From linguistic generativity to projective generativity: Natural language, generative AI, and the circulation of meaning

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1. Introduction

Generative AI is becoming increasingly present in our professional and personal lives. It is integrated into complex tasks (data analysis, synthesis of results, etc.) as well as simple tasks (writing an email, organising a menu, etc.). Sometimes it helps us understand the complexity of a phenomenon by facilitating access to content, and sometimes it eliminates the repetitiveness of an action by automating routine tasks. The introduction of these technologies into everyday life could have an impact similar to that of calculators in modernity (Urlaub and Dessein 2024). The emergence of generative AI in our lives forces us to take a stance on both machines and their uses. We can use generative AI to produce different objects: images (DALL-E 2, Midjourney, Stable Diffusion…), texts (ChatGPT, Gemini, Perplexity, Claude, Maia…), music (Jukebox, MusicLM…), code (Copilot…), etc. Interacting with machines, we define ourselves in return through the ways we use them. To use it consciously and critically, we need to understand the dynamics of these upheavals.

This special issue of *Punctum* aims to foster a truly transdisciplinary dialogue on generativity as a linguistic, cognitive, semiotic, and technological phenomenon. By bringing together theories from semiotics, enunciative linguistics, cognitive chronogenesis, and AI, we aim to highlight both the continuities and discontinuities in the creation, transformation, and sharing of meaning.

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1. What does 'generativity' mean in AI wor(l)ds

When working with and on generative AI, one question arises repeatedly: What does the term '*generative*' mean when applied to machines? Generative AI is a category of AI that enables the autonomous, automatic creation of data, content, and text whose outputs resemble those produced by humans. The limits of these resemblances are frequently questioned. However, to avoid a misleading debate opposing 'imitation' and 'creativity,' it is useful to clarify that there exist at least two regimes of generativity: a human generativity – theorized in different ways in linguistics and semiotics – and a generativity specific to large language models (LLMs), which we propose to describe as *projective generativity*.

The term '*projective*' is chosen to meet a specific methodological need. It aims to prevent both (i) anthropomorphism, which would involve attributing generative abilities to language models that are equivalent to those of humans, and (ii) computational reductionism, which would limit these systems to simple mechanisms of reproduction or imitation. Most importantly, this term indicates an intermediate process: the ability to expand a given discursive state by projecting a plausible continuation without assuming cognitive interiority, semiotic intentionality, or the original establishment of meaning.

This terminology is situated within an explicit theoretical lineage: it extends Eco's conception of the text as a projective machine, Rastier's distinction between generative paths and interpretive paths, and Simondon's analysis of technical objects as functional extensions devoid of interiority. The expression *projective generativity* thus makes it possible to name positively what LLMs actually do – namely, project operative discursive continuities – without improperly inscribing them within the theoretical frameworks developed to account for human linguistic and semiotic generativity.

This distinction appears decisive to us, as it helps explain why the outputs of LLMs can be highly convincing while, in certain cases, remaining fragile with respect to reference, veridiction, or enunciative commitment. We may thus call *projection* the fact that a language model extends a discursive context by producing the most plausible continuation in light of the regularities learned from a very large corpus. The model does not first generate an 'upstream' structure (rules, operations, values) that it subsequently realizes; rather, it projects *downstream* a coherent sequence within the space of textual possibilities. This projection is not mere 'chance': it is constrained by coherence, style, isotopies, and genres. Yet it does not operate in the same way as human generativity as conceived by the major theoretical traditions. It replaces the logic of the *possible* (or the *pertinent*), in the linguistic and semiotic sense, with a logic of the *plausible* in the statistical and cultural sense.

This rupture can be more firmly grounded by comparing this machine-based projection (LLMs) with the major definitions of human generativity (Chomsky, Guillaume, Culioli, Greimas, and Courtés). For Chomsky, generativity is first and foremost formal and combinatorial: a finite number of rules produces an infinite number of possible sentences, and the ambition of the theory is to explain the competence of a speaker capable of judging grammaticality and impossibility (Chomsky 1957, 1962). An LLM, however, does not primarily proceed by applying explicit rules, nor by computing grammaticality as a structural property; rather, it adjusts a continuation to a context within a probabilistic space (Jurafsky and Martin 2026). In other words, we move from a generativity grounded in principles (in the sense of an internal grammar) to a generativity grounded in learned regularities (in the sense of a distributional memory). This difference explains a crucial point: the machine can produce grammatically fluent sentences while, in some cases, being incapable of detecting conceptual impossibility or referential contradiction, because its regime is not one of judging possibility but of projecting plausibility.

