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Symbol as Bridge: Decoding the Meaning Dilemma in the Era of AI—A Review of Zhao Yiheng’s *Cultural Semiotics in the Era of Artificial Intelligence*

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Abstract: This review critically examines Professor Zhao Yiheng’s seminal work, *Cultural Semiotics in the Age of Artificial Intelligence*. In an era where AI profoundly permeates cultural production and meaning construction, the book employs cultural semiotics as a theoretical framework to confront core cultural crises arising from AI: the symbolic essence of AI-generated content, the crisis of human subjectivity in the post-human era, and the risk of “Heat Death of Meaning” caused by information overload. The review illuminates three key contributions: First, by defining AI as a non-intentional symbolic machine, the book reaffirms the ontological bond between meaning and human consciousness, desires, and lived experiences. Second, it proposes “Continuity as the Fourth Rationality”, providing a sharp analytical tool for understanding AI-generated texts and expanding the horizons of semiotic theory. Third, through reflections on “Form and Meaning”, “Five Paradoxes” and “Halfway Style”, the book issues a profound warning about homogenized meaning in contemporary art. The work bridges the technological and humanistic perspectives, offering crucial intellectual resources for safeguarding the depth and diversity of human meaning in the AI era. However, it leaves gaps in addressing “externalizations”, particularly in exploring dimensions of symbolic political economy like algorithmic bias, symbolic power, and platform politics.

Keywords: artificial intelligence; cultural semiotics; rationality; form and meaning

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标题：符号为桥，解码 AI 时代的意义困境——评赵毅衡《人工智能时代的文化符号学》

摘要：本文是对赵毅衡教授《人工智能时代的文化符号学》一书的评述。面对人工智能深度渗透文化生产与意义建构的时代，本书以文化符号学为理论工具，系统回应了 AI 引发的核心文化困境：如 AI 生成物的符号本质、后人类时代的主体性危机以及信息过载导致的“意义热寂”风险。书评认为，该书的贡献体现在三个层面：其一，通过判定 AI 为“非意图性符号机器”，捍卫了意义与人类意识、欲望、生命体验的本体论联结；其二，创造性地提出“延续性作为第四理据性”，为分析 AI 文本生成提供了锐利工具，并推动了符号学理论的范式扩容；其三，以“形式与意义”“五个悖论”与“半程风格”反思当代艺术，发出意义同质化的深刻预警。这本书在技术和人文之间搭起了一座批判性的桥梁，为 AI 时代保护人类意义世界的深度和多样性，提供了重要的思想资源。不过，它也留下了一些“外部性”议题的空白，比如算法偏见、符号权力等内容，还有待深入挖掘。

关键词：人工智能；文化符号学；理据性；形式与意义

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Introduction

The rise of artificial intelligence marks not merely a leap in technological capabilities but a profound paradigm shift in the mechanisms of meaning production. As DeepSeek's conversations attain an so fluent as to inducing cognitive disorientation, as MidJourney's generated images increasingly approach—and at times eclipse—the aesthetic refinement of master human artists, and as algorithmic recommendations subtly shape the knowledge horizons and emotional frameworks of billions, what we witness transcends a simple technological breakthrough: it represents a fundamental philosophical crisis concerning the essence, origin, and authority of “meaning”. Once regarded as an exclusive attribute of human consciousness and culture, meaning is now being redefined by non-biological, statistical, and algorithmic intelligence.

Amid the intense clash between technological optimism and humanistic concerns, Professor Zhao Yiheng, drawing on his decades of profound expertise in semiotics, has authored *Cultural Semiotics in the Age of Artificial Intelligence* (Sichuan University Press, September 2025). The book integrates semiotics as an

“instrument for meaning interpretation” with the context of the AI era, exploring the significance challenges of this technological age while infusing new vitality into contemporary semiotic theory. It stands as a pivotal work bridging technology and humanities scholarship. Its core value extends far beyond merely labeling complex AI cultural phenomena; more profoundly, it compels semiotics (a discipline born from and deeply rooted in anthropocentric traditions) to engage in self-reflection, re-examine its boundaries, and even drive the renewal of entire research paradigms when confronting systemic challenges posed by “non-human intelligence”.

As a scholar dedicated to the localization of semiotics in China, Professor Zhao Yiheng has been striving to integrate semiotic theories with Chinese cultural practices, and has constructed a semiotic analysis framework with distinct local characteristics. In this book, he continues this academic research without confining himself to the theoretical boundaries of traditional semiotics; instead, he adopts artificial intelligence as a novel research subject, transcending the divide between technological and humanistic studies. The first part focuses on “Cultural Semiotics of Artificial Intelligence”, addressing cultural phenomena and core issues in the AI era, while the second part delves into “Formal Theories of Meaning”, providing solid theoretical basis for the practical inquiries of the first part. This approach forms a coherent argumentative logic of “phenomenon-problem-theory-reflection”, offering both detailed analyses of specific cultural phenomena and innovative constructions of theoretical systems, combining practical relevance with academic depth.

