constitute the art of language or the art of writing. Ideology, by contrast, refers to "a kind of human thought." This raises a question that merits careful consideration: "Can literature be equated with thought?" (421) This is worth pondering. Views on oral literature in literary circles are also beset by a series of problems. Can oral literature without a text be regarded as literature? Is oral literature the earliest literature? How did oral literature come into being? After the emergence of written symbols, a question arose: "Once literature transmitted orally from mouth to ear was written down, was it the same in nature as the oral literature that had preceded it?" In particular, "Does a written literary text, when expressed orally, change its nature and become oral literature?" These basic theoretical questions "affect our entire conception of literature and the theoretical system concerning literature" (118-119).

After textual research, Nie Zhenzhao argues that literature refers to "all texts composed of written symbols, that is, all texts available for reading" (477); it is an art about human beings, an art of ethics, and an art of the text. As for oral literature, Nie Zhenzhao maintains that literary theorists define it as "literature without a text that is transmitted orally from mouth to ear" (118). This definition is untenable because they equate the medium and mode of transmission of oral literature with oral literature itself. In fact, "Oral transmission is merely a method of transmitting a certain literature, not a mode of its existence; the transmission of literature and the existence of literature are different" (121). Nie Zhenzhao points out that oral literature is the immediate source of written and electronic literature, but it is not the ultimate origin of literature. The ultimate origin of oral literature and indeed of all literature is brain text. He argues: "Only literature preserved in brain text constitutes the existence of oral literature"; "Brain text is the origin of literature and the text of oral literature"; "Literature existing in the form of brain text is not only transmitted through oral expression, but also completes, by means of written symbols, the process of textualization from oral literature to written literature" (126).

Secondly, in order to demonstrate that brain text is the ultimate origin of all literature, including oral literature, Nie Zhenzhao explores the cognitive laws of the brain and expounds the creative mechanism of literary works. He states that "whether the issue is language, symbols, or texts, it is ultimately a question of cognition" (97).

Human knowledge comes from cognition. Sensation at the lower stage and thinking at the higher stage constitute the two stages of cognition. Consciousness refers to "the brain's response to the objective world and a person's awareness of and attention to the external world and the self." It is closely integrated with cognition; without consciousness, there would be no human cognition (114). It is by means of concepts—the tools and products of thinking—that people are able to think. Concepts formed in the process of cognition, once confirmed by human consciousness, are stored in the human brain and become brain concepts. "Brain concepts are converted from concepts and are the result of the brain's preservation of concepts" (130). Brain concepts are the tools of thinking. The process of human thinking is the process of combining brain concepts. "The human brain uses brain concepts to think. When the process of combining brain concepts ends and becomes relatively fixed, thought is obtained" (133). When thought is preserved in the brain, brain text is obtained. Brain text is "thought preserved in the brain" and "a combination of brain concepts constructed according to certain ethical rules and capable of expressing clear meaning" (133). It is the material form of thought and the material transformation of abstract thought. "Brain text is the result of all cognition and the source of rational thinking. All human thinking, judgment, choice, speech, and action are the results of the functioning of brain text" (135). Brain text can be retrieved through human recollection and converted into sound form by means of the vocal organs, or converted into written text by means of written symbols—that is, writing. The source of oral literature is precisely brain text. Brain text can be converted into language by means of sound, forming oral literature, or converted into written literature by means of writing.

Thus, by introducing the concepts of brain concept and brain text, Nie Zhenzhao explores the laws of human cognition, refines the definition of oral literature, discovers the ultimate origin of all literature, including oral literature, and explores the creative mechanisms of oral literature and written literature. The resolution of these fundamental questions constitutes another innovation brought about by the concept of brain text proposed in *General Introduction*.

Brain text theory locates the foundation of text in the individual brain and bridges the gap between literature and cognitive science, while also leaving questions to be resolved: The claim that brain text is a "biological form" remains

to be empirically tested; and the claim that "ethical choice determines human nature" also depends on a detailed explanation of the mechanism by which ethical consciousness is generated. However, these questions do not diminish the theoretical value of the concept of brain text; rather, they indicate directions for its deepening and development.

4. Addressing Debates on the Nature and Methodology of Literary Criticism and Grounding AI Literary Creation and Computational Criticism

First, *General Introduction* holds that the sources of language, text, and literature are all brain text. The resolution of these fundamental questions paves the way for exploring the nature and methodology of literary criticism. Nie Zhenzhao argues that literature is a "product of morality" and "a form of ethical expression of human society at a particular historical stage" (*Introduction to Ethical Literary Criticism* 13). Literary works originate from brain text; whether they are written texts or electronic texts, they are writers' "rewriting, processing, storing, and reproducing of brain text" (11). Moreover, brain text is also the source of human thought, consciousness, and ethics. Human thought, choice, action, moral cultivation, and spiritual pursuit are all determined by brain text. "Brain text determines people's way of life and moral behavior, determines human existence, and determines human nature" (142). Ethical literary criticism "takes literary texts as the object of criticism, explains from an ethical perspective the different examples of ethical choice depicted in literature, and unearths the moral instructive value contained therein." It "explains from an ethical perspective the different life phenomena depicted in literature and makes value judgments about them," emphasizes the social responsibility of literature and literary criticism, "stresses the instructive function of literature," and "interprets and evaluates from an ethical point of view the causes, paths, processes, and results of the ethical selections of various characters," thereby providing people with moral instruction and warning (1). Thus, the questions concerning the nature and methodology of literary criticism are readily resolved. Ethical literary criticism maintains that the essence of literary criticism lies in "analyzing, interpreting, and criticizing literary texts" so as to "provide excellent textual choices for readers to construct brain text, thereby promoting human moral perfection" (143). Its methodology lies in analyzing the brain text of the author and that of the characters in the work, interpreting and exploring their ethical selections, and providing ethical enlightenment for people to choose excellent brain text, so as to raise people's moral level, teach them how to behave, and help them become moral persons.

