# From the Greimasian generative trajectory to generative artificial intelligence: Rethinking the status of the human



BY: **Marion Colas-Blaise**


ABSTRACT

This article has as its primary objective to compare generative artificial intelligence (GenAI) with the generative trajectory of meaning developed by A.J. Greimas. We aim to show that, despite similarities, deep learning algorithmic models, which seek to produce verbal and visual texts by involving spaces (latent space, implementation, and visualization spaces), are not generative in the sense understood by semioticians (semiotic square, narrative structures, discoursive structures, actantial conversions, modalizations, aspectualizations…). We will thus ask whether the Greimasian generative trajectory of meaning offers a productive framework for highlighting the specificities of contemporary models of algorithmic processes. Conversely, the study examines whether GenAI can serve as an epistemic lens to gain new insights into the Greimasian generative trajectory. Central to this inquiry are both the becoming of the technical object, its individuation, according to Simondon (*genesis* of technical objects), and, with regard to the human, a mode of 'being-with-it' in an 'associated milieu.' Finally, this question will be reexamined through a mixed, 'human-machine' enunciative apparatus. Particular attention will then be paid to the becoming of meaning.



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# 1. Introduction

Does comparing the process of text or image generation by GenAI with the generative trajectory of meaning developed by Algirdas Julien Greimas (1987) enable us to better identify their specificities, but also to highlight convergences beyond divergences? Although, as we will see, the differences are so great as to cast doubt on the generative character, in the semiotic sense of the term, of the technological process, are there any occasional similarities? In particular, despite major disparities, does such a rapprochement allow us to identify in both models a common *procedure*, i.e., operations responsible (i) for structuring at each *layer*, whether deep or more superficial, and (ii) for leading from one stage or stratum to another? Even if these operations differ in detail? Can we isolate, in both cases, a logic of discretization (disassembly) and of grouping or rearranging features (clusters or configurations of related elements, in the case of GenAI; 'reassembly,' Eugeni 2026)? We thus pursue two major objectives: we will ask whether the Greimasian generative trajectory of meaning provides a fertile framework for theorizing contemporary generative artificial intelligence. Conversely, can GenAI serve as an epistemic lens for rethinking the Greimasian generative trajectory? A central focus will be the *becoming of meaning*.

To these objectives will be added a third: to shed new light on the status of humans, particularly when they function as instances of enunciation. Within the Greimasian framework, the semiotician may begin with a text such as Maupassant's short story *Les deux amis* (Greimas 1988 [1976]) to analyze the key moments in the structural production of its signifying forms. We will test the hypothesis that, in the case of AI, humans interact with machines. More specifically, our focus will be on a *hybrid enunciative device*.

Drawing freely on Claudio Paolucci's (2025) reflections, we will revisit the key notion of the hybrid or '*cyborg human*,' a figure that reconfigures traditional boundaries between human and machine. From a semio-linguistic and anthropological perspective, may we say that our meaning-making has always relied on hybrid, distributed processes?

To achieve our third objective, we will adopt an 'internalist' perspective (as opposed to the 'externalist' position often promoted by Greimasian semiotics). Our focus will then be on the generation of (new) outputs by GenAI, as well as on human-machine coupling during supervised and unsupervised learning and data processing, i.e., on *hybrid human-technical assemblages*.

From the point of view of an enunciation theory, we will ask whether the deployment of underpinning *forces* sheds a new light on the pluri-agentivity involved in artificial generation (Colas-Blaise 2025a) and allows us to identify an underlying machinic *impersonal*. We will argue that the latter operates *within an enunciation sequence* in which the initial and final phases assign greater responsibility to the human who, while operating within a dual, technically oriented device, leads virtual and actualized configurations visualized on a screen to the stage of fully realized semiotic forms.

We will also continue along this internalist path by linking the notion of generation to that of *genesis*: by scrutinizing the stages of the ontogenesis of technical objects, according to Gilbert Simondon (2017 [1958]), i.e., *individuating* movements, rather than individualizing practices. The aim will be to define the human being *in relation to* the technical object, within an 'associated milieu.' The emphasis will be on *transduction* and *modulation* in a generative process that also addresses the ontogenesis of the technical object. We will reflect upon the proper individuation of technical objects in contact with the human, with whom they define a 'being-with' within an 'associated milieu.'

The issues at stake in this article are thus manifold. Overall, we aim to improve our understanding of algorithmic models known as deep learning, such as ChatGPT and DALL•E, which, since the beginning of 2022, have been part of the vast field of GenAI, and to redefine the status of human-machine interaction. In this way, we hope to renew the ongoing debate, especially regarding the relationship between humans and machines. This will be done in light of landmark models that have contributed to the development of semiotics, such as Greimas's generative trajectory of meaning, which is important for both Greimasian and post-Greimasian scholars, as well as the semiotics of enunciation.

Our article is divided into four sections. After the introduction (Section 1), we will compare the generation process using data-driven algorithmic models with Greimas's generative trajectory of meaning (Section 2). Next, we will integrate Simondon's concepts of individualization, including the progressive individuation of the technical object, transduction, and modulation (Section 3). Finally, we will focus on the status of the human interacting with the machine, viewed as a subject of enunciation and, more broadly, as a 'cyborg human' (Section 4).

## 2. The generative trajectory of meaning and GenAI: convergences and divergences

In general, we must acknowledge that, despite similarities, there are epistemological differences between the generative trajectory in semiotics and that of GenAI. We should avoid succumbing to the anthropocentric paradigm, whose threat hangs over much AI work that posits, without further discussion, machinic intelligence, consciousness, and intuition, as if the machine *imitates* the way a human interprets, for instance, an image and becomes involved in meaning-construction processes. Having taken these precautions, we aim to show that the generative trajectory of meaning and deep learning models raises questions about their functioning, and the challenge is to highlight the

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specificity of the answers given here and there. Indeed, a better understanding of how algorithms work enables us, *reflexively*, to approach our own language, its weaknesses and strengths, with a fresh perspective.[1]

Let us begin by pointing out a fundamental similarity: in both cases, the generation of meaning presupposes the crossing of successive levels, that is, the passage from depth to surface. Immediately, however, we must contrast the actantial conversions, the modal architecture, and axiological underpinnings characteristic of the generative trajectory of meaning with vectorial proximities. Accounting for the latter, then, requires articulating phases that involve *spaces*: from the latent space, to be defined, to the implementation space, which comprises a techno-applicative dimension, and to the visualization space (e.g., the visualization of the output on a screen). It is remarkable that these spaces can themselves be stratified (layers of processing (the network layers), as we will see), one of the most insistent questions for our development being that of the *definition* of the level or layer in the generative trajectory of meaning and in the models handled by GenAI. Moreover, are these models *hierarchical*?

## 2.1. Toward a definition of the level or layer

First, let us recall the levels that Greimas uses to convert a fundamental semiotic level into an actantial syntax, which, in turn, is manifested through discoursivization (see Fig. 1).

| **Generative Trajectory** | | | |
|---|---|---|---|
| | | **Syntactic Component** | **Semantic Component** |
| **Semiotic and Narrative Structures** | *Deep Level* | *Fundamental Syntax*<br>Operations and relations in the semiotic square | *Fundamental Semantics*<br>Semantic investment of the semiotic square |
| | *Surface Level* | *Narrative Syntax*<br>Narrative schema: actants and modalities | *Narrative Semantics*<br>Semantic investment of the actants and the modalities |
| **Discoursive Structures** | | *Discoursive Syntax*<br>Discoursivisation<br>*actorialisation*<br>*temporalisation*<br>*spatialisation* | *Discoursive Semantics*<br>Thematisation<br>Figurativisation |

**Figure 1.** The generative trajectory, adapted from Greimas and Courtés (1982:133).[2]

[1] Also see the conference entitled "Faut-il être polis avec les intelligences artificielles?", given by Massimo Leone in the International Seminary of Semiotics (Dondero &Alonso dir.), Paris, June 11, 2025.
[2] Cf. Troqe (2016).

At the first level, the aim is to give the content a form, through the correlation of two contrary semes by means of a relation of junction (conjunction / disjunction), on the one hand, and a reciprocal presupposition, on the other hand. The result is an elementary structure that may be defined on the paradigm model, the relations of contrariety and contradiction giving rise to positional values, as shown in the semiotic square. Yet, as Jean Petitot-Cocorda (1982, 1985) notes, we need to be sensitive to a dynamic that, inside the semiotic square, takes us from one position to another (negation of one of the terms through the operation of contradiction and, at the same time, affirmation of the contradictory term), rather than to a purely static organization of terms. In a way, this deep-seated dynamic foreshadows the movement underlying an operative syntax of conjunctions and disjunctions between subjects and objects at the following, superficial level of a narrative, anthropomorphic schematization.