For Gustave Guillaume, generativity is conceived as chronogenesis: a mental activity unfolds in operative time, moving from a potential of language to an actualization in discourse (Guillaume 1968, 1992). Here, to generate means to *construct*. Language takes shape as it is being thought. The rupture introduced by LLMs is therefore twofold: (i) they possess no lived operative time, only a computational dynamic; and (ii) they do not move from potentiality to act, but from one textual state to another textual state. Their 'temporality' is one of iteration and optimization, not that of subjective actualization. This has an important consequence for writing: the machine does not actualize a thought in the process of formation; it extends a culturally already-said, which it reconfigures at great speed and on a massive scale (Léon 2015).

For Antoine Culioli, generativity is inseparable from enunciative operations: constructing a value, stabilizing a reference, modalizing, validating, and adjusting according to an interlocutor and a situation (Culioli 1990). In other words, generating consists of producing meaning by carrying out acts of identification and validation. The projective function breaks down at a central point: the LLM does not validate. It can imitate markers of validation ("it seems that…", "one may conclude that…"), but it lacks its own regime of referential testing. Hence, the tension observed in co-enunciation: are we really talking about the same thing? Are we genuinely negotiating the referent, or merely a discursive compatibility between utterances? (De Angelis 2025). In this framework, the semantic coherence produced by the model must be understood as internal discursive coherence, rather than as the effect of a validation procedure anchored in lived experience.

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Finally, for Greimas and Courtés, generativity refers to a generative trajectory of meaning: simpler structures become more complex, are transformed, and are realized up to discursive manifestation (Greimas and Courtés 1982). The model is explicitly oriented toward the growth of meaning, axiological structuring, narrativity, and the articulation between syntax and semantics. Machine-based projection introduces an equally sharp rupture here: an LLM can produce narratives, actantial roles, isotopies, and rhetorical regularities; however, it does not begin from an axiological structure to be transformed. It does not actualize a lack, nor does it pursue a narrative program in the strong sense; it navigates within a discursive topology already constituted by human texts. What follows is a difference in kind: Greimasian theory describes a mechanism for transforming meaning, whereas the LLM performs a projective exploration of discourse that may mimic the surface structures of the generative trajectory without reproducing its underlying logic (Linzen and Baroni 2021).

These ruptures do not imply that LLMs are 'non-generative' or 'purely repetitive.' Rather, they invite us to refine our vocabulary. The generativity of LLMs is not primarily a generativity of rules (Chomsky), nor a generativity of thought in action (Guillaume), nor a generativity of validation operations (Culioli), nor a transformational generativity of meaning (Greimas). It is a projective generativity, that is, a capacity to extend and reconfigure discourses within a space of learned regularities. As such, it can produce robust effects of meaning, sometimes stylistic innovations, and novel assemblages; yet it remains structurally exposed to two forms of fragility: the fragility of reference (what is 'said' is not necessarily anchored in a test of reality) and the fragility of enunciative commitment (what is 'asserted' is not borne by a responsible subject). It is precisely this gap – between plausible production and the institution of meaning – that makes a critical examination of the notions of generation and generativity as applied to machines necessary.

2. Creativity and generativity: what is the connection?

These positions could be tested in different fields of AI applications. Regarding the use of AI in writing, for example, Castillo, Zapata, and Gamboa (2025) offer an in-depth analysis of the literature on artificial intelligence and writing in the social sciences, based on the Scopus database for the period 2019–2023. This mixed approach combines bibliometric analysis with a qualitative analysis of the most relevant articles. The results show a growing acceptance of artificial intelligence as a transformative tool for writing and communication. Five major research axes are identified: the use of AI to facilitate the writing process; the ethical implications of automated content generation; the application of AI in education to enhance writing skills; the impact of AI on journalism and the media; and the exploration of creativity in AI-assisted writing.

Eaton et al. (2026) survey the impact that artificial intelligence-based technologies are having and will have on academic and professional writing, its teaching, and practice. "In the three years since the release of ChatGPT in November 2022, countless academic articles have opened with that very (or a very similar) phrase, marking a transitional moment for the study of writing" (Violini and Vearncombe 2026: 57). The special issue of *Discourse and Writing/Rédactologie* (vol. 35, 2025) recenters writing in these works, thinking through what writing is, what it does, and why and how writing matters, in the age of AI. All articles converge around the idea of *writing as a relational act*. Writing is a major field of research for understanding the relationship between human and artificial generativity.

