Generative (or/and) Sustainable Culture: Transitioning from Disjunction to Convergence through Gilbert Simondon's Lens[1]

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Abstract:

The chapter examines the emergence of *generative culture* as a new cultural paradigm shaped by the mass adoption of generative AI and argues that it is structurally at odds with the sustainability discourse embraced by museums and cultural institutions. Generative AI not only automates and accelerates cognitive and creative processes, but also fuses consumption and production into a continuous state of overproduction, driven by probabilistic logics, platform metaphors of imagination and dreaming, and the imperatives of late capitalism. This dynamic produces environmental, cultural, social, and imaginative costs that threaten the very possibility of sustainable futures. Against techno-solutionist approaches that confine sustainability to technical optimization, the chapter reframes the problem as a conflict of cultural logics and sociotechnical imaginaries. Drawing on Gilbert Simondon's theory of individuation, it proposes an alternative understanding of the *generative* as a process of differentiation that transforms conditions of existence within metastable, transductive, and transindividual systems. From this perspective, generative AI can be reimagined as a transducer of new, situated modes of life rather than a factory of "variations of the same", and imagination can be reclaimed as a poietic, critical, and emancipatory force anchored in a culture of limits. Finally, the chapter outlines a techno-critical museology in which museums assume a key role in negotiating generative culture, fostering sustainable forms of creation, and cultivating collective responsibility toward cultural, social, and environmental futures.

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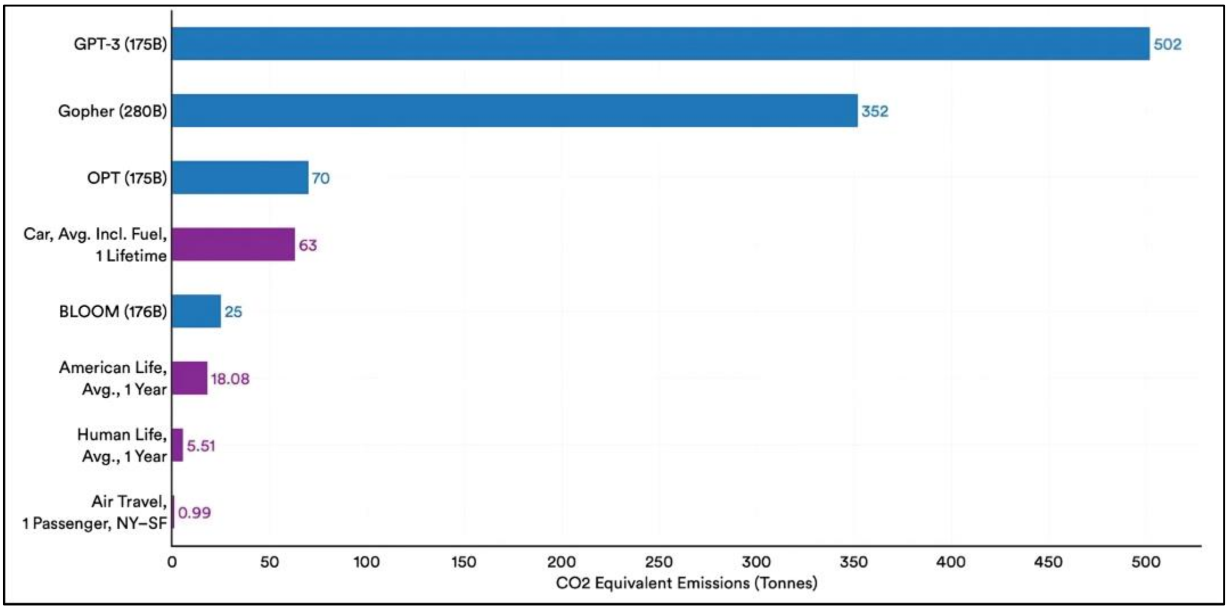

Fig. 1 CO_2 emissions (in tonnes) by selected machine learning models compared to real life examples, 2022. Source: AI Index Steering Committee. *The AI Index 2023 Annual Report*. Institute for Human-Centered AI: Stanford University, 2023

Fig. 1 shown above vividly contrasts the CO_2 emissions produced by AI machine learning models against real-world examples, while Table 1 displayed below details the adoption and usage rates of generative AI (GenAI) as of August 2024.