Without going into all the details, we can highlight the fact that the actantial dimension, at the surface level dedicated to a narrative grammar, establishes relations between subjects and objects, the former being modalized[3] in being and in doing (wanting, being-able-to, knowing-how-to-be / to-do), as well as between subjects and anti-subjects: this controversial or polemical relationship illustrates the conversion of the paradigmatic relation of contradiction, at the deep level, into the anthropomorph syntax at the surface level.[4]

Finally, the discursive structures host the figurative level:

> […] the figurative level of discourse, which is the final domain of the narrative trajectory, is characterized by the investment of themes and values in figures. Figures, defined as "figures of content which correspond to the figures of the expression plane of the natural semiotic system" (Greimas and Courtès 1982:120), when strung over sequences, constitute their discoursive configurations. (Perron 1987: xxxv)

From a theoretical point of view, the main problem, then, lies in creating transitions between the levels, ultimately reaching the discursive structures. The Generative Trajectory of Meaning may be called a 'transpositional model,' in which procedures

[3] We will argue below, from a jointly semiotical and Simondian point of view, that modalization is underpinned by continuous modulations.

[4] Yet, cf. Ricoeur (1989) about the coherence of the theory: "Ricoeur basically takes issue with the model on three counts. The first concerns the conversion of contradiction at the deep level, into polemic at the surface level; that is to say, polemical negativity cannot be derived either from the taxonomic relations of contradiction-contrariety, or from the syntactic operation of negation. The second is related to the fact that there exist syntagmatic supplements at the surface level that cannot be obtained from the conversion of the fundamental grammar to the surface grammar. The third is that the praxic-pathic dimension of narrative sets into play a semantics of action that activates a syntax whose very intelligibility is mixed, since it is both phenomenological and linguistic […]" (Perron 1987: xxxii).

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implicated in vertical conversion establish "equivalences" between levels, which come with *enrichment*. As Paul J. Perron notes, "[…] each new articulation is an enrichment or increase in meaning, so that in proceeding from the deep level to the surface levels the surface must be considered as richer than the deep level" (1987: xxx).

Does the idea of different levels also apply to algorithmic processes? A major point of divergence must be acknowledged from the outset: in the Greimasian model, what is at stake is an a *posteriori* analytical reconstruction carried out by human analysis. GenAI, by contrast, allows us to witness – without fully disclosing all its mechanisms – the actual operative process through which meaning-bearing artifacts (verbal texts, images, and so forth) are produced by the machine's manipulation of signs. In the former case, the perspective is 'externalist,' insofar as the unveiling of generativity takes place within human interpretation; in the latter, by contrast, we can adopt an '*internalist*' perspective, attentive to the process of generation itself as it unfolds across spaces, as we will see.

The question of a *hierarchy*,[5] inherent in the Greimasian trajectory of meaning, is pressing: we may argue that the generative artificial processes produce a 'flattening' effect, as ChatGPT 4 and DALL•E 3 generate the surface level (implementation and visualization on a screen) 'directly,' without an explicitly hierarchical semantic trajectory. However, according to recent work by Erden and Faltings (2025), which highlights the relevance of research in evolutionary biology for the future development of AI, the notion of flatness, particularly insofar as it implies an absence of hierarchy, must be carefully nuanced. As Erden and Faltings (2025) emphasize, AI systems achieve "interval decoupling" and "modularity" by using "encapsulation and core processes"; "selective reuse and hierarchical organization" are supported by "high-level regulatory processes"; and "existing knowledge" is preserved through processes of "growth, local variation, and selection." As biological organisms possess core properties such as modularity, hierarchical organization, and repetition, balancing the preservation of traits with the generation of new structures, it is unsurprising that evolutionary-developmental biology, for instance, provides valuable insights that can suggest potential pathways for future AI development. Adaptability to the environment plays a crucial role.

We also note the absence of *transformational rules* at the basis of a syntax such as that governing the narrative path in Greimasian semiotics. Due to the probabilistic logic of ChatGPT 4 and the diffusion-based logic of DALL•E 3, which refines noise towards the most likely image for a prompt, as we will see, one may consider that in both cases, the logic is primarily distributional, rather than organized into explicit *levels of meaning* like in Greimas's semiotic model. Distributionality, that is, the topologization

[5] For a thought-provoking discussion, see Basso Fossali (2024).

of similarities investing the latent space[6] step by step, may be opposed to hierarchy. The term also refers to the multifaceted agency of technical agents such as algorithms, databases, materiality, randomness, and humans.[7] We will return to this point in the context of the enunciative sequence.

This is not to say that all stratification is absent from algorithmic processes. One immediately thinks of deep neural networks (DNNs), which are stratified in a way very different from Greimas's semiotic stratification. In the latter case, one might speak of a hierarchical flow, in which each level transforms and constrains the next, while also allowing progressive enrichment at successive stages (thanks to successive 'convocations'). For their part, deep neural networks are built on a layered architecture, each layer transforming data into increasingly abstract representations.[8] Whereas early layers detect *low-level features* (edges, tokens), mid layers give rise to *compositional patterns* (phrases, shapes), and late layers capture *high-level abstractions* (semantics, 'style'). To put it in a different way: in a deep neural network, each layer changes the representation. In the case of verbal text, very early layers correspond to word position and token[9] embedding[10] (token identity, co-occurrence patterns…), whereas middle layers correspond to syntactic patterns (phrase boundaries, order constraints, dependencies…) and deeper layers to 'semantic' relations (for instance, abstract 'meaning'[11]). Whereas early layers are biased toward local lexical and positional features, middle layers show sensitivity to syntactic relations, and later layers emphasize "semantic" abstraction. These aspects, however, are distributed and not strictly separable. We immediately notice an important difference in the generative trajectory of meaning, which combines semantic and syntactic components at each level from the outset, unlike the modularity observed in DNNs.

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[6] Antonio Somaini (2023: 77) defines the latent space, i.e., 'black box,' as a multidimensional space in which deep-learning algorithms convert digital objects, i.e., large quantities of images and text, into so-called 'latent' representations. These can then be subjected to processes and used to generate new digital objects, including images and text. While the notion of latent space can be extended to any 'computational' space involved in encoding and decoding, its compressed part, which handles the transition from input to output via the encoder and decoder, corresponds to the bottleneck. The latter comprises the compressed representation of the input. At the decoding stage, the output is constructed from the input's latent representation. If the difference between input and output data is accompanied by reconstruction loss, the aim is to achieve 'correct' reconstruction. At the same time, as we will see, innovative artifacts may be created.

[7] See Dondero, Alonso Aldama and Leone (2025) about agencies involving both human and non-human entities. See the initial prompt, the revised prompt, the annotated database, the algorithms, and the stochastic or random dimension of computational processes. Agentivity is distributional. See Colas-Blaise (2025a).

[8] A representation, in this very technical sense, does not refer to 'reality.'

[9] The token, which corresponds to a word, part of a word, punctuation, is obtained by segmenting a text corpus

[10] The 'embedding' model in the 'latent space' is a means of representing text, images, and audio as points in a continuous 'vector space,' i.e., of transforming data into numbers, into machine-readable numerical "vector representations." A vector may be defined as an array of numbers indexed by dimensions, whose dimensionality increases with the complexity of the data.

[11] The notion of computational 'meaning' will be reexamined later. We will argue that the subject of enunciation guides virtual and actualized configurations to the stage of fully meaningful forms. In the pages that follow, we will use quotation marks to indicate that by 'semantics' we mean virtualities of meaning. While it is true that words, for example, necessarily possess a semantic component (Lenci and Sahlgren 2023), we argue that this component is virtualized by algorithms that manipulate signs.

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Although 'semantics' (virtualities) and syntax are always entangled to some extent, the fact that the layers emphasize them differently, causing partial decoupling, allows us to argue that layers act more like a *gradient of abstraction* rather than discrete levels where syntax/semantics are always paired (structural interdependence at every stage in the generative trajectory of meaning). The generative trajectory of meaning posits an *integration* of syntactic and semantic components at every level, rather than a progression from form to meaning.

The terms 'level' and 'layer' should therefore be handled with caution. No hierarchy within a single *vector*, e.g., in the final *embedding*, which is a high-dimensional numerical vector that encodes the salient, statistically learned features or relationships of an input (word, image, sentence, etc.) in a way that similar meanings or patterns are placed close together in the vector space. A *geometric structure* can emerge (e.g., clusters, subspaces). Indeed, unlike DNNs, the vector, i.e., a set of continuous values, has no internal layers; this does not mean there are not different subspaces of the vector that may correlate with different types of information.

