THE BOUNDARY OF MACHINE READING: FROM DATA TO MEANING

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Abstract: The article examines the boundaries of machine reading in the context of novel poetics. The algorithm is considered as a mediating structure capable of revealing formal regularities but not generating meaning. Based on the works of Ihde, Verbeek, Raj, Uma and Shanmugam, Zhao, Koskinen-Koivisto and Kajander, as well as Vinogradov, Lotman, and Tynyanov, it is shown that digital analysis expands the observability of the text but does not replace interpretation. The concept of distributed understanding is introduced to describe the interaction between human and algorithm. The boundary of machine reading is defined as the transition from data to meaning.

Keywords: artificial intelligence, digital poetics, machine reading, hermeneutics, novel poetics

Introduction

The interaction between human and algorithm has become a central issue in contemporary philology. The hermeneutic tradition encounters a new type of interpreter – the machine – which challenges established notions of understanding. The algorithm does not create meaning but identifies patterns within the text. Its analytical operations approximate philological methods and raise the question of the limits of machine reading.

Digital reading transforms the relation to the text. Corpus analysis, frequency modeling, semantic mapping, and machine learning turn the literary work into a data structure. Meaning emerges through relations and recurrence rather than experience. The text loses its material density but becomes analytically transparent. A new mode of understanding arises, based on collaboration between human and algorithm.

In the hermeneutic view, meaning is generated through participation. In the digital environment this act is divided: the algorithm reveals structure, the human assigns significance. Artificial intelligence does not replace hermeneutics but exposes its boundaries (Heidegger, 1996, p. 212).

The philosophy of technology clarifies this process. Don Ihde introduces the notion of technological mediation, arguing that technology shapes the mode of perception itself (Ihde, 1990, p. 41). Peter-Paul Verbeek adds that technology constitutes forms of human presence in the world (Verbeek, 2008, p. 94). Artificial intelligence can thus be understood as a mediating structure that transforms the phenomenology of reading.

In digital poetics, the text becomes an object of shared observation. The algorithm identifies regularities; the researcher interprets their significance. The machine produces a secondary textual layer, while the human returns it to the space of meaning (Uma & Shanmugam, 2023, p. 121).

The boundary of machine reading is defined not by technical but by philosophical factors. Traditional philology views the text as an event of consciousness; digital poetics regards it as a computational model (Lotman, 1972, p. 45). Between them lies the space of transition from analysis to interpretation.

The aim of this study is to define that boundary and to show how artificial intelligence transforms the structure of poetic perception. The methodology combines the phenomenology of technology, digital hermeneutics, and structural poetics. The work draws on Ihde (1990),

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Verbeek (2008), Uma and Shanmugam (2023), Zhao (2023), Koskinen-Koivisto and Kajander (2025), as well as Tynyanov (1977), Vinogradov (1976), and Lotman (1972).

Methods

The study combines digital hermeneutics and poetics. The algorithm is treated as a participant in interpretation, not merely as an instrument. Understanding is viewed as an interaction between human and text, partially transferable to the machine.

The method follows the principle of dual observation: the algorithm identifies structure, and the researcher relates data to meaning. According to Don Ihde, this marks a transition from perceptual to hermeneutic transparency, where data become visible but remain unintelligible without interpretation (Ihde, 1990, p. 82).

In the phenomenology of technology (Ihde, 1990; Verbeek, 2008), technology functions as a mediator of experience. Artificial intelligence operates as a mediating structure of reading, shaping a new mode of textual perception. It not only records patterns but also determines the way they are perceived, transforming the text into a system of data.

Uma and Shanmugam (2023, p. 122) describe AI as creating a meta-interpretative distance between reader and text. Zhao (2023, p. 88) defines this distance as an epistemological boundary of computational interpretation. Raj (2024, p. 104) views the algorithm as a space in which understanding becomes possible. Koskinen-Koivisto and Kajander (2025, p. 135) emphasize that digital reading is based on observation rather than experience.

The method integrates corpus analysis, semantic modeling, and hermeneutic interpretation. The algorithm reveals statistical structures, while the researcher restores them to the context of form and culture. The boundary between computation and understanding becomes the site of their productive interaction (Bakhtin, 1979, p. 312).

Results

Algorithms demonstrate precision in describing formal structures and recurring patterns. In the novels of the nineteenth and twentieth centuries, they register stable narrative rhythms, clusters of motifs, typical character configurations, and repetitive syntactic schemes. Digital analysis is reproducible and provides epistemological stability, yet it does not reveal artistic movement.

According to Uma and Shanmugam (2023, p. 126), artificial intelligence captures structure but fails to recognize its aesthetic function. The machine records repetition but does not perceive it as a device. In the novel, where repetition is tied to semantic dynamics, this distinction is essential. The algorithm describes form but not the meaning of its disruption.

Zhao (2023, p. 91) notes that computational models assign value to frequency rather than to semantic hierarchy. This produces a leveling effect: the text loses emphasis and becomes an even distribution of features. The machine cannot register degrees of semantic tension because it lacks cultural memory.

Tynyanov (1977, p. 142) argued that artistic movement depends on the disruption of habitual perception. Machine analysis, by contrast, values repetition. Statistical stability becomes the opposite of the poetic. Art is based on deviation; the algorithm seeks regularity.

Raj (2024, p. 107) emphasizes that the machine makes structure visible but does not make understanding possible. Analysis provides visual clarity of data but not hermeneutic depth. Ihde (1990, p. 82) described this as perceptual transparency without interpretation.