The centrality of creativity in AI development is further attested by computational creativity, a branch of artificial intelligence research. Many studies try to define what artificial creativity is (see, for instance, the call for papers for the special issue on "Creativity and Algorithms: Codes, Interactions, Outputs" of the review *Studi Filosofici*, 2026). By highlighting the properties of the process of generating digital artefacts through deep learning techniques, computational creativity posits the relative autonomy of computers considered as creators or co-creators (Colas-Blaise 2025). Research on computer creativity often involves comparative studies of different types of output. For example, in research on writing, Sardinha (2024) assesses the degree of similarity between texts generated by artificial intelligence (GPT) and those (written and oral) produced by humans in real-life situations. A comparative analysis was conducted according to the five main dimensions of variation identified by Biber (1988). The results revealed significant disparities between AI-generated texts and human-written texts. Several studies analyse the written output of generative AI systems such as ChatGPT. For instance, several analysts have noted that the use of statistical correlations often reproduces stereotypes present in training data (Gallegos et al. 2024). The question of generative AI as a stereotyping machine was also posed during the Semiotic Seminar in Paris (2025-2026). Furthermore, these devices can produce errors. For instance, exploring co-enunciation between a user and a machine (De Angelis 2025), the analysis of the interaction between a human and a machine highlights the dynamics of co-reference: are we talking about *the same thing* when we speak with a machine? How do users and machines negotiate *reference* during their practice of co-enunciation? In fact, LLMs only deal with the superficial structures of languages and have no concept of reference: everything it 'knows' is based on the analysis of texts as configurations of linguistic forms, in which it observes quantifiable recurrences and regularities: this process is what 'recursivity' means for GenAI. It produces semantically coherent statements, but not necessarily factually correct ones (De Angelis 2025). Furthermore, writing with and through GenAI adds another dimension to the writing process. "Writing with GPT through

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the interface provided for this purpose already goes beyond the traditional concept of writing, where the production tool, whether a pen, typewriter or computer, does not *produce* text or add words to those of the author" (Fülöp 2024: 13). In fact, Fülöp (2024) proposes to call 'sympoiesis' (doing together) the human-machine relationship based on the process of co-enunciation producing written texts, a process that transforms writing itself in this relationship. 'Sympoietic writing' thus refers to writing as a process and as a product. Fülöp explores the creative potential of large language models (LLMs) based on two literary experiments with OpenAI products: K Allado-McDowel's *Pharmako-AI* (2020), the first book co-written with GPT-3, according to the author, and Grégory Chatonsky's *Internes* (2022), the first one in French, written with a customized version of GPT-2.

To understand the linguistic and semiotic issues of generative AIs, such as ChatGPT, we must examine both the modalities of text generation and the characteristics of the corpora on which the machines are trained. Compagno (2025) examines the contemporary relevance of the criteria of truth used to evaluate human statements. He notes that artificial statements are not true or false in the same way as those produced by humans, which calls into question our conception of language. He identifies the specificity and limitations of automatic language generation in machines' inability to anchor themselves in reality through perception. In this issue, Massimo Roberto Beato's article, for example, examines the relationship among language, *natural* intelligence, and *artificial* intelligence in contexts involving creative practices such as writing. He questions, in particular, the relationship between generativity and creativity. What is the connection between the two?

While the concepts of 'creation' and 'creativity' are often questioned in relation to these processes of (re)production of content and texts, as demonstrated by a wealth of recent scientific literature (Andler 2023; Franceschelli and Musolesi 2024; Gefen 2023; Gefen and Huneman 2025; Jeu de Paume and JBE Books 2025; Picca and Romele 2025; *Semiotica* vol. 262/2025, the *International Semiotics Seminars in Paris* 2024-2025 and 2025-2026), the dynamics of human-machine interaction (Grinbaum 2023), the concepts of 'generation' and 'generativity' still need to be examined: what is the relationship between the generativity of machines and the linguistic and semiotic generativity of the texts and discourses they produce? Analysing art creations, Colas-Blaise proposes that "the idea of *generativity* in AI combined with an 'organic' genesis; together, they bring different levels and spaces into play" (Colas-Blaise 2025: 172).