## 2.2. From the latent space to the visualization space

As mentioned above, although the deep learning algorithmic techniques allow a bottom-up articulation of data, it seems accurate, from a global point of view, to distinguish different *phases* linked to *spaces*, i.e., the latent space, the implementation or technico-rhetorical space, and the visualization space on a screen. Let us first focus on the latent space.

GenAI typically operates in three phases:[12] training, tuning, and generation. In brief, training builds the latent space as the model adjusts its parameters on a large dataset, so that similar items cluster in the embeddings. *Tuning refines or reshapes* latent space representations. *Generation* can be understood as the process of traveling *through* the latent space without altering it.

These phases overlap to some extent. Although early layers may capture low-level patterns, deeper ones are devoted to more abstract concepts. ChatGPT 4 and DALL•E 3 do not explicitly separate levels, but rather embed them into a statistical latent space where meaning unfolds 'continuously.' Everything, syntax, 'semantics,' is encoded into a high-dimensional latent space, where features are not strictly separated like in a collage but entangled as statistical correlations in a continuous 'probability space.' Finally, all the representations are 'collapsed' into a single output.

Let us first establish the links between these phases by examining *training* in greater depth. Confronted with the construction of a model, mostly a Large Language

[12] https://www.ibm.com/think/topics/generative-ai. Generative AI is also said to work in four phases: the training phase, the modeling phase, the generation phase, and the refinement and evaluation phase; https://geosat.tamu.edu/genaioverview/#:~:text=Generative%20AI%20typically%20works%20in,to%20during%20their%20training%20phase

Model (LLM), that implicates GenAI text or image applications (besides sound and music, video), we must ask ourselves if the way a deep learning algorithm is trained on differentiated, yet unstructured data, which are devoid of a predefined format or structure, has something in common with the uncovering of semes, in semiotics. We have seen that, at a fundamental level, these engage in relationships of contrariety and contradiction, following the structure of the semiotic square.

This aspect deserves special mention: in the case of ChatGPT, spatial proximity attests to similarity relationships that are translated into topological positions. Indeed, semantic similarity corresponds to geometric proximity. How can we understand that distributional similarity is encoded topologically? Structural relationships (syntax, 'semantics') emerge as geometric relations thanks to Transformers,[13] i.e., neural networks (DNNs), operating on sequences of token embeddings. Tokenization, i.e., segmentation of the text corpus into tokens (words, subwords, punctuation), happens before training and during training, when a sequence of tokens calls for the prediction of the next token based on the previous one. Thus, every token, word/subword, or sentence is mapped to a learned embedding vector in a high-dimensional embedding. The vector is adjusted during training so that tokens with similar contexts get closer in vector space. The topology includes clusters (regions with 'semantically' or 'stylistically' similar concepts) and neighborhoods (points close to each other corresponding to outputs with small variations), and directions produce non-linear 'meaning' shifts.

These topological positions *do not primarily* correspond to *logical* articulations (contrariety and contradiction), although cats are statistically differentiated from dogs, truth from falseness, good from evil, etc. Categories like 'cats' and 'dogs' emerge as statistically distinct clusters. Let us consider DALL•E 3: its embeddings capture distributions of visual features–colors, shapes, textures, and compositions – rather than binary conceptual oppositions. 'Meaning' arises from high-dimensional associations learned from data, rather than from a structured semiotic logic (in a Greimasian sense). The objective is to map text prompts to plausible visual patterns via probabilistic correlations, rather than to organize representations according to deep semantic structures.

When we compare *statistical* correlations and *probabilistic* relations with the relationships of contrariety and contradiction in the semiotic square, this observation takes on particular significance, as it prejudges unfavorably an assimilation of the elements (tokens) discredited by deep learning models to the semes linked by contrariety and contradiction within the semiotic square.

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[13] At the very beginning, computational efficiency requires the transformation of high-dimensional data into lower-dimensional representations. Then, thanks to embeddings, which capture semantic relationships and syntactic constructions, models such as ChatGPT 4 can learn complex patterns, for example between words and categories, beyond the analysis of each word in isolation, and understand code semantic and syntactic structures.

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*Tuning* involves selecting content-specific data to improve the performance of AI applications. *Retrieval-augmented generation* (RAG) is thus a technique that aims to enhance the *accuracy* of AI models. Although a *non-differentiable* retriever like ChatGPT-4 is modular and uses a two-stage training approach, RAG is compatible with backpropagation when the retrieval component is *differentiable*. The reason we mention the backpropagation algorithm here is that the phenomenon of recurrence, on which it is based, and the horizontal development in which it is inscribed, draw our attention to a major issue: the minimization of the error between the input and the output. As backpropagation works backward from the output, the 'gradient' of the 'loss function,' i.e., the difference or loss between the desired output and the network's actual output, can be measured. Tuning also involves incorporating human feedback to produce more accurate outputs.

Accuracy is also a major issue for ChatGPT-4. It ensures this, to some extent, through scale, i.e., training on trillions of tokens (statistical accuracy), tuning, and human feedback. For DALL•E 3, accuracy is based on 'semantic' alignment with the prompt, rather than on factual correctness. In our view, this is a crucial point, since, unlike the generative trajectory of meaning, output accuracy immediately competes with the drive to produce new, at least partially unforeseen outcomes. Indeed, owing to contingency and randomness, algorithmic generative processes can produce novel configurations, attesting to *computational creativity.* Beyond the accuracy of the output, in terms of a resemblance between input and output, 'optimizing algorithms' can make adjustments, and give rise to *variation effects* through new connections between datapoints. The emphasis here is less on given 'semantic' content than on partially *unpredictable* connections. Thanks to contingency, which is context-dependent, and to randomness, which is introduced *into* the computational system, i.e., into the deep learning models (D'Armenio, Rosso and Voto 2025), they can account for *creative agency*.

Digging deeper into this question by focusing our attention more closely on the third phase, that of *generation*, we are then led to reflect on the conditions under which new elements can be produced, and we may contrast the progressive *enrichment* at the different stages of the Greimasian generative trajectory with the ceaseless production of *variants* ('variation principle') in the case of GAIs.

From the outset, can the overall idea of producing outputs like the inputs (for instance, an image of a dog that does not resemble a cat), i.e., as accurately as possible, but also the use of latent space for generating new data (Manovich and Arielli 2024),[14] echo the idea of a permanent *enrichment* in semiotics? We have seen that, in the latter case, the production of meaning mobilizes the fundamental and surface levels of

[14] While being based on probabilistic prevision, generation comprises a dose of randomness.

the generative trajectory of meaning, up to discursive structures. It can be argued that, in the case of GenAI, innovation through randomness is enriching. However, this type of enrichment should be distinguished from the contribution of actantial conversions, narrative syntagmatics, axiologies, thematic investments, and, finally, figurativity or even iconicity, which is linked to the emergence of the notion of the sensible.[15] As far as AI is concerned,[16] ChatGPT 4 not only creates a descriptive, 'semantically' rich prompt for DALL•E 3, but also analyzes the output created by DALL•E 3 and attaches 'semantic' tags (meta-data enrichment). DALL•E 3 (like other diffusion models) uses a denoising process to generate images: each denoising step, i.e., the removal of noise according to the text prompt, adds 'semantic' structure, moving from random pixels to coherent objects and relationships. Pixels are aligned with 'semantic' concepts.[17]

As far as the variation principle is concerned, a basic image can be transformed in numerous ways, yielding a set of variants that can be examined either paradigmatically or in their evolution. This is due, to a large extent, to random fluctuations that influence generation within the computational system. While the human can intervene, for example, by replacing 5% of an individual's genes associated with segments and chosen at random-by-random integers (Zammit, Liapis and Yannakakis 2022), technical randomness also occurs when the machine 'does what it has to do.' Invention through randomness, possibly arising from the machinic processes themselves, accounts for computational creativity.

### 2.3. A dynamic process

In short, the overall idea is that of a process that mobilizes layers and operates horizontally and vertically, creating discontinuity through segmentation and feature extraction. The latter enter into relationships of contrariety and contradiction in Greimas's generative trajectory. In the case of artificial generative processes, they are connected and combined in various configurations.

Analogy must not hide major differences. These differences can be observed at the level of *dynamic process deployment*. A Transformer encodes the training data into embeddings that, without human expertise, represent objects such as text and images as points in a continuous vector space. Co(n)text will be learned, and relationships between the words and the groups of words in a sentence will be tracked. When a verbal text is encoded by a Transformer-based text-to-image diffusion model, the

[15] Also see Pelkey (2017) about the logical square: "These diagrams are embodied relations rooted in gestalt memories of kinesthesia and proprioception from which we derive basic structural awareness of opposition and contrast such as verticality, bilaterality, transversality, markedness and analogy."
[16] See Colas-Blaise (2025b) about 'digital aesthesia,' according to Munster (2006).
[17] We will postulate later in the text that humans drive virtualities at the stage of the realization of meaningful forms.