Category	Statistic	Source
Workplace	64 % of businesses expect AI to increase productivity.	Forbes
Workplace	AI will create 97 million new roles.	WeForum
Workplace	75 % of knowledge workers use AI at work today.	Microsoft
Workplace	68.1 % of companies reported increased use of AI tools for hiring.	RecruitBetter
Education	60 % of teachers use AI in their classrooms.	Forbes
Education	AI in education is expected to grow at a 40.3 % CAGR between 2019–2025.	India AI
Education	By 2030, AI will automatically score 50 % of college essays and nearly all multiple-choice exams.	MMC Global
Education	56% of college students have used AI tools to complete assignments or exams.	Best Colleges
Healthcare	AI in healthcare is expected to grow to $148.4 billion by 2029.	GrandView Research
Healthcare	79 % of healthcare organizations are using AI technology.	GrandView Research
Healthcare	57 % of healthcare providers have integrated AI virtual assistants into telemedicine platforms.	McKinsey & Company, SCA Health/Insights

Category	Statistic	Source
Personal Life	One in 10 cars will be self-driving by 2030.	Marketsandmarkets
Personal Life	63 % of consumers expect companies to use AI to personalize their experiences.	Master of Code Global
Personal Life	75 % of consumers are comfortable with chatbots managing routine customer service tasks.	AuthorityHacker
Personal Life	51 % of people find AI helpful for achieving a good work-life balance.	SnapLogic/Juliety

Table 1 Adoption and usage rates of generative AI (GenAI) as of August 2024. Source: Andrew Bolwell, “23 stats to show generative AI’s role in our daily lives”, *Futurecasting*.

Together, these figures reveal a striking dilemma: the rapid proliferation of GenAI technologies on one hand, and the escalating environmental costs on the other. This juxtaposition reveals not only a technological crossroads but also a critical sustainability challenge that demands immediate attention. The question of how to navigate this challenge —and the role that museums and cultural institutions must play in shaping a sustainable future— forms the core of this essay. In addressing these urgent issues, this chapter aims to provoke deeper reflection on the responsibilities and opportunities facing cultural institutions in the age of AI.

Within this context, the central argument of this essay can be summarized as follows: contemporary society is witnessing the emergence of a new cultural paradigm, which I term *generative culture*. This paradigm exists in tension with the prevailing discourse on sustainability embraced by museums —understood as a set of narratives advocating strategies for transitioning toward a more sustainable future. The first section explores the underlying causes of this tension. Acknowledging the need to move beyond mere problem description toward finding viable solutions, I argue that Gilbert Simondon's theory of individuation —first developed in the 1950s— provides significant intellectual tools to address this conflict. Simondon’s framework, I suggest, offers a means of reconciling the generative culture we currently inhabit with the sustainable culture we aspire to. The second section, therefore, examines how Simondon’s theory could contribute to resolving this cultural conflict.

Techno-critical Museology as Framework

GenAI can be informally defined as systems that generate new realities and materialities in the form of texts, images, videos, 3D artifacts, and so forth. In 2024, GenAI technologies rapidly became integral to daily life. Significant advancements include ChatGPT, the AI language model by OpenAI known for its highly accurate, human-like text generation that is transforming content creation and beyond. Google Gemini has further advanced AI capabilities, providing sophisticated predictive analytics and real-time data processing that enhances decision-making across numerous sectors. Text-to-image models such as DALL-E and Midjourney have revolutionized how designers, artists, and the broader public produce images, thereby reshaping the visual landscape and creative labor.

The cultural heritage and museum sectors have long been acutely aware of the benefits that AI integration can bring in terms of accessibility, inclusivity, and public engagement. These technologies open up new ways of understanding and interacting with cultural heritage, collections, and the institutions themselves. In its manifesto *Cultural Heritage: A Powerful Catalyst for the Future of Europe* (May 2020),[3] the European Heritage Alliance argued that digital transformation and the adoption of new technologies—particularly AI and machine learning rooted in humanistic and ethical principles—hold the potential to democratize access to cultural heritage, support diversity, and promote inclusivity and creativity.