1. Confronting the Reality of AI and Questioning the Contemporary Dilemma of “Meaning”

The perspective presented in this book is grounded in a clear and definitive philosophical judgment: artificial intelligence is essentially an outstanding “symbolic operations machine”, rather than a genuine “symbolic meaning subject.” This judgment is based on an in-depth semiotic phenomenological analysis that bypasses the technical “black box” of neural networks and directly addresses the philosophical core of the issue: Must the generation, understanding, and communication of meaning necessarily depend on biological consciousness, intrinsic intentionality, and embodied life experiences?

1.1 The Significance of Artificial Intelligence

To substantiate this argument, the book constructs a logically coherent analytical framework. Its opening discussion of “alien intelligent entities” in science fiction serves as a sophisticated theoretical foundation. As humanity’s intellectual laboratory, science fiction’s depictions of robots and extraterrestrial intelligence fundamentally reflect humanity’s self-examination and projection of its symbolic systems and cognitive frameworks. The book contends that regardless of how sci-fi authors imagine empathy among alien intelligence, the underlying dilemma persists: without shared life forms or evolutionary histories, can mere symbolic exchange truly foster meaningful understanding? This literary analysis reveals the ontological divide between AI and human symbolic practices. Such an approach avoids both the blind worship of technological optimism and the one-sided rejection inherent in technological pessimism, embodying rigorous academic rationality.

Subsequently, through a chapter titled “Ten Questions about Artificial Intelligence”, which is full of

dialogues and reflections, this book explores this gap. Ranging from “Is its fundamental function a meaningful activity?” to “Can it employ irony?”, these ten questions serve as a set of philosophical tests that reveal the mechanistic nature of AI’s symbolic processing. AI’s “understanding” involves the recognition and matching of input symbolic patterns; its “response” consists of generating the most probable sequences based on extensive data training. The entire process can be described as a form of “competence without understanding”. It is indifferent to the referents of symbols and focuses solely on the probabilistic associations between them. This fundamentally distinguishes AI from meaningful human activities, as human activities are rich in elements such as emotional value, historical memory, and concerns about survival.

To explore whether the symbolic essence of human thought can be fully formalized, this book focuses on the mystery of the “present moment”, distinguishing between humans “perceiving the present moment” and artificial intelligence’s “working moment” (Marx, 1995). Drawing on the “dual-axis” theory (Saussure, 1980) and incorporating the debate between Hinton and Chomsky, it elucidates the interactive mechanism of the symbolic dual axes (the combination axis and the aggregation axis) in AI text generation, arguing that AI-generated texts are essentially mechanical combinations of these axes, lacking the creativity and flexibility inherent in the dual-axis interaction characteristic of human symbolic activities.

1.2 The Artistic Perspective of AI

The most theoretically significant analysis from the artistic perspective of artificial intelligence is found in its critique of “AI art”. Today, the awe and controversy sparked by AI creations represent the central arena for the struggle over meaning sovereignty. This book argues that while AI can remarkably realistically imitate or even blend various artistic styles (i.e., skillfully handle “the meaning of form”), it fails to infuse artistic creation with the most fundamental driving force: desire. The desires mentioned here are not merely psychological needs. Rather, at the existential level, living beings have the urge to express themselves due to scarcity, the pursuit of completeness, and the struggle against the world.

From Qu Yuan’s “Li Sao” to Van Gogh’s “Starry Night”, great works of art is invariably the crystallization of such existential desires. “AI art” is ultimately “a form of replication without a subject” (Zhao, 2025), a “representation” that is highly realistic at the symbolic level but completely devoid of meaning at its source.

This analysis not only resolves the controversies surrounding AI-generated art but also upholds the essence of art itself, art as the highest form of human meaningful activity, whose core lies in the manifestation of subjectivity and creativity. This argument strengthens the ontological connection between art and human lived experience. However, it also places us in a more complex dilemma: when the “forms” created by AI become sufficiently perfect and effectively evoke emotional resonance in viewers, is the definition and meaning of art undergoing a transformation? Will the evaluation of art’s value gradually shift from the traditional “author-intention-expression” paradigm to a “audience-effect-interaction” paradigm?