Secondly, ethical literary criticism has always kept pace with the times and remained committed to academic innovation. The proposal of the concept of brain text provides a powerful theoretical weapon for innovation in literary criticism in the AI era and foresees the birth of a new paradigm of literary creation and computational analytical literary criticism in the AI era. Brain text theory tells us that writers create by means of brain text and can convert brain text into oral or written literature through sound and writing. Similarly, AI can form texts through information input, decoding, and encoding, store texts, process these textual data computationally according to a preset ethical program, and then preserve the results obtained from processing the data, thereby forming electronic brain text.

How can this possibility be realized? Computers can imitate the human brain. The concept of brain text reveals the principles by which, in the AI era, computers imitate the human brain in literary creation and literary criticism. The secret lies in the neural networks of the human brain. "The medium of brain text is human brain tissue; in essence, it is the neural network system of the brain, which is also the basis for computer simulation of biological neurons" (Nie, "Scientific Selection" 14). Today, science and technology are advancing rapidly. Connectionism has already made it possible to "construct artificial neural networks composed of a large number of interconnected simple processing units resembling neurons" (Nie, "AI Reading" 28), which provides a technological foundation for AI literary creation and computational analytical criticism. Nie Zhenzhao points out that "with the help of artificial neural networks," AI "simulates or realizes human learning behavior through learning, acquires new knowledge and skills, reorganizes existing knowledge, and continuously improves its own performance, enabling its learned knowledge to grow rapidly, thereby imitating writers to generate literary works" ("Scientific Selection" 13). Moreover, literary criticism in the AI era will also undergo a paradigm revolution, and "computational analytical criticism" will emerge in response to the times (Nie, "AI Reading" 22). Artificial intelligence has extraordinary capabilities in memory, encoding, decoding, storage, and computation. "Just as neurons in the brain transmit signals through synapses, artificial neural networks contain many 'artificial neuron' computing units similar to biological neurons. These units are interconnected hierarchically or according to specific structures, forming a complex network system that constitutes the technological foundation of computational analysis" (Nie, "AI Reading" 28). Drawing on the connection mechanisms of biological neurons, with the help of artificial neural networks, and relying on extraordinary computational power, AI can "deeply simulate human literary appreciation and academic critical thinking. Through

semantic deconstruction, emotion capture, analysis of artistic techniques, and cross-textual relational analysis of literary texts, it achieves multi-level understanding, analysis, reasoning, interpretation, and creative output of literary works" (Nie, "AI Reading" 27). AI "also possesses advanced intelligence such as sentiment analysis, logical reasoning, and recognition of artistic features. It can deeply analyze metaphors, symbols, and narrative structures in texts, unearth the cultural connotations and creative intentions behind them, and construct literary knowledge networks [...] Through computation, it generates research outputs such as literary reviews, character relationship graphs, and analyses of thematic evolution," integrating the "reading, understanding, analysis, and evaluation" of literary works into one (Nie, "AI Reading" 27). It can be seen that brain text theory provides a theoretical basis for the transformation of literary creation and literary criticism in the AI era, heralding the birth of a paradigm of human-machine collaborative literary creation and literary criticism.

The prospects for AI literary creation and computational analytical criticism still raise questions worth pondering: Is the transfer of brain text from the human brain to machines via "electronic brain text" an analogy or a metaphorical extension? The claim that AI "deeply simulates human literary appreciation and academic critical thinking" also remains to be empirically tested. These thought-provoking questions indicate room for the expansion and deepening of this theory.

All in all, *General Introduction* is another major work in the field of ethical literary criticism. The proposal of the concept of brain text marks a major breakthrough in ethical literary criticism and embodies three innovations. It systematically explicates the definitions of language, characters, and signs and their interrelations; it deeply explores the definition, origin, and creative mechanism of literature; and it addresses debates over the nature and methodology of literary criticism, providing a theoretical basis for AI literary creation and computational analytical criticism. The book has a broad vision and rich content. In addition to the first eight chapters, which discuss theory, it devotes nine chapters to providing successful examples of the application of the brain text theory of ethical literary criticism, offering a reference for researchers engaged in the practice of ethical literary criticism and demonstrating the explanatory power of the brain text theory. To sum up, by proposing brain text as a pivotal concept, *General Introduction* addresses many fundamental theoretical questions that have troubled literary circles and makes great contributions to the innovative development of literary critical theory. Besides, the book leaves some questions for further exploration, such as the

empirical testability of the concept of brain text, the boundaries of the extension of the concept of text, and the relationship between the individuality of brain text and the publicness of literature. These questions indicate the direction for further development of ethical literary criticism. At present, the school of ethical literary criticism has already begun research on literature and literary criticism in the AI era. It is believed that Nie Zhenzhao and his research team will certainly continue to lead international literary critical research, achieve new breakthroughs in the field of ethical literary criticism, and make greater contributions to promoting the development of literature and even the entire humanities.

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