Indeed, museums are beginning to leverage GenAI technologies to enhance visitor engagement and streamline operations. For example, ChatGPT is being used to create interactive, personalized experiences, offering visitors detailed information and real-time answers to their questions. The Museum of Tomorrow in Rio de Janeiro exemplifies this approach by employing AI chatbots to enhance accessibility: its IRIS+ chatbot draws on data from interactive museum cards to tailor visitor experiences and recommend relevant social and environmental initiatives based on their interests. Other applications focus on creating contextual content that deepens understanding of collections. For instance, the British Museum uses GenAI to produce immersive, contextual content for its Mesoamerican collection, transforming artifacts into vivid illustrations that depict their historical use through the Midjourney platform. GenAI also facilitates real-time

[3] European Heritage Alliance, *Cultural Heritage: A Powerful Catalyst for the Future of Europe* (May 2020), accessed: November 1, 2024, https://pro.europeana.eu/post/europe-day-manifesto-cultural-heritage-a-powerful-catalyst-for-the-future-of-europe).

translation, breaking down language barriers by providing multilingual audio guides and interactive experiences that enable international visitors to explore exhibits in their native languages, thus fostering inclusivity. Internally, Google Gemini's predictive analytics assist museums in managing visitor flow, optimizing exhibit arrangements, and forecasting maintenance needs. In addition to enhancing the services and content that museums can offer visitors, a key factor advocating for AI integration in museums is the potential for cost savings, improved efficiency, and speed of services. For example, Midjourney's automated illustration generation drastically reduces expenses associated with hiring multiple illustrators, as well as the time required for production.

However, as institutions inherently committed to critical reflection on contemporary issues, museums must also consider the broader costs and problems involved in integrating GenAI technologies, such as the significant environmental, cultural, and labor impact these technologies entail. This responsibility places museums at a critical juncture. While AI technologies may appear essential for maintaining contemporary relevance in an increasingly high-tech world, a fundamental question arises: what does it truly mean for a museum to be relevant in the digital realm, and what role should it adopt? Is it simply a matter of leading the integration of new technological advancements, or does this call for a distinct approach?

In response to these challenges, I have advocated for the development of a *techno-critical museology*, grounded in the belief that the museum's relationship with technology should not be complacent, passive, uncritical, or overly enthusiastic.[4] Instead, it must be deeply and radically critical. Avoiding the unreflective adoption of technology is crucial, as such an approach often leads to unconscious legitimation of underlying narratives. The use of specific systems, platforms, or technologies subtly aligns institutions with their embedded discourses, worldviews, and policies, potentially resulting in unintended support for dynamics that these same museums and art centers aim to critique in their own narratives and practices.

Therefore, it is the responsibility of museums and art centers to transform processes of technomediation and cultural hyper-technification into spaces for critical dialogue and action. Techno-critical museology and museography are grounded in a full awareness of the museum's technomediated nature, recognizing its role as a techno-human assemblage

[4] Nuria Rodríguez Ortega, "Prácticas expositivas, museos e interfaz tecnocrítica", *Journal of Spanish Cultural Studies* 24, n. 1 (2023): 9-31 and Nuria Rodríguez Ortega, "De las prácticas expositivas tecnomediadas: una propuesta de museología tecnocrítica y de museografía como topología", in *Museografías y catalografías imposibles*, eds. Nuria Rodríguez Ortega and Teresa Sauret Guerrero (Gijón: Trea, 2023), 383-422.

and affirming its agency within this framework. In doing so, techno-critical museology questions the theoretical apparatus and practical methodologies necessary in a hyper-technified cultural context, aiming to redefine the museum's critical role from within its technomediated condition. This approach encourages museums to engage in profound reflection on their roles within an ever-evolving digital landscape, promoting active, conscientious critique that translates into meaningful, context-aware actions.

The responsibility of museums within a techno-critical museology framework also involves bridging the gap between the humanities, culture, and scientific-technological development, ensuring that culture does not become a mere field for technological application, experimentation, or expansion. Museums should engage in critical debate, revealing and proposing alternative theoretical frameworks and practices. To achieve this, it is necessary to delve into the new paradigm of a society and culture shaped by GenAI. Ultimately, the relevant debate is not, as some suggest, whether AI will eradicate humanity or whether superhuman intelligences will emerge—these discussions, in my view, are distractions that divert attention from what is genuinely significant, though perhaps harder to discern.