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model progressively generates an image from noise via a process of corruption. Diffusion is guided by the textual input. When the process is reversed, random noise is transformed into a coherent image, once again under the guidance of the verbal text.

This deployment may then recall the *narrative scheme* (surface level of the Greimasian trajectory of meaning). In Greimasian semiotics, only movement can effect the transition from the initial to the final state; a moment of crisis serves as a trigger, after which successive actions resolve it. It may then be tempting to establish a correspondence between the polemic-contractual component, which is one of the most fundamental structures of narrative grammar, and Generative Adversarial Networks (GANs),[18] which comprise two adversarial neural networks, the aim being to generate increasingly high-quality output. As Massimo Leone (2023) puts it,

> when one reads the founding article of Generative Adversarial Networks (GAN) through the lens of semiotics, one is struck above all by two elements:1) the conception of artificial intelligence it expresses is based on the idea of antagonism (not cooperation, nor simple competition); 2) the metaphor that best explains the new deep learning architecture is that of the counterfeiter and the connoisseur (in particular, in money-making).

While it may be convenient to consider the antagonisms within the GANs in light of the narrative schema, and vice versa, this reading quickly fails to capture the specificities of both models, and caution is called for. ChatGPT 4 and DALL•E 3 can generate narratives,[19] but neither ChatGPT 4 nor DALL•E 3 is inherently built on a 'narrative logic.' As we have seen, rather than a narrative logic with causal chains or a trajectory resulting from syntactic and semantic transformations, their underlying architectures are designed to model statistical patterns. ChatGPT-4 can be viewed as a 'probabilistic next-token predictor,' and we know that DALL•E 3 maps textual prompts to visual patterns. Thanks to correlations, a narrative logic involving competentialized, performing actants, conjunctions, and disjunctions with objects of value, modalities, and axiologies, is replaced by statistical likelihoods and pattern completion.

At this stage, we may attest to a general dynamic by attending, alongside a polemical structure, to the tensions arising from extracting features from the base data and integrating them into potentially innovative configurations. At the same time, the question of computational dynamics can be further clarified through Simondon's theory of technics.

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[18] ChatGPT 4 and DALL•E 3 do not rely on GANs.
[19] About the narrative in the visual text, see e.g., Colas-Blaise (2019).

## 3. From generation to genesis: the individuation process

In this section, we attempt to articulate the generative trajectory of meaning and the artificial generation process in relation to the ontogenesis of technical objects, as defined by Gilbert Simondon (2011). This genesis implies the evolution of a 'technical essence.'

Technics seems at first to be reduced to an interface, at best a mediating instrument. The technical object is distinguishable from the natural being in the sense that it is not part of the world. It intervenes as mediator between man and the world; it is, therefore, the first detached object; there are, in fact, three types of reality: the world, the subject, and the object, which is an intermediary between the world and the subject, the primary form of which is the technical object (Simondon 2011: 417).

We would argue that, if the technical object assumes the role of mediator between the human and the world, this same role falls to the technical processes themselves. The machine is not endowed with consciousness in the same way as the human: it does not make axiological choices, nor, a *fortiori*, justify them. If the human prompt that urges ChatGPT 4 and DALL•E 3 to produce an image similar to a 16th-century painting of nude deities[20] is not immediately acted upon, the moral reasons invoked by the machine refer back to the normative horizon of the programmers – in this case, to a total ignorance of the canons of the Mannerist work of art.

As for machine intuition, it cannot be equated with human intuition. Alban Leveau-Vallier is very explicit:

> The model of intuition proposed by deep learning captures only a tiny fraction of these [human] characteristics. The 'intuition' it implements is a circuit for storing and activating automatisms acquired through experience, which makes it possible to obtain answers without knowing how they were formed. [...] This is the 'opacity' of neural networks. (Leveau-Vallier 2023: 356; our translation)

Still, there is some kind of *individuation*, in a restricted, Simondonian sense.[21] According to Susana Aires (2025), the individuation of deep neural networks, i.e., their becoming technical objects, relies on large datasets. Their individuation can be traced back to potentialities that enable us to move beyond the stage of the already existing. Implying material processes as well, it cannot be reduced to a process of *individualization* that is either a confirmation or a subversion of existing subjects endowed with a

[20] Cf. the painting Bacchus, *Venus and Cupidon*, by Rosso Fiorentino (c. 1535-1539). Luxembourg: Museum of Archaeology, Art, and History (Colas-Blaise 2025c).
[21] Cf. Simondon (2020 [1964]).

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stabilized technical identity. Thus, Aires' focal point is less the 're-surfacing' of patterns (of 'dog' or 'cat,' for instance) established during the training process, i.e., the outputs that are more or less predictable, than the learning procedures of deep learning models. She underscores that whereas individualization "helps understanding technical lineage" and can best be described through the notion of crystallization, individuation is fundamental, as it enables us to emphasize the *potential* of neural networks to produce novel connections.

If technology enters 'humanness' (Zylinska 2020), conversely, only humans can enable technology to realize its full potential. Thus, only a human prompt can initiate the generation of artifacts by artificial intelligence, as in ChatGPT-4 or DALL·E 3. Only humans can judge technical processes, select artifacts, and comment on them.

Technology, then, produces, at least in some cases, a novel unity between human and artifact, thanks to the 'associated milieu,' which constitutes a space of potentiality. Let us take it a step further. We argued that technology is *creative*, producing new connections, thanks to the margin of indeterminacy[22] (cf. a (pseudo-)randomness; Colas-Blaise (2025a)). Thus, we can move beyond the strict logic of *function* and *use*, bringing technical processes closer to *vital* ones. The latter become engaged in individuations through relational reconfigurations of embodied perceivers and technical objects, beyond normative framings. In this sense, technology itself produces events that Simondon would call 'dis-individuating,' enabling the individuals involved to go beyond their individuality. Indeed, we contend that not only art, but technology itself encounters *transductive*[23] forces at the root of new possibilities. We argue that these forces are impersonal[24] and collective.

The notion of 'individuating becoming' now sheds new light on the mechanisms we previously uncovered. We assume that it is on the stage of 'becoming' that 'it' or 'that' (*ça*) is made and unmade. By 'it' or 'that' (*ça*), we mean the connections made and unmade by a machine instance that captures a set of pixels as vectors, feeds them through layers of neural networks, and assigns weights. When ChatGPT 4 translates a human prompt into a revised one, 'it' or 'that' (*ça*) is projected forward, according to grids of predictability: this word or group of words attracts that other word or group of words, based on similarities and dissimilarities. This happens by virtue of Distributional Semantics (Lenci and Sahlgren 2023) and syntactic constraints. 'It' or 'that' (*ça*) challenges itself, when bifurcations undermine strict verbal linearity and establish a multi-layered composition (descriptive, 'tabular,' i.e., paradigmatic sequentiality). The revised prompt may thus facilitate conversion into visual language.

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[22] The indeterminacy may exist within the code (Fazi 2024).
[23] The concept of transduction is associated with that of metastable equilibrium.
[24] See Leone (2025) about digital impersonation and a redefinition of personhood.

Following Susanna Lindberg (2019: 300), we can then argue that the object mediates a relation that is 'transindividual,' that is to say, "it does not connect already constituted individuals but expresses the pre-individual reality thanks to which individuations can take place." Beyond being merely an instrument, the technical object is part of a community grounded in human beings' *being-with-technical objects*. The technical object, Lindberg (2019: 302-303) observes, is also a relation and a being-with *itself*. For this very reason, the technical being can evolve "through convergence and self-adaptation: It unifies itself internally according to a principle of inner resonance" (Simondon 2017 [1958]: 26).[25]

Let us sum up. The notions of technicity, transduction, and modulation, which resonate with our proposals for transversal agents and forces, allow us to better understand individuation arising from differentiation and the tensions inherent in disparity. One may conceive "the *emergence* of a new technical individual *within* the technical object itself, i.e., an individuation of the embryonic computational model based on largely autonomous articulation of what may be termed *inner* technicities ensuing from data-model relationality" (Aires 2025: 3119). As Aires underlines, "individuation is contingent on the *situated data node-relation* occurring in the order of thousands or millions of neural connections qua calculations, rather than simply pertaining to data inputs and (intended) outputs" (2025:3120).

