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Aspects of AI semiotics: enunciation, agency, and creativity

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Semioticians began working on Artificial Intelligence in the 1960s, but it was only in 2016 that they turned their attention to Image Processing, and from 2022 onward, to Generative Artificial Intelligence. Notably, the University of Turin and the Facets Group have explored this field extensively.

In France, it was the *International Seminar of Semiotics in Paris 2023–2024*, organized by Juan Alonso Aldama and Maria Giulia Dondero, that initiated a collective exploration of theories of enunciation and the impact of passions within the semiotic domains opened by contemporary artificial intelligence. Generative AI, in essence, permeates every aspect of collective and individual life, operating in varied ways across different domains. In all these contexts, enunciative instances differentiate themselves in the mechanism of recombining pre-existing texts and in their impact on users and, more broadly, on the ongoing production and reconfiguration of this new discursive economy.

Currently, European semioticians specifically investigate methods for analyzing data corpora and generative AI, particularly large language models and diffusion models. These studies addressed the critical issue of language translation – such as between human prompts and machine-revised prompts in tools like ChatGPT and DALL•E, between natural language prompts and images, and between images and textual descriptions.

This issue of *Semiotica* addresses reflections on the multiple enunciative instances and agencies involved in these generative artificial intelligences, including the databases used for generative training and inference models, the numerical representations or “embeddings” they create to translate visual or verbal texts into lists of numbers, and finally, the prompts that serve as the entry points for users into the models. The focus is notably on the translations between different syntagmatic language planes of expressions and on the much-discussed question of creativity in

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translation. Indeed, the various enunciative agencies emerge within the texts produced by generative AI with varying intensities of presence. These enunciative instances are combined in different intensities, and these diverse combinations of human and non-human actions enable us to clarify how creativity manifests in generative AI discourses. But how can creativity be measured? Against what frame of reference? Visual arts, literature, argumentative logic, or common sense? This issue aims at diversifying the various forms of creativity according to the domains where it unfolds: visual arts, graphic design, advertising, as well as politics, strategy games, jurisprudence, and decision-making. In all these areas, creativity is evaluated using parameters that are specific and dependent on the discursive genres where these computational instruments intervene. In this context, the focus is on what we call the “meta-perspective” produced within the operational chain of generative AI – a sort of “self-surveillance” we attribute to the machine.

It should also be noted that our object of study extends beyond the semiotic analysis of texts co-produced with tools like ChatGPT, DALL•E, Midjourney, Stable Diffusion, Perplexity, and others. It encompasses the analysis of all socio-cultural practices involving generative AI: from education to political debate, scientific research, artistic production, and the computational practices that continuously implement and modify it.

This issue also addresses other human attributes typically delegated to machine operations, such as perception. Recent literature on the subject discusses concepts like “perceptual topology” or “archive perception.” Are these merely metaphors? The outputs of tools like Midjourney, DALL•E, and Stable Diffusion demonstrate a certain management of spatiality in composition – what we might call adherence to perceptual affordances, such as the staging of action verbs and objects. But how can we imagine or describe perception without a body?

The papers collected here provide a multifaceted exploration of artificial intelligence (AI) notably Generative AI, within the framework of different semiotic traditions (Greimasean, Peircean,...), reflecting on its profound implications for cognition, creativity, communication, and cultural practices. Unified by a commitment to interrogating AI through semiotic lenses, these works also highlight distinct approaches and thematic priorities, enriching the discourse on AI’s role in reshaping human and machinic interactions.

A central theme in these papers is the concept of enunciation and agency, where authors examine the interplay between human intention and AI processes. Maria Giulia Dondero, for instance, employs the concept of *enunciative praxis* to analyze how image databases serve as sources for computational analysis and generative creativity, emphasizing the dynamic relationship between cultural sedimentation and innovation. Similarly, Colas-Blaise and D’Armenio explore the machinic and co-enunciative dimensions of AI, revealing the critical role of human operators in

shaping AI outputs. These ideas converge with Paolucci's reflections on the machinic essence of humanity, proposing that generative AI compels us to rethink our dependence on external cognitive aids and our hybridization with the environment.

Creativity emerges as another key focus. Dondero and Valle investigate AI's ability to generate new forms of meaning and imagery, framing this capacity within the epistemological shifts brought about by machine learning and neural networks. While Dondero highlights the interplay between latent space and cultural archives in visual generation, Valle contrasts classical programming paradigms with machine learning, describing the transition from rule-based systems to data-driven inferential models. Basso Fossali offers a more skeptical view, emphasizing AI's inability to transcend mimetic reproduction while advocating for its potential to enhance human rationality through corrective intelligence. This nuanced view aligns with Compagno's critique of traditional notions of truth applied to AI, which questions whether AI-generated outputs can be meaningfully evaluated using human-centric standards of error and validity.

Databases and archival perception are also pivotal to understanding AI's semiotic mechanisms. D'Armenio, among others, examine how databases function as repositories of cultural production, enabling AI to reinterpret and reconfigure these archives into new outputs. These insights reveal a dynamic tension between the algorithmic processes that underpin AI and the human interpretative frameworks that seek to make sense of its outputs. Montanari extends this discourse by addressing AI's socio-political dimensions, exploring how it mediates public narratives and reshapes political communication.

Lastly, the evolving notion of truth and epistemology anchors several contributions. Compagno challenges the static application of truth to AI outputs, suggesting that AI's computational processes might necessitate a reevaluation of epistemic humility. Other authors complement this perspective by positioning AI as a tool for reconceptualizing the relationship between cultural sedimentation and novelty, offering a pathway for rethinking visual and linguistic practices in light of technological advancements.

Despite these thematic convergences, the authors diverge in their outlooks: some adopt a cautious stance, emphasizing AI's limitations and risks, while others celebrate its potential to redefine human creativity and epistemic frameworks. Together, these works contribute to an interdisciplinary dialogue that probes semiotics' crucial contribution to understanding AI, alongside with Digital Humanities, Computer Vision, and Digital Art History, illuminating the evolving nexus between human and machinic intelligences.