Foundations of a Conflict. From Generative AI (GenIA) to Generative Culture

To understand the conflict between generative culture and the discourse on sustainability, we must first clarify what it is meant by *generative culture*. In this regard, what I propose is a subtle yet significant shift in focus: rather than centering the discussion on AI as a technological object—which is the usual focal point in critical AI debates (e.g., what AI systems are or are not able to do, or what they should or should not do)— I suggest broadening the scope to the concept of generative culture. In this essay, generative culture refers to the cultural order that emerges from the widespread diffusion, popularization, and mass adoption of GenAI models—a phenomenon that began with OpenAI’s 2022 release of its commercialized systems, ChatGPT and DALL-E, which have significantly impacted all spheres of life (political, social, economic, educational, etc.) and are reshaping how we engage with and understand cultural creation and production.

Without a doubt, GenAI represents one of the most transformative developments in recent centuries, whose impact will become increasingly evident over time. Although we are still in the early phases of this process —making it difficult to fully grasp its magnitude at this point— signs of its influence are already visible in numerous domains. The development and use of GenAI entail the automation and optimization—in terms of time and efficiency—of cognitive and creative processes that, until recently, were considered inextricable from human capabilities. Its broad adoption in specific economic, industrial, creative, and productive sectors is bringing substantial impacts, such as alterations in labor patterns, redefinition of job roles, restructuring of creative industries, reassessment of intellectual property laws, development of new educational methods, creation of new policies and regulatory frameworks to govern AI use responsibly, and increasing economic disparity through new logics of concentration and digital divides, among other transformations. Additionally, it is fostering renewed discussion and redefinition of fundamental concepts in Western culture, such as creativity, originality, authenticity, authorship, and ownership.

The notion of generative culture refers not only to the labor, social, political, legal, or economic transformations it is effectively driving, but also to the practices, conceptions, and imaginaries that form around these technological systems and the way we relate to them. Indeed, from my perspective, one of the critical issues that demands immediate attention is the characterization of this emerging generative culture as a new cultural model. Undertaking this characterization is crucial because, as technologies transition from being disruptive to becoming naturalized within our way of life —as is happening with GenAI models—two significant phenomena occur: first, we tend to lose our critical perspective on these technologies simply due to their naturalization. They become so ingrained that we no longer realize they are there, subtly influencing what we do and what we think. Second, the inherent political, social, cultural, and economic complexities of these technologies often become simplified through processes of trivialization and banalization. As previously noted, museums, as fundamentally critical institutions, cannot overlook this analysis, given their shared responsibility in the dissemination, naturalization, and subsequent legitimization of generative technologies when integrating them into their museological and museographic practices, as well as exhibition programs and policies.

Addressing this characterization requires exploring a wide range of facets and dimensions —an ambitious task that exceeds the scope and intention of this essay. It could be argued, however, that generative culture is, in essence, a culture governed by the generative logics underpinning GenAI models. Consequently, it could be said that the central factor in understanding this (new) cultural paradigm lies in grasping the concept of the generative that underpins AI systems. In fact, as I will argue in the following sections, this underlying concept of the generative lies at the heart of the conflict with the sustainability discourse.

Sustainability and GenIA

The development and use of GenAI technologies represent one of the greatest threats to achieving the SDGs (Sustainable Development Goals) and the objectives of the 2030 Agenda. Their environmental impact, for example, is incontestable. Various studies have demonstrated that the computational power required to train and operate these models demands substantial amounts of energy and water resources, results in significant CO_2 emissions into the atmosphere, requires the extraction of large quantities of raw materials, and necessitates vast areas of land for infrastructure deployment.[5] In the field of GenAI, there is a clear awareness of these challenges. Strategies to mitigate this impact have become a robust and expanding area of study, supported by a substantial body of techno-scientific research and scholarly literature. It is important to note, however, that nearly all these strategies focus on optimizing technological factors. For instance, proposed solutions include promoting renewable energy use, improving computing resource management, developing more energy-efficient hardware and algorithms, and creating innovative cooling methods.

Nonetheless, it is essential to recognize that sustainability in the context of AI is neither a purely technological issue nor solely an environmental problem. First, the concept of sustainability extends beyond environmental impact, which typically dominates discussions on AI's sustainability challenges. As the SDGs rightly emphasize, sustainability encompasses multiple dimensions, including social and cultural aspects—although the cultural dimension is not explicitly addressed in the SDGs. Integrating cultural and social sustainability into the conversation on GenAI's impact requires considering questions, issues, and parameters distinct from those usually associated with environmental sustainability, as will be discussed throughout this essay.