> While the first level is that of machine language with its non-linguistic binary coding, the second level accommodates an assembly language that already introduces the linguistic component; the third level is that of programming

> languages. We then form the hypothesis of a continuous and sensitive underlying tension (…). This foundation is characterized by blurriness and vagueness, virtuality and indeterminacy, before embeddings gradually take over, before still-precarious configurations begin to take shape and visual forms become denser, more precise, and more stable. This occurs as the superimposed layers are traversed, as we move from the latent space to the space of programming and implementation, until the moment of visualization on a screen. Underground forces exert pressure at all levels and thus serve as a 'bond' between them. (Colas-Blaise 2025: 172, translated by DeepL)

But how does the transition from one enunciative layer to another, from one semiotics to another, take place? Colas-Blaise (2025: 179) speaks of a *machine-based enunciative sequence* in which the human enunciator occupies the initial positions (programming, provision of a database, commands, prompts, etc.) and the final positions (selection of artefacts, evaluation, and interpretation). The middle stage sees a confrontation between machinic instances or agents inside machine learning. These questions invite a critical examination of what it means to generate meaning and raise the question of whether AI systems participate in the same generative logics that characterise human language and cognition.

3. An overview of generative theories in linguistics

This issue explores how different theoretical traditions have conceptualised the generative capacities of language and thought, and how these ideas intersect with contemporary developments in AI. In the following pages, we will focus on the frameworks of Noam Chomsky, Gustave Guillaume, Antoine Culioli, Algirdas Julien Greimas, and Joseph Courtés, each offering a distinct perspective on the generative processes underlying the construction of meaning.

As Jacqueline Léon (2015) shows in her book on the history of the automation of the language sciences, the rise of generative language theory has been gradual. An article by Harwood (1955), published in *Language* in 1955 – i.e., before Chomsky's first publications – and based on Harris (1951), proposes a conception of grammar as an organised system of generative rules that allows possible sequences to be deduced and distinguished from impossible sequences according to general principles identified from the analysis of the linguistic system. Harris's work (1951a: 350) concludes with a diagram representing the general structure of English sentences: an algorithm for deriving sentences from the surface layers of utterances, based on a system of general principles and applied through deductive reasoning. This already offers the beginnings of a generative grammar.

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> As early as 1943 with Pike, then in 1954 with Hockett, we see the emergence of hierarchical representations, which nevertheless remain limited to immediate constituents and morphemes. We have seen how Harris, as early as 1951, developed this model by integrating the notion of generation into the usual schemas, even though, in this text, *generate* is not only used for grammar but also for phonemes and lexicon. The notion of instruction (*condition then action*), which appeared in 1954 with the possibilities of automation, transformed the model into an automatable algorithm and changed the definition of grammar. Grammar became a set of instructions responsible for generating the sentences of a language. The explanation given by Harwood in 1955 led to the definition of a grammar capable of distinguishing between two sets: that of possible sentences and that of impossible sentences, transforming Harris's model into a true generative grammar. All these elements argue in favour of a continuist approach to the history of American linguistics, as opposed to a conception that would see a break, or even a revolution, between the distributionist approach and Chomsky's programme. (Léon 2015: § 45, translation with DeepL)

The institutional rise of generative grammar began in the early 1960s, when Noam Chomsky's proposals (1955) gained traction. Chomsky (1957) defines generativity as the human ability to produce an infinite number of sentences from a finite number of rules (*recursivity*). Generative theory is based on an explanatory model consisting of a 'formal grammar' – different from the normative grammars used for the description and transmission of languages – based on general principles that account for the uses of language by native speakers. "What we seek, then, is a formalised grammar that specifies the correct structural descriptions with a fairly small number of general principles of sentence formation and that is embedded within a theory of linguistic structure that provides a justification for the choice of this grammar over alternatives. Such a grammar could properly be called an explanatory model, a theory of the linguistic intuition of a native speaker" (Chomsky 1962: 533). This idea of 'generativity' is at the heart of, for example, the approach to generative AI as machines that reproduce sequences based on general principles (Modicom 2023).

At the core of Noam Chomsky's transformational-generative grammar is the idea that a finite set of syntactic rules can generate infinite grammatically correct sentences. For Chomsky, generativity is a formal, combinatorial property of language grounded in human biology – specifically, the faculty of language. His focus is on linguistic competence, the internalised system of knowledge that enables speakers to produce and comprehend novel utterances. For him, syntactic structure is at the centre of meaning construction. In this framework, generativity is