This takes us beyond fully determined data inputs or outputs and opens the door to invention. At the core of these processes are the network layers implicated in learning highly complex features. The distinction between individualization and individuation enables a clearer understanding of a 'generative' model that builds an artificial representation of the data, with each layer responsible for further decomposition and abstraction, learned from the previous layer. Combined with an ontogenesis, we can account with Aires (2025) for technical emergence, for the *pre-individuality of data*, for new data-potentials exceeding the already-there, i.e., the constituted and strict prediction. Individuation then has a relational basis.

Finally, three aspects deserve particular attention. First, when deep neural networks individuate, granular data emerge. It is remarkable that it is in the granular 'data-node encounter' (Aires 2025: 3119), i.e., in the transformation of data into the smallest possible, elementary elements (for example, the conversion of shapes into pixels) that the "*signification* of language can be found" (we underline). We are back to the basic principle of analysis.

Second, in the case of the conversion of the human prompt into a prompt revised by ChatGPT 4, for example, a probability calculation consists of the calculation of the percentage probability that this word leads to that one, to this other group of words, or

[25] The notion of unity will be reexamined later.

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even to this syntactic construction. Yet, we have seen that a dose of indeterminacy and contingency in algorithmic techniques allows us to get beyond strict prediction. As Aires (2025: 3114) puts it, it "enables an exploration of the technicity of neural models – a technicity pertaining to functioning and expressive of potential beyond utility or use." An essential point is that the process of individuation conceived by Simondon authorizes the human being to experience a being with the technical object that "reveal[s] and acces[ses] the latent sensibility" (Aires 2025: 3116).

Third, as we have seen, transduction and modulation are two modes of individuation. The concept of *transduction* denotes the procedure that occurs when there is activity, both structural and functional, which begins at a center of the being and extends itself in various directions from this center, as if multiple dimensions of the being were expanding around this central point (Simondon 1992: 313). We believe that it resonates, to some extent, with the translativity enabled by the deployment of collective and impersonal forces mentioned above. Simondon adds the following:

> I see it as a mental procedure, or better, the course taken by the mind on its journey of discovery. This course would be *to follow the being from the moment of its genesis*, *to see the genesis* of the thought through to its completion, at the same time as the genesis of the object reaches its own completion. (Simondon 1992: 314)

Consequently, there is widespread connectivity among humans, technical objects, and their milieus. The individuation appears compatible with the idea of an agential distributivity rooted in a broad network, with agents being both human and non-human.

Let us add to this that transduction and modulation may suggest the presence of a background that is not only dynamic, but also *continuous*, on which the discretizations that create discontinuity take place (Colas-Blaise 2025a). The superimposed strata of CNNs, for instance, are 'traversed,' thanks to a fundamental energization. A similar 'translative' movement takes us from latent space to the space of implementation, right up to the moment of visualization on a screen. Underlying forces exert pressure on all the layers, producing a 'binding effect' between them (Colas-Blaise 2025a). What role is the human expected to assume? The digital artist's enunciation can then be described as *transenunciation*, in the sense of non-digital transenunciation (Colas-Blaise 2023), but within very specific modalities. This is the perspective we will adopt in the final section. We will sketch an *enunciative sequence* by examining how the human enunciator interacts with the machine.

## 4. The hybrid human-machine apparatus

One of the questions raised in Section 2 concerned *computational creativity*, while computational models are first said to "add more of the same" to the same (Berns and Colton 2020). We aimed to differentiate between (i) enrichment through expansion and condensation at the levels of tensive correlations and discoursive structures (figurativization: discursivization through actorialization, temporalization, and spatialization), within a 'whole of meaning,' and (ii) a seemingly infinite variability, which transforms and renews database contents. Computational creativity acts through the production of a variety of non-deterministic outcomes, despite statistical correlations and formal constraints. The evolving nature of latent spaces warrants emphasis. D'Armenio, Rosso, and Voto (2025) sum up the situation as follows:

> […] latent spaces must be recognized as pivotal semiotic sites where human and artificial agencies intersect, continuously renegotiating boundaries between determinacy and unpredictability, visibility, and invisibility, and ultimately redefining the very essence of meaning-making in contemporary culture.

Still, should we not address the question of whether the machine actually *produces meaning*? More precisely, could it be that the machine functions by manipulating signs, the production of meaning depending, at least partially, on the involvement of the human interpreter, who engages with the digital configurations, visualized on a screen?

According to Greimas (1989 [1984]: 633), the unit of the signifier, which may correspond to visual features subsequently globalized, is "recognizable, when it is framed by the grid of the signified, as the partial representation of an object from the natural world." However, in the case of GenAI, the content produced does not refer to the world, but at best to content included in the database or circulating on the net, i.e., to what *has already been said* (*'déjà-dit and 'déjà-vu'*),[26] which is repeated and constantly modified. Moreover, as far as computational calculation is concerned, relational structures take precedence over the circulation of explicit content (Bachimont 2025). As mentioned above, ChatGPT-4 and DALL•E 3 are *probabilistic models*.

We argue that if the manipulated signs necessarily include a semantic component (Lenci and Sahlgren 2023), their content is converted into *virtualities* (notably

[26] See the 'enunciative praxis' studied in semiotics by Greimas, Bertrand (1993), and Fontanille (2003 [1999]). On this subject, see also Dondero (2025).

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through tokenization, vectorization, and probabilistic calculations)[27] which, when actualized, i.e., visualized on a screen, reach the stage of realization only through the interpretation of the human. As previously noted, GenAI systems – such as Large Language Models or text-to-image diffusion models – operate by statistically predicting patterns of symbols (words, images, etc.) based on massive datasets. Machines do not 'mean' things, at least not the way humans do.[28] They lack intentionality, consciousness, or subjective understanding (Leveau-Vallier 2023). However, AI 'produces semantics' by generating artifacts that engage human interpreters in the act of meaning-making. For example, a story generated by an LLM can convey themes, characters, and narrative coherence. An image generated from a text prompt can evoke recognizable objects, emotions, or concepts.

From a semiotic perspective, one key question concerns the 'grounding' of computation, i.e., the possibility of machine-based *contextualization*. The debate between those who defend the idea of purely symbolic manipulation, detached from reality, and those who emphasize an *indexical AI* is of utmost importance for anyone seeking to contribute to a theory of enunciation. In the latter case, digital systems, by virtue of their neural networks, are said to *point* toward realities in an indexical manner (cf. Weatherby and Justie 2022: 382).

The question of indexicality warrants further discussion. We argue that there is indeed a form of machine indexicality, if by this we mean an indexicalization effected through algorithmic processes that point to code, databases, the human observer, and so forth, thereby functioning as signals. Nevertheless, we contend that there is no indexicality if the term is understood as a way of pointing to context through symbolic representations. Such representations, in our view, fall to the human enunciator, who, through a hybrid human–machine apparatus, brings virtual and actualized configurations to the stage of realization.[29] Contextualization then remains a human prerogative: it is the human who realizes the virtualized and actualized contents, where *realization* is defined by Fontanille (2003 [1999]: 289–290) as the encounter between the forms of discourse and reality. When implemented within semiotic regimes, the machine's signs are situated in contexts that enable them to contribute to the construction of representations of the world.

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[27] The notion of virtuality must be articulated with that of potentiality (see above, in relation to individuation according to Simondon). The virtual may be related to potentialities. i.e., the 'possibilities' (for meaning-making) afforded by algorithmic functioning. See Colas-Blaise (2025a) on the notion of the virtual, notably in the sense in which Vitali-Rosati (2009) understands it. In this article, we also assign the term 'virtuality' a more technical meaning, namely, considering the product of operations of virtualization. More broadly, we argue that algorithmic processes generate *effects* of meaning (a simulation of meaning).

[28] Also see Paolucci (2025).

[29] Also see the processes of entextualization and contextualization in the sense articulated by Silverstein (2014) and Nakassis (2025).

Certainly, algorithmic functioning relies on co-textualization – such as when verbal texts are generated by combining tokens based on probabilistic calculations – and it demonstrates a certain degree of context sensitivity. However, contextualization, understood as the dynamic establishment of relationships within a specific semiotic situation and the orchestration of interactive practices, remains, in my view, the exclusive domain of the human enunciator. This point is crucial because it allows us to conceptualize the *actedness* (Nakassis 2025) of human enunciation. Indeed, assertions and representations both construct a context and are, in turn, reshaped by it. The human enunciator can thus act upon the world and engage with it more effectively. It is a social and cultural activity that brings context into being (Dourish 2004), and the acting subject is itself transformed in the process.