[5] AI Index Steering Committee, *The AI Index 2023 Annual Report* (Institute for Human-Centered AI: Stanford University, 2023); "Measuring the Environmental Impacts of Artificial Intelligence Compute and Applications. The AI Footprint*", OCED Digital Economy Papers* 341 (November 2022); Anne-Laure Ligozat et al., "Unraveling the Hidden Environmental Impacts of AI Solutions for Environment", *arXiv:2100.11822.v2* (2022); Junhao Zhong et al., "The Impact of AI on Carbon Emissions: Evidence from 66 Countries", *Applied Economics* 56, n. 25 (2023): 2975-2989.

Second, the sustainability problem cannot be considered merely as a technological issue that can be resolved through technological solutions alone. It also concerns the social, economic, and cultural logics and dynamics embedded in the use of these systems, which are deeply imbricated in the notion of the generative underlying these technologies. How we conceptualize what "generative" means influences interaction with AI systems, and this very interaction is a crucial factor amplifying GenAI's sustainability impact, as will be explored in the following sections. Consequently, the sustainability issue cannot be limited to developing technological solutions to reduce energy consumption or CO_2 emissions, as is often the case. Instead, it also requires deeper understanding of how users interact with these technologies and reflection on how those interactions might be rethought.

Generative Logic

The concept of the generative has been widely discussed and theorized over time.[6] However, GenAI technologies confront us with a distinctly unprecedented scenario. To understand this new context, the concept of the generative must be approached from two perspectives. On the one hand, it should be considered in relation to the material and technological transformations introduced by GenAI technologies. On the other hand, it must be examined with regard to the imaginaries being constructed around these technologies.

Material and Technological Transformations: A Continuous State of Creation/Production

The implementation and dissemination of GenAI systems are driving specific technological and material transformations that affects how we understand and interact with cultural objects and content. Numerous implications could be drawn from these transformations, but for the purposes of this essay, I will focus of one of the most significant, albeit subtle, changes—namely, that GenAI has transformed the act of accessing, retrieving, consuming, or reusing cultural content (or information in general) into an act of creation and production in itself. For example, performing a traditional search on Google involves consuming or retrieving information or cultural content that

[6] Álvaro Benito-Ballesteros and Iria de la Osa Subtil, "La generatividad a través de la cultura. Una revisión sistemática", *Tendencias sociales. Revista de Sociología*, n. 5(2020): 63-79.

already exists, whereas interacting with ChatGPT to obtain similar information is, fundamentally, an act of creating and producing content that did not previously exist. Similarly, downloading an image from a stock platform to illustrate a paper (as a case in point) involves accessing and reusing pre-existing cultural content. However, using DALL-E to generate an image for the same purpose constitutes an act of creating and producing something entirely new.

As a result, we are confronted with a scenario in which the actions of cultural consumption and production/creation merge into a single act. Consequently, the generative culture shaped by AI can initially be defined as a culture in a continuous state of creation and production. In other words, it is a culture constantly engaged in a process of content creation and production, often without full awareness of this ongoing activity.

In this new context, it is also crucial to consider the automation inherent in AI technologies and—equally important—the delegation of what is often regarded as the most challenging part of any creative process: the conceptualization of initial ideas, sketching, and so forth. As studies indicate, this is currently the primary use of GenAI systems.[7] Both factors have the potential to drastically accelerate production and creation rates by optimizing time, which, in turn, exponentially increases the volume of cultural content produced (in the form of images, texts, videos, etc.). This reduction in the time required for creative and production processes has been used as an argument to dispute the notion that GenAI leads to an exponential increase in energy consumption.[8] As has been suggested, if the time required for creating and producing texts, images, videos, etc. is optimized, this reduction could also imply a decrease in energy consumption since less time would be spent using computers to produce these outputs compared with "traditional" methods. However, it remains to be seen whether time reduction in creation and production will indeed function in this way or, rather, become a catalyst for further increasing the volume of production. In fact, according to capitalist logic —to which I will return later— time optimization is always a tool for increasing production.