not merely creative expression but a computational process driven by recursive operations such as Merge. This perspective has profoundly influenced both theoretical linguistics and computational models of language, shaping approaches to natural language processing and AI systems designed to simulate syntactic productivity. But is it adequate to describe how GenAI works? Valle (2025) proposes a distinction between classical programming and machine learning: as the task for programming is always problem solving, in classical programming, the programmer must input rules and data to gather answers in output; in machine learning, the programmer inputs data and the required answers, while the software learns or discovers the rules. In 'classical programming,' results are produced starting from the formulation of algorithms (rules) and the available data. In 'machine learning,' the system receives data and expected answers, and generates the rules (by learning). In terms of Peircean logical operations (Peirce 1878), classical programming emphasizes deduction (a certain result strictly follows from a rule), whereas machine learning emphasizes abduction (a certain fact is proposed because of a newly established rule). Thus, machine learning can be thought of as "a set of technical methodologies for the automation of abduction" (Valle 2025: 58). From a semiotic point of view, these two approaches to programming can be characterized by the couple 'grammar' vs. 'text' and 'allography' vs. 'autography.' Based on Lotman and Uspenskij's (1973) proposals, Eco (1976) defines an opposition between 'replica' (based on grammar) and 'invention' (based on text). A grammar defines a set of rules to be applied so that an output is generated that is formally consistent with the prescribed rules. Rather, a text acts as an example from which to infer regularities to generate a new text. "OpenAI's chatbot offers paraphrases, whereas Google offers quotes. Which do we prefer?" asks Chiang (2023). From this point of view, generative theories can't explain how generative AIs work.

Furthermore, in a famous article in the *New York Times*, Chomsky (2023a) argues that AIs are not 'generative' in the biological sense of the term, but merely 'statistical prediction engines' that lack the ability to judge what is *impossible* in a language. Chomsky's point of view on AI is very close to the 'stochastic parrot' metaphor – using a definition coined by the linguist Emily Bender – believing that ChatGPT is nothing more than a "clumsy statistical machine for recognizing patterns that ingests hundreds of terabytes of data and extrapolates the most plausible response for a conversation or the most likely one for a scientific question. In contrast, ... the human mind is an astonishingly efficient and elegant system that operates with limited information. It does not seek to infer brute correlations from data but rather to create explanations ... Let's stop presenting it as 'Artificial Intelligence' and call it what it is: 'plagiarism software'" (Chomsky 2023a). In fact, Chomsky's linguistic model was generative but in a different way compared to AI models, because it is not based

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on a probabilistic-statistical mathematical system. This new generative model also entails ethical implications. "On the other hand, Chomsky critiques what he terms 'generalized plagiarism' in AI systems, a concept that extends beyond its traditional definition. He highlights the protests by writers, artists, screenwriters, and news organizations worldwide against the unrestricted and unauthorized use of vast text corpora for AI training. These systems rely on the consumption of millions of texts without proper consent or acknowledgment. For Chomsky, this represents not only an ethical breach but also an attempt by systems like ChatGPT to position themselves as 'impostors,' claiming equivalence with human intelligence." (Montanari 2025: 193-194). As Norvig (2017) highlights, there are tensions and differences between statistical approaches and Chomsky's generative theory of language and cognition: statistical language models may produce texts with success, but they are incomprehensible; they might simulate some human linguistic phenomena accurately, but they do so in a different way than humans. However, Chomsky's model has also been criticised for its limited attention to the semantic, pragmatic, and enunciative aspects of language – areas highlighted by Guillaume and Culioli. In this issue, Maede Mirsonbol explores the shift from '*descriptive*' to '*reflective*' reading of generative AI images, drawing on linguistic and semiotic theories of Chomsky, Halliday, and Culioli.

Gustave Guillaume offers a distinct view of generativity through his theory of psychomechanics,[1] which frames language as a dynamic unfolding of mental processes over time – a concept he calls *chronogenesis*. For Guillaume ([1929] 1968), generativity is not purely structural but involves a temporal and cognitive activity in which thought is progressively actualized in language. Guillaume's concepts of discourse time and system time – the former representing the temporality of speech, and the latter the latent, organising structure of language – provide a nuanced model for understanding how abstract linguistic categories (such as tense, aspect, or modality) are mentally constructed before being expressed (Guillaume 1992). This perspective positions generativity within the mental representation and transformation of language forms, anticipating cognitive linguistics and aligning with modern, embodied, and predictive models of cognition. It also raises questions about whether and how AI systems could replicate such processes. In fact, as Massimo Roberto Beato recalls in his article, the works of Gustave Guillaume (chronogenesis), Antoine Culioli (mental gestures), and Luciano Floridi (distant writing) show that human generativity involves cognitive and subjective operations that cannot be reduced to

[1] See Psychomechanics of *Language and Cognitive Linguistics*. Proceedings of the 11th International Colloquium of the AIPL Montpellier (France), 8, 9 and 10 June 2006. Texts edited by Jacques Bres, Marc Arabyan, Thierry Ponchon, Laurence Rosier, Renée Tremblay, Pierrette Vachon-L'Heureux, Editions Lambert-Lucas, Limoges, 2007.