2. Deepening the Theoretical Foundation and Constructing a Formal System of Meaning

2.1 Reconsidering “Rationality”

The first part of this book is a practical inquiry into cultural phenomena in the AI era. The second part, “The

Formal Theory of Meaning”, is a theoretical response to this inquiry and also an innovative construction of Professor Zhao Yiheng’s semiotic theory. By returning to the core proposition of semiotics, which is “how meaning is generated”, through rethinking rationality, exploring the dialectical relationship between form and meaning, conducting thought experiments, and interpreting the “halfway style” of contemporary art, a complete formal theory of meaning has been constructed. This provides a solid theoretical support for AI cultural semiotics and also promotes the contemporary development of semiotic theory.

“Reconsidering rationality” is the core content of the second part. Since Saussure proposed arbitrariness and Charles Sanders Peirce refined the tripartite classification of resemblance, indication, and regulation, the rationality theory has been relatively stable. This book starts from Socrates’ hesitation (Edith & Huntington, 1963), first exploring that rationality is “the force that connects symbols and meaning”; second, it proposes the concept of “universal pragmatic rationality” (Zhao Yiheng, 2024), distinguishing between “acquired meaning at birth” and “acquired meaning during growth”; third, it explains “continuity” as the fourth rationality, combining C. S. Peirce’s “thought symbol” theory (C. S. Peirce, 2014), and pointing out that continuity is the basis for the coherence of symbolic meaning. The operation mechanism of large language models like Deepseek is precisely this rationality, striving to generate the most “smooth”, “reasonable”, and “in line with the expectations of the previous context” symbolic sequences within the probability space built by a vast amount of training corpora. The “thinking” of such models has no ultimate goal; its essence is to advance following the logic of “continuity”.

This rethinking of rationality not only enriches the theoretical system of semiotics but also provides a new theoretical tool for interpreting the symbolic activities of AI. On the one hand, it provides a sharp tool for analyzing AI-generated text products. The reason why an AI-generated news article “looks like” a news article mainly lies not in its resemblance to real events (it may be completely fictional), but in its continuation of the vocabulary, sentence structure, and narrative mode of the news genre. On the other hand, it also illuminates the long-neglected “continuity” dimension in human symbolic activities. Our daily conversations, academic writings, and even thinking flows deeply rely on this internal coherent logical structure. This book “alienates” the logic of AI and allows us to see the other side of our thinking reflected by the algorithm mirror.

3. The “Halfway Style” and the Concept of Heat Death of Meaning

This book applies the theoretical frameworks to a macro-level critique of the cultural ecology in the AI era, proposing two profoundly insightful concepts with far-reaching implications: “The Five Paradoxes of Artificial Intelligence” and “The Halfway Style”. This marks a shift in the book’s research from “theoretical innovation within semiotics” to “semiotic engagement in critical analysis of our times.”

3.1 The Five Paradoxes of Artificial Intelligence

The “Five Paradoxes of AI”, namely, “The Simple Approach to Ultra-Advanced Intelligence”, “Professional Technology for Universal Use”, “Technological Radicalism Driving Cultural Internalization”, “Social Production Prosperity Leading to Reduced Human Agency”, and “Information Overload Resulting in a Heat Death of Meaning”. These uncover the fundamental contradictions and alienation effects between technological logic and sociocultural logic.

Among these concepts, “Heat Death of Meaning” draws on the Heat Death Theory from physics to describe a cultural phenomenon: driven by AI, the efficiency of symbol production and dissemination reaches its peak, resulting in a flourishing cultural landscape. However, once meanings are endlessly replicated and restructured, their uniqueness and profound essence are continuously diluted. Ultimately, all cultural expressions tend toward homogenization, flattening, and a state of maximum entropy. This is not merely an issue inherent to AI itself, but rather the cultural dilemma of the entire digital age accelerated by AI as a catalyst. This analysis not only interprets the current cultural predicament, but also provides an important theoretical perspective for us to reflect on the development of artificial intelligence.

3.2 The “Halfway Style” of Contemporary Art

The “Halfway Style” represents the concrete manifestation of “meaningful thermal death” in aesthetic and creative dimensions. This paper argues that much contemporary art (including typical AI-generated works) often stagnates halfway between achieving “formal completion”. Drawing on the concept of “qualia” and integrating it with Charles Sanders Peirce’s theory of qualia, the book elucidates the essence of “semiotic encoding” and explores the “ten stages of artistic evolution”. By applying Marxist theory of “new sensibility”, it posits that contemporary art should pursue an “organic unity of form and meaning”, maintaining the core significance through formal innovation while advancing form through meaning construction. While AI art possesses all conventional artistic elements, novel media, distinctive compositions, and challenging concepts, it lacks profound meaning and sublimation. AI enables the industrialized and automated production of this halfway style, exacerbating the issue. This diagnosis accurately identifies the crux of contemporary art and cultural production, calling for a “complete style” that restores spiritual weight and existential depth.