Therefore, from this perspective, the concept of the generative, as shaped by the capabilities of GenAI technologies, is intrinsically tied to the exponential growth and

[7] Christian Perry, "AI in the Workplace: The Best Use Cases, Benefits, and More!", *Undetectable IA Blog* (May 10, 2024) https://undetectable.ai/blog/ai-in-the-workplace/ (Accessed: November 1, 2024).
[8] Bill Tomlinson et al., "The carbon emissions of writing and illustrating are lower for AI than for humans", *Nature Scientific Report* 14, n. 3732 (2024).

acceleration of creation and production processes. The most evident consequence of this dynamic is an inevitable cultural overproduction.

In a certain sense, we might say that this situation of overproduction is not new. Indeed, the so-called digital culture has long been characterized by the massive presence of content and information on the Internet—not to mention data. However, the differences are significant. In the era of mass Internet content, overproduction was primarily driven by human-generated material—blogs, social media posts, videos, and other user-generated content. This form of production, while vast, was limited by human time, attention, subjectivity, and experiential context, thus retaining a certain degree of diversity and individuality in content creation. In contrast, GenAI enables content to be produced at an unprecedented speed and scale with minimal human intervention. This allows for the continuous, automated generation of large volumes of text, images, and other media that are tailored to specific parameters, but without the inherent limitations of human creators. This dynamic intensifies content saturation, as GenAI is not bound by the constraints of human labor and can operate on a 24/7 basis, potentially outpacing demand and overwhelming traditional consumption capacities. Consequently, GenAI overproduction shifts the paradigm from a diverse, human-centered content landscape to a vast, algorithm-driven environment.

Narratives and Metaphors: Imagination as Creative and Productive Force

In addition to the aforementioned material and technological transformations, the narratives, metaphors, and fictions used in conceptualizing GenAI must also be considered. As noted earlier, these narratives and metaphors are fundamental to understanding how society conceives of and interacts with these systems. As Víctor del Río argues in his essay *La pieza huérfana,*[9] technology emerges not only from scientific-technical research but also from a particular form of anthropological fiction and narrative construction. Similarly, as Sheila Jasanoff and Sang-Huyn Kin contend, sociotechnical imaginaries are crucial for understanding how societies negotiate technological innovation and its implications.[10]

In this regard, it can be observed that a key narrative underpinning the understanding of GenAI is rooted in a set of metaphors related to the capacity to create,

[9] Víctor del Río, *La pieza huérfana. Relatos de la paleotecnología* (Bilbao: Consonni, 2015), 24-30.
[10] Sheila Jasanoff and Sang-Huyn Kin, *Dreamscapes of Modernity. Sociotechnical Imaginaries and the Fabrication of Power* (Chicago: University of Chicago Press, 2015).

materialize, and bring new realities into existence. The concept of imagination frequently features in these narratives, understood as a creative force capable of inventing infinite new possibilities. Imagination is often intertwined with notions of dreams and the oneiric, further emphasizing the potential of GenAI to bring forth new realities, give material form, and shape worlds of limitless possibilities.

These metaphors, which associate GenAI with imagination, creation, and dreamlike qualities, appear in the field of artistic and literary practices. It is no coincidence that one of the most significant approaches to AI in these fields has been precisely the exploration of the poetics of the oneiric and the fantastic in their multiple forms. Such metaphors also surface in scientific and technical descriptions of AI, where vocabulary from the realm of imagination has become technical terminology.[11]

Furthermore, these metaphors are present in the popular understanding of AI — which is particularly relevant to the argument of this essay—, insofar as they subtly permeate and shape the collective imagination, often unnoticed. Yet, they play a critical role in shaping our shared perceptions of AI. While some of the examples mentioned below may seem prosaic, it is precisely their very prosaic character that underscores their importance in informing collective understanding of GenAI models.

Consider, for instance, Google's image-generating algorithm, named DeepDream,[12] which produces fantastical and hallucinatory images with a clear oneiric quality. Similarly, the name DALL-E, derived from the surnames of surrealist artist Salvador Dalí and the fictional robot Wall-E, evokes the boundless creativity and imagination associated with the former. It is hardly surprising that the names of the commands used on platforms such as MidJourney and DreamStudio (once again invoking the concept of dreaming) are “imagine” and “dream” (fig. 2).