syntax alone. Danilo Petrassi explores how Luciano Floridi's concept of 'distant writing' reconfigures the nature and future of literature in the era of Large Language Models (LLMs). Building on Franco Moretti's (2000) notion of 'distant reading,' Floridi demonstrates how authorship shifts from direct to indirect textual production, mediated by generative AI, transforming the writer into a meta-author: writing becomes 'wrAIting.' Where distant reading uses computation to interpret what already exists, distant writing uses computation to generate what could exist. In this model, the traditional authority of the author dissolves, while the reader's role expands to that of a co-designer and active interpreter of generative, machine-mediated texts. Eaton (2023) speaks about 'hybrid writing' and moves us beyond binary thinking about human vs AI- generated text, asserting that "hybrid writing co-created by human and artificial intelligence is becoming prevalent and will soon become the norm. Text generated by artificial intelligence tools is not static. It can be edited, revised, reworked, and remixed. The result can be a product that is neither fully written by a human nor by an AI, but rather a hybrid. Trying to determine where the human ends and where the artificial intelligence begins is pointless."

Antoine Culioli (1990) takes a different approach, defining generativity not as rule-following or temporal construction but as a series of mental gestures that structure meaning. Culioli emphasises that language is not a fixed code but a procedure in which speakers perform operations of representation, predication, and validation to construct reference and value in context. These mental gestures are abstract, recursive, and combinatorial, yet they are fundamentally contextual – shaped by the specific situation of enunciation. For Culioli, generativity involves a constant negotiation of meaning through operations that are both cognitive and linguistic. The speaker is an agent of meaning, navigating virtual structures and adapting them to communicative goals. This view contrasts Chomsky's formalism and Guillaume's temporal psychomechanism by emphasising variation, subjectivity, and the epistemic dimensions of language. Culioli's ideas have influenced both linguistic analysis and discourse theory, with implications for human-machine interaction – particularly regarding how AI could simulate inferential, context-sensitive language use.

4. Generativity from linguistics to semiotics

The common use of 'generation' may suggest an epistemic link between Chomskyan generativity, the Greimasian generative path (*parcours génèratif*), and modern systems of Generative AI. In this issue, Marco Giacomazzi's article reconstructs the relationships between contrasting epistemologies (the structural semiotic project vs. Chomskyan generative syntax) to distinguish and semiotically analyse AI-driven textual generation. While the Chomsky-Greimas relationship has been

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extensively studied and debated, its dialogue with the epistemological presuppositions of *General Purpose Chatbots* (e.g., ChatGPT, Gemini) remains underexplored. Giacomazzi also reaffirms the profound anthropological relevance of Greimasian generativism concerning sense as it is structured in the lived world, as well as the importance of not separating semantics from pragmatics, as indicated by Umberto Eco's interpretative framework of semiotics.

In semiotics, Algirdas Julien Greimas and Joseph Courtés (1982) provide a structural account of generativity that shifts the focus from grammar or cognition to semiotic systems and narrative logic. In their *Semiotics and Language: An Analytical Dictionary*, they define generativity as a "generative trajectory of meaning," structured through a series of transformational levels: deep structures, surface structures, and discursive manifestations. For Greimas and Courtés, generativity is not simply about producing linguistic forms or cognitive constructs but also about the systematic unfolding of meaning from abstract, actantial configurations to concrete textual expressions. The generative process involves semantic articulation (semic level), syntactic organisation (actantial and narrative structures), and discursive realisation (enunciative and stylistic forms). This approach highlights the transformation of meaning across multiple levels, balancing structural regularity with discursive variation. It provides a valuable framework for analysing how AI systems generate coherent narratives or simulate storytelling, raising questions about whether these systems merely imitate surface structures or engage in deeper semiotic processes.

> In structural semiotics, generativity is conceived very differently, also from the Chomskyan conception, although semiotics has borrowed some of the concepts from it – it is linked to metalinguistic constructions. 'Deep' and 'surface' are spatial scientific metaphors relating to the axis of verticality, designating the starting position and end point of a chain of transformations. This chain represents a process of generation, a generative trajectory – the generative path (parcous) as it has been proposed, as it is well known, by Greimas and his school (Greimas and Courtés 1993 [1979]) – within which the various stages are distinguished by an increase in the degree of meaning complexity. The operational nature of these structural stages justifies the questioning and arrangement that the theory must carry out. In semiotics, the use of this dichotomy fits within the general theory of meaning generation. It accounts for the generative principle, where complex structures arise from simpler ones, and the principle of 'meaning growth,' where each structural complexification produces an extension of meaning. Therefore, each domain of the generative trajectory includes both syntax and semantics.