The stakes are significant: three conceptions of enunciation involving both humans and machines come into play. On the one hand, one may defend the thesis of *machinic enunciation* (D'Armenio, Deliège and Dondero 2024), with a particular focus on the machine's mode of 'vision' (Somaini 2022), which discretizes images, detects edges and boundaries, identifies shapes, and distinguishes color regions, among other processes. On the other hand, one may reject this thesis, reducing the machine to a mere tool – or perhaps a prosthesis – that the human enunciator employs to extend their range of action. Finally, one can examine the human –machine interaction, with the human considered inherently 'cyborgian,' in the sense proposed by Paolucci (2025).

In this case, the *hybrid* dimension of human enunciation is highlighted and emerges as a key factor. The confrontation between humans and machines invites us to reconsider the concept of 'constitutive heterogeneity,' as discussed by Jacqueline Authier-Revuz (1982), in a broader sense – beyond linguistics, and even beyond psychoanalysis – within a semiotic-anthropological perspective.

According to Authier-Revuz (1982), heterogeneity materializes through an interweaving of voices. Fundamentally, as Bakhtin posits, we are inhabited by the speech of others, yet the stereotype multiplies and anonymizes its source: the 'one' (*on* in French) speaks through me, and often the origin of the other's utterance cannot be localized. 'Constitutive heterogeneity' is linked to a process of decentering, the subject being 'divided,' 'split,' without being 'doubled.' If there is no center, Authier-Revuz (1982) writes, the illusion of a center must nonetheless be maintained, since the subject is, "fundamentally, an 'effect of language.'" The subject emerges against the backdrop of collective, often anonymous discourse, when the 'I,' taking responsibility for the stereotyped or reported content, creates the *illusion* of recovered unity. In the case of algorithmic models, the 'one' (*on*) resonates – or perhaps conflicts – with the machinic 'it' or 'that' (*ça*). This 'it' or 'that' then governs computational translation (Colas-Blaise 2026) according to probabilistic calculations, generating outputs based on correlations and combinations – for example, the arrangement of patches within regions of a digital image.

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The notion of *dividuality* helps advance the discussion. Beyond political contexts, we invoke the 'dividual' to "conceive of our subjectivities as composed of multiple, heterogeneous relations, which are violated when forcibly reduced to the supposedly indivisible unity of the 'individual'" (Citton 2012: 71; our translation). Machine functioning expands this concept: it applies not only to humans but also to machinic processes, encompassing the disassembly of cultural materials and their reassembly through combinatory and hybridized units in new, "a-historical and a-cultural" productions (Eugeni 2026). The notion of machinic dividuality benefits from being combined with the notion of *distributivity*, which characterizes the agents underpinning the machinic 'it' or 'that' (ça) (Colas-Blaise 2025a) When agency is distributed across multiple instances – algorithms, databases, prompts, randomness, and humans—, these elements form a heterogeneous network of circulations, transfers, translations, and transductions. It is built upon a system of delegations. Participation within this network can then be understood as 'condividuality' (Ott 2018).

Until the human enunciator interprets digital systems, the relationship thus falls short of a full Subject–Object dynamic: "I have the machine do, which in turn has me do" – to paraphrase Latour (2000: 11). The 'making-do' (*faire-faire*) guarantees a transcendence of the subject –object dialectic. What matters, then, is 'attachment' – the 'right' attachment, the connection – particularly with the machine, we would add. Adapting Latour's propositions to our argument, we contend that humans make the machine act, and the machine, in turn, makes humans act as well as 'exist' (*faire-être*), contributing to the construction of the human as a hybrid enunciating instance. It is through interpretation that this instance may be elevated to the status of a subject of enunciation, while presenting an illusory unity.

To further elaborate the notion of a mixed human enunciative instance, let us recall, in a semiotic-anthropological perspective, that the machine may be regarded as a tool inscribed in the long tradition of fire and flint and, as such, as contributing to *humanness* (Zylinska 2020: 53). As Zylinska suggests:

> We could suggest that this algorithmic relationship which humans depend on is not only actualized in the post-industrial society, even if it does take a particular form and turn at that time, but rather that it has been foundational to the constitution of the human as a technical being – who actuated this humanness in relation with technical objects such as fire, sticks and stones (see Simondon 2016; Stiegler 1998). (Zylinska 2020: 53)

As is well known, for André Leroi-Gourhan (1965: 40), the "tool is, in a sense, exuded by humans in the course of their evolution," because of the externalization of operative programs. The "manipulative action of primates, in which gesture and tool are indistinguishable" is followed by the "hand in direct motricity" (humans cutting a branch with a flint), the "hand in indirect motricity" (the arrow launched by means of a drawn bow), the hand that "triggers a motor process" (as in a mill), and finally the hand that "initiates a programmed process in automatic machines, which not only externalize the tool, gesture, and motricity, but also encroach upon memory and mechanical behavior" (1965: 42, our translation; *apud* Citton 2012: 60–61).

Our proposals advance the reintegration of the 'tool' within a hybrid enunciative framework. Does this imply the postulation of a (recovered) unity, as suggested by Vilém Flusser (2000: 27): "This is a new kind of functioning in which human beings are neither the constant nor the variable, but in which human beings and apparatus merge into a unity"? Freely drawing on Paolucci's theoretical proposals (2025), we instead consider the human as fundamentally split, hybrid, or 'cyborg' – as Paolucci himself would put it – fundamentally diverse, not only in the sense articulated by Authier-Revuz (1982), but also by virtue of its coupling with tools. The unity that appears to emerge from *being-with-the-machine* is illusory. At best, it is a semblance of unity produced by the act of enunciation of a subject who says 'I,' thereby creating the illusion of extricating himself from the 'one' (*on*) and the 'it' or 'that' (*ça*). Within the Benvenistian tradition, one would say that 'I' rises to the status of subject of enunciation by mobilizing not only the system of natural language, but also the signs manipulated by digital systems.

The sequence of enunciation proposed elsewhere (Colas-Blaise 2025a) should then be expanded. Let us recall its main outlines. We argued that the intermediate stage of the sequence is characterized by the deployment of generative dynamics through a multiplicity of agents among whom agency is distributed. The initial stage corresponds to human programming, selection, and the formulation of prompts, while the final stage is defined by the interpretation of digital artifacts by the human observer who describes, comments on the artifacts visualized on a screen, asserts, and evaluates them a posteriori (see Greimas 1974; enunciation as "a 'descriptive' metalanguage," Fontanille 2003 [1999]: 283).

However, in the case of a dualist, or even plural understanding of human–machine enunciation, this 'externalist' perspective is insufficient. An 'internalist' approach emphasizes the formation and development of the fundamentally hybrid *human-machine* instance of enunciation. During the final phase, the 'internalist' perspective can be combined with an 'externalist' approach.

Indeed, allying algorithmic processes with the human ones enables us, at least within certain limits, to understand how meaning is generated. The machine does not think, nor does it produce meaning on its own, even though a virtualized "semantic" component is inherent in the signs it manipulates (Lenci and Sahlgren 2023). In our view, only human intervention enables the construction of a contextualized

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representation of the world, while computers merely process unattached symbols. Interpretation, as we have suggested, consists in the human realization of the virtual and actualized configurations visualized on a screen by the machine. It may bring to light the layers and interwoven strata, sediments, and deposits (Bruno 2017) of the digital image-text, for example, as they are entangled with memorial elements. As the 'archaeological' interpretation of the digital image is based on traces, the 'internalist' approach may be combined with an 'externalist' perspective. Indeed, during this final phase, the human reconstructs the layers of meaning from traces, critically engages with the artifacts, and assesses them a posteriori (see also Fontanille 2003 [1999]).

Despite a largely 'internalist' perspective, in which humans interact with the machine by bringing virtual and actualized configurations to the stage of realized, fully signifying forms, this final moment reminds us of the a posteriori approach underlying the Greimasian model. As we have seen, the latter seeks to provide a structural understanding of how signifying forms are produced. Throughout the two phases of interpretation of digital artifacts – 'internalist' and 'externalist' – the human observer seeks to posit himself as an illusory 'I' in simulating an apparent singularity.

In this framework, the tasks assigned to the machine and to the human are distributed: rather than isolating the figure of the human, one can conceive of a human-machine apparatus in which agency is alternately distributed (Colas-Blaise 2025a), *in varying proportions*. We suggest that within this complex arrangement, the human functions as the instance that programs, issues instructions, and delegates certain competencies to the machine, before ultimately guiding virtual and actualized configurations toward the stage of realization. It is the human component that mobilizes the virtual and actualized configurations and gives rise to meaning (in the semiotic sense) in the final stage of the sequence. This complex enunciative apparatus – within which the human makes the machine act (*faire faire*), which in turn makes the human act (*faire faire*) and exist (*faire être*) as such, necessarily dual if not plural – thus accounts for the generation of meaning as an always (technically) mediated process.