[11] For instance, in advanced AI research, the term *Imagination-Augmented Agents* refers to AI systems that can anticipate or simulate outcomes before executing an action. These agents simulate possible futures (i.e., they “imagine” different scenarios) in order to make more informed decisions. In natural language processing (NLP) models, the term *hallucination* is used to describe when an AI model generates information that has no basis in actual data. Although a technical term, “hallucination” is clearly a metaphor related to uncontrolled imagination, evoking the idea that AI can falsely create new realities in a way similar to how a human might imagine unrealistic or distorted scenarios.

[12] DeepDreams is the Google’s generative algorithm that produces fantastic and hallucinatory images by focusing the attention on intermediate stages of computational processing.

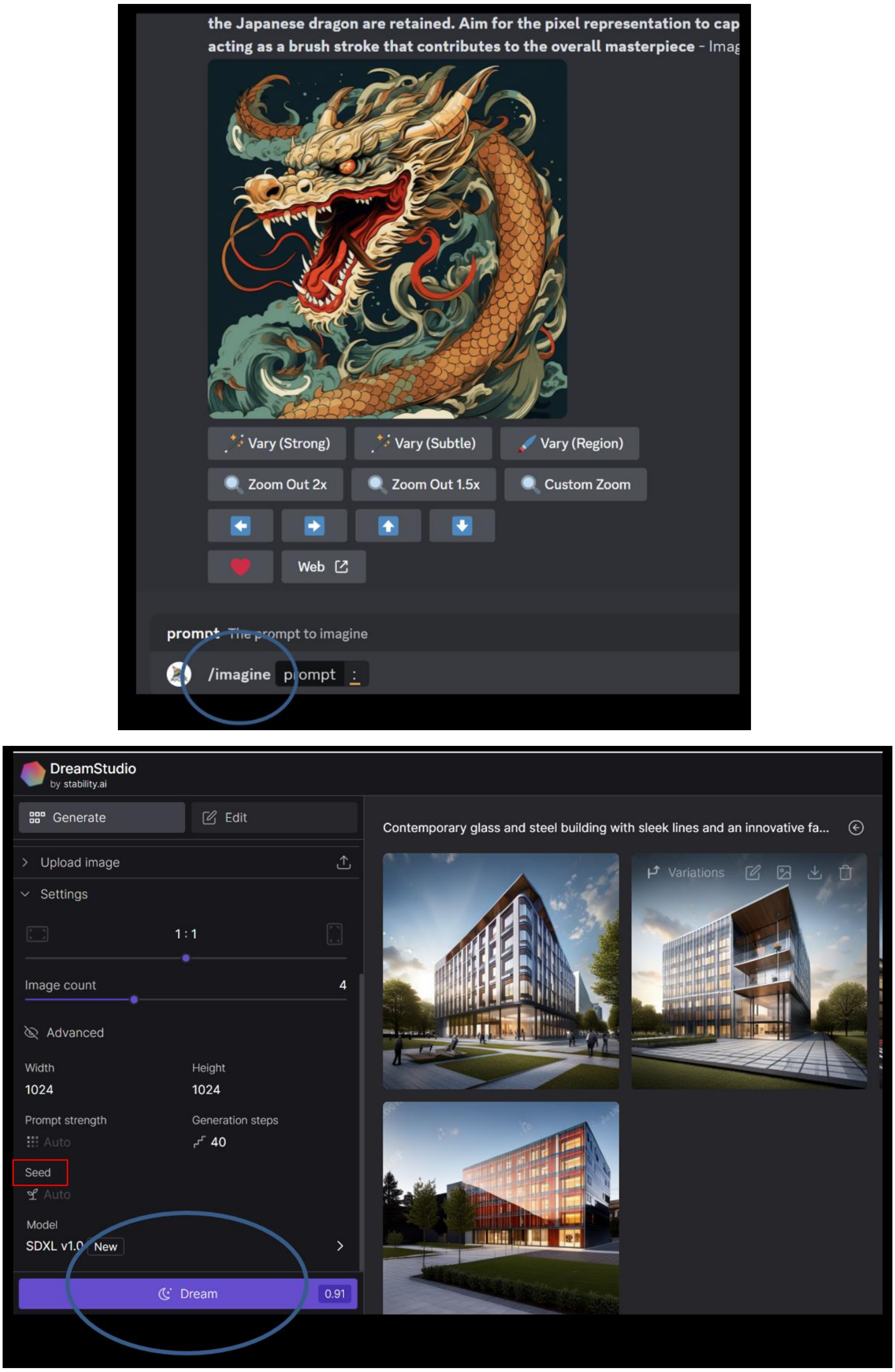

Fig. 2 MidJourney's and DreamStudio's interfaces (screenshot)

In other words, when we interact with these image-generation platforms, we are not merely instructing them to execute a command (the so-called "prompt"); rather, we are asking them to "imagine" or "dream". Additionally, the term *seed*, used to designate a specific function within the generative process—a concept to which I will return later—metaphorically evokes the act of planting something to germinate and grow.