> The notion of depth is relative, with each domain of discourse generation referring to a 'deeper' domain, leading to the deep structure par excellence: the elementary structure of meaning in Greimas' structural semiotics. Could this stratified structural model, in comparison with the idea of generativity in AIs, be useful for the advancement of knowledge and further development of AI forms? Considering that this concept of generativity is intrinsically linked to the enrichment and growth of meaning complexity – and, by extension, to invention and creativity – it is worth exploring another critical issue in contemporary AI: the phenomenon of so-called 'hallucinations.' These hallucinations represent unique and 'uncontrolled' ways of generating possible meanings, which merit closer examination as we seek a more nuanced understanding of AIs' capabilities and limitations. (Montanari 2025: 201-202)

In this issue, Marion Colas Blaise compares generative Artificial Intelligence (GenAI) with Greimas's generative trajectory of meaning (GTM). She shows that, despite similarities, deep learning algorithmic models, which seek to produce verbal and visual texts by involving spaces (latent space, implementation, and visualisation spaces), are not generative in the sense understood by semioticians (semiotic square, narrative structures, discursive structures, actantial conversions, modalizations, aspectualizations, etc.). She asks whether the GTM offers a productive framework for understanding the specificities of contemporary models of algorithmic processes and, conversely, whether GenAI can provide new insights to inform the development of the former. The challenge is to understand GenAI through GTM, and vice versa. In fact, algorithms that generate language are black boxes that we understand at a micro-level functioning, and at the general level of fundamental principles, but we don't understand at a macro-level functioning: we know how statements are produced in general, but we do not know how a particular individual statement is produced in a specific case. This is what computer scientists call the problem of explainability (Mersha et al. 2024). What elements or criteria ensure the connection between the micro- and macro-levels? For instance, Massimo Roberto Beato's article traces the tension between two registers of meaning generation: one formal, combinatorial, and distributive; the other temporal, intentional, and transformative. The author proposes to call this tension, which is internal to the generative process of meaning, the *double register of generativity*. This double register explains why comparisons between human and artificial modes of meaning creation often fail due to an incompatibility of categories: machines operate according to a different ontological logic than humans, namely, distributional semantics and contextual attention rather than chronogenetic and enunciative operations.

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We could then propose a distinction between Greimas' 'generative path,' completed by Rastier's 'interpretative path,' and the 'generative processing' specific to machines: *if the first one supposes choices which can (not) reproduce the most popular uses, the second one supposes directions which reproduce the most popular choices.* As Danilo Petrassi shows in his article, when observing the relationships between author, reader, and machine in the interpretation and generation of texts, there is not necessarily equivalence between process and treatment. For example, Dondero (2025) explores the relationship between images and databases, particularly through the Midjourney generative artificial intelligence model. First, she examines image databases as sources for computational image analysis; second, she studies image databases as sources for *image generation.* Image analysis and generation are studied through the concept of 'enunciative praxis' to understand the generation of new images from old and traditional images, or in other words, the generative processing of downstream data to produce upstream data. According to Fontanille (2003), the notion of 'enunciative praxis' refers to a dynamic between the sedimentation of existing schemas of signification (virtualization) and the creativity inherent to any ongoing semiotic process (realization). According to Dondero, "this dynamic of the fundamental modes of existence in discourse practices has the merit of valuing the complexity of our linguistic operations caught between creativity and sedimentation, because it multiplies the steps and the nuances in this process" (2025: 112). More specifically, the process of image generation in cooperation with generative AI such as Midjourney or DALL-E is envisaged as a process of human-machine co-enunciation (D'Armenio, Deliège and Dondero 2024) guided by 'patterns.' Furthermore, as Marion Colas-Blaise points out in her article, the terms 'level' and 'layer' must be used with caution. LLMs (Large Language Models), which form the basis of GenAI, involve operations that take place in 'latent spaces' (Leveau-Vallier 2023) in which the vector, i.e., a set of continuous values, has no internal layers, which does not mean that there are no different *subspaces* of the vector that can be correlated with different types of information. What does 'path' mean if we cannot identify the stages? Kim (2025) proposes a multi-stage approach to image generation across the micro, meso, and macro levels. The analysis moves from a micro examination of plastic characteristics and the translation of text into images, to the meso level of enunciation, narrativity, and causality, to the macro level of social stereotypes, ideology, creativity, rhetoric, truth, and inference. However, since AI processes data produced and mediated by humans, organized into more or less visible layers of text and images, instead of talking about 'generative AI,' we should talk about 'regenerative AI.'