As mentioned above, what is emphasized is a form of hybrid enunciation that reconceives 'constitutive heterogeneity.' The implications for the semiotic theory of enunciation, as elaborated within Greimasian and post-Greimasian semiotics, are considerable. The hybrid human–machine apparatus allows us to move beyond the paradigm Subject-Object. As far as the trajectory of meaning is concerned, this draws attention, by way of contrast, to its specificities, showing how a given structuralist epistemology allows a human to render meaning intelligible. As a 'grammar of reading,' it retains heuristic value, but it cannot be regarded as a universal model of meaning generation. In this respect, the human–machine enunciative apparatus functions as a *revelatory* framework that compels semiotics to rethink generativity beyond the isolated human subject.

## 5. Conclusion

Are there convergences and divergences between Greimas's generative trajectory of meaning and the generative process of AIs? What do they teach us about the two types of functioning that, despite the emphasis on generativity in both cases, undoubtedly possess strong specificities? Following our investigation, we may contend that, although it is possible to observe, here and there, the same logic of analysis, segmentation, extraction, and, finally, combination, particularities must be highlighted on both sides.

Algorithmic processes cannot be conceived of as generative in a pure Greimasian semiotic sense. The specificities pertain to the status of database contents, their embedding, and the transformations, based on the principle of connectivity, to which they are subject. Therefore, the apparent analogy between the generative trajectory of meaning and GenAI conceals several decisive differences.

First, what distinguishes them from the outset is the human analytical approach, which, by adopting an 'externalized' perspective, reconstructs the levels of the generative trajectory of meaning a posteriori, as opposed to the machine's generation of (new) outputs, often variants, where the perspective is instead 'internalist.'

Second, the generative trajectory, as formulated by Greimas, is a theoretical model of intelligibility. It allows the analyst to evaluate meaning in terms of structural adequacy, coherence, and semantic consistency. The analytical and reconstructive device aims to make explicit the structures that underlie signifying practices. Whereas GenAI is a technical system of production, without necessarily providing an account of the meaning of the artefacts. The generation precedes their semantic interpretation. GenAI optimizes performance according to metrics (e.g., likelihood, loss functions, user feedback), rather than according to semiotic norms. In Greimas's model, by contrast, meaning is generated through a structured progression from deep semantic categories to surface discoursive forms, governed by syntactic and semantic constraints.

Third, the generative trajectory presupposes that meaning is oriented toward values, modalities, narrative structures, and figurativization. GenAI, by contrast, lacks axiological orientation in the semiotic sense. Any apparent 'style' emerges from statistical optimization rather than from a value-driven narrative logic. What is often described as a 'latent space' is not semantic in the strict semiotic sense, but mathematical. While latent representations may correlate with semantic *effects*, they do not constitute a system of values or oppositions that can be interpreted independently of their outputs.

This 'internalist' perspective has been further explored through the key notion of GenAI *dynamics*, which has been elaborated theoretically, particularly in relation to Simondon's concepts of individuation and transduction. If one thus advances the

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idea of a reciprocal individuation of the technical object and the human within an 'associated milieu,' the analytical focus can shift toward the human–machine dyad and their interactions. This essential dimension is discussed in the final section of the article through the crucial notion of the fundamentally hybrid or 'cyborg' human (Paolucci 2025).

It then becomes possible to further develop the sequence of the human–machine enunciative process. In the final phase of this process, the human may articulate an 'I,' simulating detachment from the collective and impersonal 'one' (*on*) or 'it' ('that) (*ça*). The human thereby produces a *fictive* representation of themselves as a unified – or seemingly unified – subject of enunciation. This, more than ever, highlights how a deeper understanding of algorithmic processes enables a more precise grasp of the human enunciator's status, as described in linguistics and semiotics. Advancing the idea of fundamental hybridity enables a reformulation, within a semiotic–anthropological framework, of Authier-Revuz's (1982) notion of 'constitutive heterogeneity,' originally articulated in linguistic and psychoanalytic terms.

Might the dual (and even plural) 'human-machine' instance then be seen as emblematic of posthumanism? Undoubtedly, this holds if humanism is defined as human superiority over other forms of life and over tools – that is, the nonliving. As regards this, we agree with Zylinska (2020: 152–153), who argues that "we need to open up the human sensorium to other forms of intelligence and perception, to recognize our entanglement with creatures and machines, to look around, askew."

*How We Became Posthuman?* asks Hayles (1999). The urgent task is to question the traditional idea of the autonomous individual, of the self-sufficient and isolated human, and to oppose it with that of a human–machine symbiosis operating within networks. The 'identities' are always provisional, ultimately subjected to a plural and collective internal differentiation – a process powerfully evidenced by stereotypy. The emergence of the enunciating subject who says 'I' thus reflects a contingent, illusory crystallization, perpetually challenged and reconstituted.

Posthumanism or a new humanism? 'Constitutive heterogeneity' (Authier-Revuz 1982) is not merely a property of the enunciating subject but, more broadly, a fundamental characteristic of the human. Human identity has been mutable since prehistoric times, shaped through intimate relations not only with other living beings but also with the nonliving, including tools and artifacts. The entanglement with machines to which humans have delegated certain of their capacities and tasks since roughly the second half of the twentieth century, and more recently through generative AI, would then be merely a (post)modern manifestation of this longstanding dynamic, developing at remarkable speed. It is noteworthy that today, biological models are frequently invoked to conceptualize a future centered on AI embodiment and embodied artificial cognition. We, as 'cyborg' humans, are being called upon in unprecedented ways.

## References

Aires, Susana 2025. On the Individuation of Complex Computational Models: Gilbert Simondon and the Technicity of *AI. AI & Society* 40, https://doi.org/10.1007/s00146-024-02152-2 (Accessed January 2026).

Authier-Revuz, Jacqueline 1982. Hétérogénéité montrée et hétérogénéité constitutive: éléments pour une approche de l'autre dans le discours. *DRLAV* 26: 91-151.

Bachimont, Bruno 2025. L'espace-temps du calcul: position virtuelle et distance réelle. *Signata* 16.

Basso Fosssali, Pierluigi 2024. De la générativité à la "circuitation": instanciations et modèles diagrammatiques d'une écologie sémiotique. *Actes Sémiotiques* 130, https://doi.org/10.25965/as.8223 (Accessed January 2026).

Berns, Sebastian and Simon Colton 2020. Bridging Generative Deep Learning and Computational Creativity. In: F. Amilcár Cardoso, Penousal Machado, Tony Veale and João Miguel Cunha (eds.), *Proceedings of the Eleventh International Conference on Computational Creativity*. Coimbra: Association for Computational Creativity, 406–409.

Bertrand, Denis 1993. L'impersonnel de l'énonciation. Praxis énonciative: conversion, convocation, usage. *Protée* 21 (1): 25-32.

Bruno, Giuliana 2017. Dressing the Surface. *Necsus* 6, https:/necsus-ejms.org/dressing-the-surface/ (Accessed January 2026).

Citton, Yves 2012. *Gestes d'humanités. Anthropologie sauvage de nos expériences esthétiques.* Paris: Armand Colin.

Colas-Blaise, Marion. 2019. Comment penser la narrativité dans l'image fixe? La "composition cinétique" chez Paul Klee. *Pratiques* 181-182.

Colas-Blaise, Marion. 2023. *L'énonciation. Évolutions, parcours, ouvertures*. Liège: Presses universitaires de Liège.

Colas-Blaise, Marion 2025a. La machine crée, mais énonce-t-elle? Le computationnel et le digital mis en débat. *Semiotica* 262: 147-187, https://doi.org/10.1515/sem-2024-0188 (Accessed January 2026).

Colas-Blaise, Marion 2025b. L'IA au risque de la sémiotique: générativité computationnelle et espaces pluriels. *Signata* 16.

Colas-Blaise, Marion 2025c. Le numérique et les normes: normes, stéréotypes et affordances. *Actes sémiotiques* 133, https://doi.org/10.25965/as.9105 (Accessed January 2026).

Colas-Blaise, Marion 2026. De la translation computationnelle à la transduction : monstration ekphrastique et individuation. *Signata* 17 (forthcoming).

D'Armenio, Enzo, Dondero, Maria Giulia and Adrien Deliège 2024. Semiotics of Machinic Co-Enunciation. About Generative Models (Midjourney and DALL·E). *Signata* 15, https://doi.org/10.4000/127x4 (Accessed January 2026).