Lotman (1972, p. 45) viewed the text as a cultural model in which meaning arises from the interaction of structure and context. The algorithm reproduces structure but does not restore context, remaining at the level of syntactic surface. Understanding requires reference to linguistic memory and the history of forms (Vinogradov, 1976, p. 214).

According to Koskinen-Koivisto and Kajander (2025, p. 135), digital reading turns the text into an object of observation rather than experience. Machine processing removes the corporeality of reading, reducing it to a symbolic operation.

Uma and Shanmugam (2023, p. 129) describe the effect of a secondary poetic space, in which the reader perceives not the text itself but its model. This produces a meta-poetics of observation, where aesthetic experience is replaced by analytical vision.

The results show that artificial intelligence expands the observability of form but does not reveal semantic hierarchies. It is effective in description but limited in interpretation. Its boundary lies where form demands meaning and data require history (Raj, 2024, p. 108). Machine reading constructs a field of structures, not an act of understanding.

Discussion

Machine reading represents a limited yet productive form of interpretation. The algorithm creates conditions for observation but does not perform the act of understanding. It reveals structure without constituting meaning, which calls for a revision of the epistemological boundaries of philology (Zhao, 2023, p. 90).

Artificial intelligence functions not as a tool but as a participant in interpretation. Raj (2024, p. 104) describes the algorithm as a space in which understanding becomes possible. This space carries no inherent meaning but defines the topology of interpretation.

According to Ihde (1990, p. 41), technology transforms the mode of human presence in the world. In digital poetics, the algorithm establishes a new mode of textual existence: the text becomes a system of data, and the researcher becomes its interpreter. Uma and Shanmugam (2023, p. 127) note that AI creates a secondary level of observation, which opens the possibility of meta-interpretation.

Zhao (2023, p. 90) defines the boundary between machine and human cognition as an epistemological threshold where interpretation requires reflection. The hermeneutic dimension arises from recognizing the instrumental nature of the algorithm.

The limits of machine reading lie not in the text but in the act of interpretation. The algorithm generates data transparency, while the human gives it direction (Verbeek, 2008, p. 96). This participation demands human verification of meaning.

Digital hermeneutics is based on distributed understanding. Researcher and algorithm form a unified system where the transition from data to meaning is not automatic (Raj, 2024, p. 109). It requires interpretive effort that restores hermeneutic depth.

According to Koskinen-Koivisto and Kajander (2025, p. 134), data generated by algorithms are contingent and depend on the observer's perspective. The machine projects the text within the limits of its own model. This makes it necessary to return to the experience of reading and to relate data to the living structure of the work.

Vinogradov (1976, p. 214) associated the artistic word with the historical memory of language. The algorithm excludes this temporal dimension, which makes it the task of philology to connect machine analysis with hermeneutic reflection.

Uma and Shanmugam (2023, p. 130) argue that artificial intelligence enhances structural sensitivity but cannot replace understanding. The algorithm disciplines observation but does not produce interpretation.

Digital poetics is not opposed to classical philology. It extends its analytical potential and increases the verifiability of hypotheses. However, humanistic meaning is preserved only through the return from data to the event of reading (Bakhtin, 1979, p. 318).

The boundary of machine reading does not exclude interpretation but makes it possible. Here the philosophical essence of digital hermeneutics becomes visible: meaning arises not within structure but in the act of understanding (Heidegger, 1996, p. 214).

Conclusion

Philology has entered a phase in which the limits of analysis are defined by the interaction between human and algorithm. Artificial intelligence does not replace understanding but reveals its structure. Machine reading identifies the regularities of form but does not reconstruct the semantic hierarchy linked to embodiment, intonation, and historical memory (Vinogradov, 1976, p. 210).

The algorithm creates data transparency but not hermeneutic transparency. According to Ihde (1990, p. 82), technology shapes the mode of perception but not the content of experience. The machine renders structure visible, while the human assigns meaning. This marks the boundary between knowledge and understanding, between statistics and poetics.

As Verbeek (2008, p. 96) observes, technology participates in the constitution of experience. The algorithm becomes part of interpretation but not its subject. It generates a field of visibility in which the researcher bears responsibility for meaning.

Raj (2024, p. 110) and Uma and Shanmugam (2023, p. 130) define digital hermeneutics as a mode of distributed understanding. In this mode, the algorithm configures data, while the human determines semantic valence.

Zhao (2023, p. 89) notes that the boundary of computational interpretation appears when the model loses transparency. Hermeneutics begins where data require interpretation.

Vinogradov (1976) and Lotman (1972) demonstrated that meaning is formed within the context of cultural memory. The algorithm cannot reproduce the temporality of form; therefore, understanding requires a return to historical context and the living structure of language.

Digital poetics is not an alternative but an extension of philology. It enhances observation, refines analysis, and disciplines interpretation, yet it depends on hermeneutic verification.

The boundary of machine reading coincides with the transition from data to meaning. This transition marks the distinction between technology and consciousness (Heidegger, 1996, p. 221). Artificial intelligence expands the field of observation but does not replace human participation in understanding.

The study's novelty lies in the concept of distributed understanding as a model of interaction between algorithm and interpreter (Raj, 2024, p. 111). The poetics of the digital era explores the passage from computational clarity to hermeneutic depth.

The practical significance of the research lies in the separation of analysis and interpretation. The algorithm identifies structure, and the researcher returns it to the context of meaning. This ensures analytical precision while preserving humanistic responsibility (Bakhtin, 1979, p. 320).

Digital poetics strengthens philology by returning it to its central task: understanding form as a bearer of meaning. Artificial intelligence reveals the boundaries of interpretation and reaffirms the necessity of human reading as an act of presence.

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