In generative AI, recursivity does not have the same meaning as in linguistics or semiotics.

> A generative pre-trained transformer, or GPT (Generative Pre-trained Transformer), is a text generation tool that relies on deep learning performed on a large amount of text collected from the web, written (for the most part) by humans. The corpus includes documents in several languages without distinguishing between them from a linguistic point of view. It is the learning process that enables the model to identify recurring patterns in the sequences and then produce texts in the language of the query. However, the quality of the response remains uneven in the case of languages that are less represented in the corpus, which is largely dominated by English: GPT-2 was trained on the WebText dataset created by OpenAI from the content of sites identified through 45 million links from Reddit. However, some 97% of discussions on the platform are in English, and we can assume a similar (if not even more skewed) proportion for the referenced sites. GPT-3, on the other hand, is based on a larger and more refined corpus: it includes the 2016 to 2019 archives of Common Crawl, a monthly collection of web data, as well as an augmented version of WebText, two collections of Google books, and English-language Wikipedia. 92.65% of the overall corpus is in English, with French in second place with only 1.82%, followed by German (1.45%). While these corpora represent a considerable portion of humanity's written knowledge and communications in the 21st century, they are far from containing 'the entire Internet' and inevitably contain numerous historical, linguistic, geographical, cultural and social biases that reproduce those of the web and reinforce some of them. (Fülöp 2024: 9-10)

5. From the generative trajectory to discursive projection

The cross-examination of linguistic and semiotic theories of generativity and the functioning of large language models leads to a decisive theoretical shift. The central question is no longer whether generative AI systems are 'creative' or whether they 'understand' language in the human sense, but rather how to identify the regime of generativity in which they operate. The introduction of the notion of *projective generativity* makes it possible to move beyond reductive alternatives – imitation versus invention, calculation versus intelligence – that still structure much of contemporary debate.

The traditions examined show that human generativity, whether conceived as formal (Chomsky), chronogenetic (Guillaume), enunciative (Culioli), or semiotic (Greimas and Courtés), always rests on a common principle: linguistic production is anchored in an instance that finds meaning – internal competence, cognitive

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activity, validation operations, or axiological structures. In these frameworks, to generate means to produce novelty through rules, operations, or transformations that engage, to varying degrees, a subject, a temporality, and a normativity.

The generativity of LLMs belongs to a different regime. It is neither deficient nor derivative in a weak sense, but heterogeneous. It does not proceed through the institution of meaning, but through the conditional projection of plausible discursive continuities based on regularities sedimented in corpora. This projection is not arbitrary: it is constrained by genres, styles, isotopies, and argumentative and narrative forms. Yet it is not foundational either: it neither validates nor establishes axiological hierarchies, nor does it assume responsibility for its products. As Laticia Moraes and Silvia Sousa show in their article, from a projective perspective, through digital technologies – and the objects they produce – meaning emerges from individual actions, ethical conduct, collective organization, and even the creation of axiological configurations of aesthetic taste.

Therefore, *projective generativity* must be understood as a power of circulation and reconfiguration of meaning, rather than as a power of institution. LLMs do not create meaning *ex nihilo*; they set it in motion, amplify it, redistribute it, and make it available for new human interpretive trajectories. In this sense, they occupy a novel intermediate position within the contemporary ecology of language: neither mere passive tools nor autonomous semiotic subjects, but projective dispositifs embedded in chains of co-enunciation.

This distinction has several major consequences. On a theoretical level, it invites us to rethink generativity not as a univocal property of language, but as a stratified concept, capable of designating ontologically distinct regimes. At the methodological level, it requires that AI-generated outputs not be evaluated exclusively by criteria developed for human production, at the risk of overlooking their specificity. Finally, on an anthropological level, it sheds light on the contemporary transformation of practices of writing, creation, and interpretation: what is shifting is not human creativity itself, but its technical and projective environment.

Understood in this way, projective generativity does not mark the end of human generativity, but rather its being placed in tension with a new type of semiotic agent. It compels us to shift the classic question – "who produces meaning?" – toward a more productive one: how does meaning circulate, reconfigure itself, and become redistributed within hybrid dispositifs associating humans and machines? It is within this space of circulation, rather than in the sterile opposition between human and artificial intelligence, that the linguistic, semiotic, and cultural stakes of generative AI are now being played out.

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