**Punctum.** International Journal of Semiotics | **11:**02:2025
ISSN 2459-2943 | DOI: 10.18680/hss.2025.0022 | **punctum.gr**

D'Armenio, Enzo, Rosso, Aluminé and Christina Voto 2025. Presentation. *Signata* 16.

Dondero, Maria Giulia 2025. Semiotics of artificial intelligence: enunciative praxis in image analysis and generation. *Semiotica* 262: 111-146, https://doi.org/10.1515/sem-2024-0195 (Accessed January 2026).

Dondero, Maria Giulia, Alonso Aldama Juan and Massimo Leone 2025. Aspects of AI Semiotics: Enunciation, Agency, and Creativity. *Semiotica* 262, https://doi.org/10.1515/sem-2024-0195 (Accessed January 2026).

Dourish, Paul 2004. What We Talk About When We Talk About Context. *Personal and Ubiquitous Computing* 8(1):19-30, https://www.dourish.com/publications/2004/PUC2004-context.pdf (Accessed January 2026).

Erden, Zeki Doruk and Boi Faltings 2025. On the Parallels Between Evolutionary Theory and the State of AI. arXiv.2505.23774v1, https://doi.org/10.48550/arXiv.2505.23774 (Accessed January 2026).

Eugeni, Ruggero 2026. Superman in Delft. Thinking about Enunciation with Visual Generative Artificial Intelligence. *Signata* 17 (forthcoming).

Fazi, M. Beatrice 2024. Machines That Create: Contingent Computation and Generative AI. *Media Theory* 8 (2): 01-12, https://doi.org/10.70064/mt.v8i2.1115 (Accessed January 2026).

Flusser, Vilém 2000. *Towards a Philosophy of Photography*. London: Reaktion Books.

Fontanille, Jacques 2003 [1999]. *Sémiotique du discours*. Limoges: Pulim.

Greimas, Algirdas J. 1974. L'énonciation (une posture épistémologique). *Significação* 1, https://doi.org/10.11606/issn.2316-7114.sig.1974.90115 (Accessed January 2026).

Greimas, Algirdas J. 1987. *On Meaning: Selected Writings in Semiotic Theory. Algirdas Julien Greimas. Theory and History of Literature* 38. Minneapolis: University of Minnesota Press.

Greimas, Algirdas J. 1988 [1976]. *Maupassant. The Semiotics of Text. Practical Exercises.* Transl. P. J. Perron. Amsterdam: John Benjamins.

Greimas, Algirdas J., Collins, Frank and Paul J. Perron 1989 [1984]. Figurative Semiotics and the Semiotics of the Plastic Arts. *New Literary History* 20 (3), Greimassian Semiotics: 627-649, https://www.jstor.org/stable/469358 (Accessed January 2026).

Greimas, Algirdas J. and Joseph Courtés 1982 [1979]. *Semiotics and Language: An Analytical Dictionary*. Transl. L. Crist. Bloomington: Indiana University Press.

Hayles, N. Katherine 1999. *How We Became Posthuman. Virtual Bodies in Cybernetics, Literature, and Informatics.* Chicago, IL: The University of Chicago Press.

Latour, Bruno 2000. Factures/fractures: de la notion de réseau à celle d'attachement. In: André Micoud and Michel Peroni (eds.), *Ce qui nous relie*. La Tour d'Aigues: Éditions de l'Aube, 189-208.

Lenci, Alessandro and Magnus Sahlgren 2023. *Distributional Semantics (Studies in Natural Language Processing)*. Boston, MA: Cambridge University Press.

Leone, Massimo 2023. The Spiral of Digital Falsehood in Deepfakes. *International Journal for the Semiotics of Law* 36: 385–405, https://doi.org/10.1007/s11196-023-09970-5 (Accessed January 2026).

Leone, Massimo 2025. Exceeding Singularity: A View on the Cognitive Semiotics of Impersonation. *Reti Saperi Linguaggi* 14.

Leroi-Gourhan, André 1965. *Le geste et la parole*. Paris: Albin Michel.

Leveau-Vallier, Alban 2023. *IA. L'intuition et la création à l'épreuve des algorithmes*. Ceyzérieu: Champ Vallon.

Lindberg, Susanna 2019. Being with Technique–Technique as Being-with: The Technological Communities of Gilbert Simondon. *Continental Philosophy Review* 52: 299-310.

Manovich, Lev and Emanuele Arielli 2024. *Artificial Æsthetics*. Chicago (17th ed.), https://manovich.net/index.php/projects/artificial-aesthetics (Accessed January 2026).

Munster, Anna 2006. *Materializing New Media: Embodiment in Information Æsthetics*. Hanover, New Hampshire: Dartmouth College Press.

Nakassis, Constantine 2025. (Im)personalizing Enunciation. *Semiotic Review*, https://doi.org/10.71743/k99f5r76 (Accessed January 2026).

Paolucci, Claudio 2025. *Nati cyborg. Cosa l'intelligenza artificiale generativa ci dice dell'essere umano*. Roma: Luca Sossella.

Ott, Michaela 2018. *Dividuations. Theories of Participation*. Cham: Palgrave Macmillan.

Pelkey, Jamin 2017. Greimas embodied. How Kinesthesic Opposition Grounds the Semiotic Square. *Semiotica* 214 (1): 277-305, https://doi.org/10.1515/sem-2016-0188 (Accessed January 2026).

Perron, Paul J. 1987. Introduction. In: Paul J. Perron and Frank Collins (transl). *On Meaning: Selected Writings in Semiotic Theory. Algirdas Julien Greimas. Theory and History of Literature* 38. Minneapolis, MN: University of Minnesota Press, xxiv-xlv.

Petitot-Cocorda, Jean 1982. Introduction. Aspects de la conversion. *Actes sémiotiques. Le Bulletin du groupe de recherches sémio-linguistiques* 24: 5-7.

Petitot-Cocorda, Jean 1985. *Morphogenèse du sens I*. Paris: PUF.

Ricoeur, Paul 1989. Greimas's Narrative Grammar. In: Paul Perron and Frank Collins (eds.), *Paris School Semiotics. Vol I: Theory*. Amsterdam: John Benjamins, 3-31.

Silverstein, Michael 2014. The Voice of Jacob: Entextualization, Contextualization, and Identity. *English Literary History* 81(2): 483-520, DOI:10.1353/elh.2014.0022 (Accessed January 2026).

Simondon, Gilbert 1992. The Genesis of the Individual. In: Jonathan Crary & Sanford Kwinter (eds.), *Zone 6: Incorporations*. London: Zone Books, 297-317.

ISSN 2459-2943 | DOI: 10.18680/hss.2025.0022 | **punctum.gr**

Simondon, Gilbert 2011. On the Mode of Existence of Technical Objects: The Genesis of Technicity. *Deleuze Studies* 5(3): 407-424.

Simondon Gilbert 2017 [1958]. *On the Mode of Existence of Technical Objects.* Transl. C. Malaspina and J. Rogove. Washington: Univocal Publishing.

Simondon, Gilbert 2020 [1964]. *Individuation in Light of Notions of Form and Information*, trans. T. Adkins. Minneapolis, MN: University of Minnesota Press.

Somaini, Antonio 2022. On the Altered States of Machine Vision: Trevor Paglen, Hito Steyerl, Grégory Chatonsky. N-ICON. *Studies in Environmental Images* 1(I), https://orcid.org/0000-0002-5977-9798 (Accessed January 2026).

Somaini, Antonio 2023. Algorithmic Images: Artificial Intelligence and Visual Culture. *Grey Room* 93: 74–115.

Troqe, Rovena 2016. A Model for Defining the Concept and Practice of Translation, from the Perspective of Greimassian Semiotics. *TTR Traduction, terminologie, rédaction* 29(1), https://id.erudit.org/iderudit/1050714ar
DOI: https://doi.org/10.7202/1050714ar (Accessed January 2026).

Vitali-Rosati, Marcello 2009. La virtualité d'internet. Une tentative d'éclaircissement terminologique. *International Webjournal* 4, http://www.sens-public.org/article.php3?id_article=669 (Accessed January 2026).

Weatherby, Leif and Brian Justie 2022. Indexical AI. *Critical Inquiry* 48 (2).

Zammit, Marvin, Antonios Liapis and Georgios N. Yannakakis 2022. Seeding diversity into AI art. *13th International Conference on Computational Creativity* 7: 201-219.

Zylinska, Joanna 2020. *AI Art: Machine Visions and Warped Dreams*. London: Open Humanities Press.

AUTHOR

**Marion Colas-Blaise**, Professor Emerita of Linguistics and Semiotics, University of Luxembourg