However, this critique with humanistic ideals may also face counterarguments from contemporary thought itself. Under the influence of postmodernism, within the fragmented, fluid, and decentralized digital existence, does the inherently open and indeterminate nature of the “halfway state” precisely constitute a new, more contemporary form of meaning expression? While this book establishes rigorous criteria, the aesthetic paradigms of our era may already be shifting; the dialogue between these standards and paradigms will become the central arena for future cultural discourse.

4. Academic Value and Practical Implications: Building a Bridge Between Technology and Humanities

The greatest value of the book *Cultural Semiotics in the Age of Artificial Intelligence* lies in its ability to bridge the gap between technology and humanities, establishing a systematic theoretical framework for AI cultural semiotics. It not only advances contemporary innovations in semiotic theory but also provides crucial theoretical guidance and practical insights for cultural development in the AI era, with its academic significance and practical relevance manifesting in multiple aspects.

From an academic perspective, the book’s innovations manifest in two key aspects. First, it expands the research boundaries of semiotics by extending its scope from traditional studies of language, literature, and art to the entirely new field of artificial intelligence, thereby advancing semiotics’ interdisciplinary development. Second, it reconstructs semiotics’ core theories by introducing concepts such as “continuity as

the fourth rationality”, “universal pragmatic rationality”, and “semi-process style”, offering a fresh interpretation of the dialectical relationship between rationality, form, and meaning.

From a practical perspective, this book offers crucial guidance for addressing the meaning dilemmas of the AI era and upholding human subjectivity. First, it emphasizes the need to correctly understand the cultural semiotic nature of artificial intelligence, acknowledging its technological advantages while clearly recognizing its limitations. The symbolic activities of AI involve unintentional, non-subjective, and emotionless mechanical processing, making it incapable of truly replacing human meaning-making endeavors. Second, it advocates preserving the diversity of meaning systems and guarding against the “meaning thermal death” dilemma caused by information overload. In the AI age, where symbolic production has become increasingly convenient and exponential information growth leads to meaning fragmentation and homogenization, we must actively preserve human creativity and reflective capacity, focusing on meaning construction within symbolic activities. Third, it calls for balancing technological advancement with humanistic principles by defining clear boundaries for AI development, ensuring its progress serves human well-being and fosters a positive synergy between technological progress and humanistic values. Fourth, it promotes the healthy development of contemporary art to highlight human subjectivity and creativity. While AI can serve as an auxiliary tool for artistic creation, it should not replace human artists, as the core of art remains human emotion, thought, and creativity.

Conclusion

This book adopts a research perspective focused on “introversion,” with a relatively limited exploration of “externalizations”. While it primarily examines the intrinsic mechanisms of AI as a symbol producer (i.e., the “how-to-produce” question), its discussion of the external operational mechanisms of symbolic power within political and economic dimensions remains insufficient. For instance: What cultural biases and ideological “dark matter” rooted in regional, gender, and class dimensions exist within AI systems? How do technology platforms automate and scale these biases through algorithms, thereby shaping new forms of cognitive inequality and symbolic power structures? How will the copyright ownership and ethical accountability of AI-generated symbols reshape the ecosystem of cultural production? These critical issues pertaining to “symbolic political economy” and “algorithmic critique” require deeper dialogue with fields such as communication studies, political science, and law.

Given the rapid advancement of AI technology, it is imperative to adopt a cautious and forward-looking academic approach to address complex challenges arising from its development, including ethical ambiguities, identity reconstruction dilemmas, and socio-technical risks (Yu, 2025, p.131). Key issues such as the symbolic generation capabilities of large language models, the meaning-assignment mechanisms of virtual humans, and the cultural biases embedded in training data warrant further exploration. Nevertheless, this does not diminish the book’s academic value or practical relevance. As the book’s author Professor Zhao Yiheng powerfully emphasizes, semiotic research is a vibrant, dynamic process that must perpetually adapt to contemporary challenges and continuously evolve its theoretical frameworks. The book’s core contribution lies in its

systematic examination of AI through the lens of cultural semiotics, advocating for the use of symbols as bridges to decode the cultural logic underlying technological developments. It underscores the importance of preserving human subjectivity, safeguarding the diversity of meaning systems, and thereby protecting humanity's spiritual homeland while fostering a positive synergy between technological progress and humanistic advancement.

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