Within this metaphorical framework, the generative dimension of AI is conceptualized as a creative force, understood as the capacity to conceive and invent new ideas and visions, and as a productive force, since this capacity extends beyond the realm of ideas to encompass the production of new realities that actually exist in the form of images, texts, videos, and 3D artifacts—that is, material entities that populate our world. Moreover, this unfolds within a framework of action presumed to be open to an infinite range of possibilities: for content creation and the production of new materialities.

This emphasis on the creative and imaginative capacities of GenAI leads, first and foremost, to a reinforcement of the anthropomorphic paradigm, which is the fundamental fiction underlying the idea and cultural representations of AI. This circumstance raises profound intellectual challenges, ranging from traditional debates on authorship, creativity, and originality—topics that persistently appear in the fields of aesthetics and art theory— to questions regarding the nature and distinctiveness of computational creativity and IA-driven imagination as compared to human capacities. Beyond this debate, however, I argue that the focus on creative and productive capacities as a central principle for understanding GenAI, along with the technological and material transformations brought about by AI technologies, exacerbates the problem of cultural overproduction.

Capitalist Logic

To fully understand the concept of the generative as associated with AI, another crucial factor must be considered: the capitalist logic. As previously mentioned, automation, which is intrinsic to AI, drastically accelerates creative processes while simultaneously reducing time and costs. Consequently, this dynamic of creative production associated with GenAI is inextricably tied to a logic of optimizing both time and profit. Indeed, one of the primary slogans promoted by GenAI corporations is the promise of producing more in less time and with less effort.

As a direct result, the conceptualization of the generative dimension of IA subtly shifts from the ideal of fostering the creative imagination of new possibilities to a logic centered on productivity, efficiency, and optimization. In essence, a new iteration of liberal capitalism that, by its very nature, further reinforces the logic of overproduction. The capitalist narrative aligns perfectly with this context: the more products are created and produced, the greater the potential for profit; for example, through monetization via e-commerce platforms, which have become one of the fastest-growing business models today. This portrayal encourages users and industries to continually exploit these tools to produce an endless flow of content.

In many sectors, including museums, GenAI tools are used to enhance engagement through targeted, personalized content. Social media platforms and streaming services, for instance, use GenAI to continuously produce new content tailored to individual preferences. This encourages users to consume more, thereby fostering a system in which content is continuously generated to meet and create new desires. This endless content production not only reflects but amplifies the generative culture, positioning imagination as a tool for consumer retention rather than meaningful creation.

While optimizing time and production costs may generate more wealth, it is essential to consider where value truly lies within this new paradigm and how it is distributed. In this regard, it is important to note that generative models operate within what are known as *latent spaces*. While the concept of *latent space* is mathematically complex, it can be informally described as a structure of encoded patterns extracted by algorithms from the vast amounts of cultural production on which they have been trained. These structures of encoded patterns are explored by GenAI algorithms during generative processes, so that generated outputs emerge from these structures. Thus, each output — whether in the form of images, texts or videos —can be considered a concrete manifestation of the multiple possibilities embedded within latent spaces.

To properly understand the new scenario, it is crucial to acknowledge that it is precisely these latent spaces of encoded patterns that are monetized and commodified by major AI companies. This situation represents a shift in the notion of economic and cultural value: value no longer resides solely in the cultural product itself (for example, the final image that appears on our screens), but is now located within the encoded patterns, as the generated image or text is merely one of thousands that can be produced in milliseconds. This is, in fact, what typically happens. When interacting with these systems, we are not merely requesting a single image or text, but rather multiple variations from which to select those that best align with our expectations or needs. Indeed, the production of variations is the fundamental logic of these generative models, which operate on a probabilistic principle. The system generates sets of images or texts with the highest probability of aligning with the specified requirements (fig. 3).

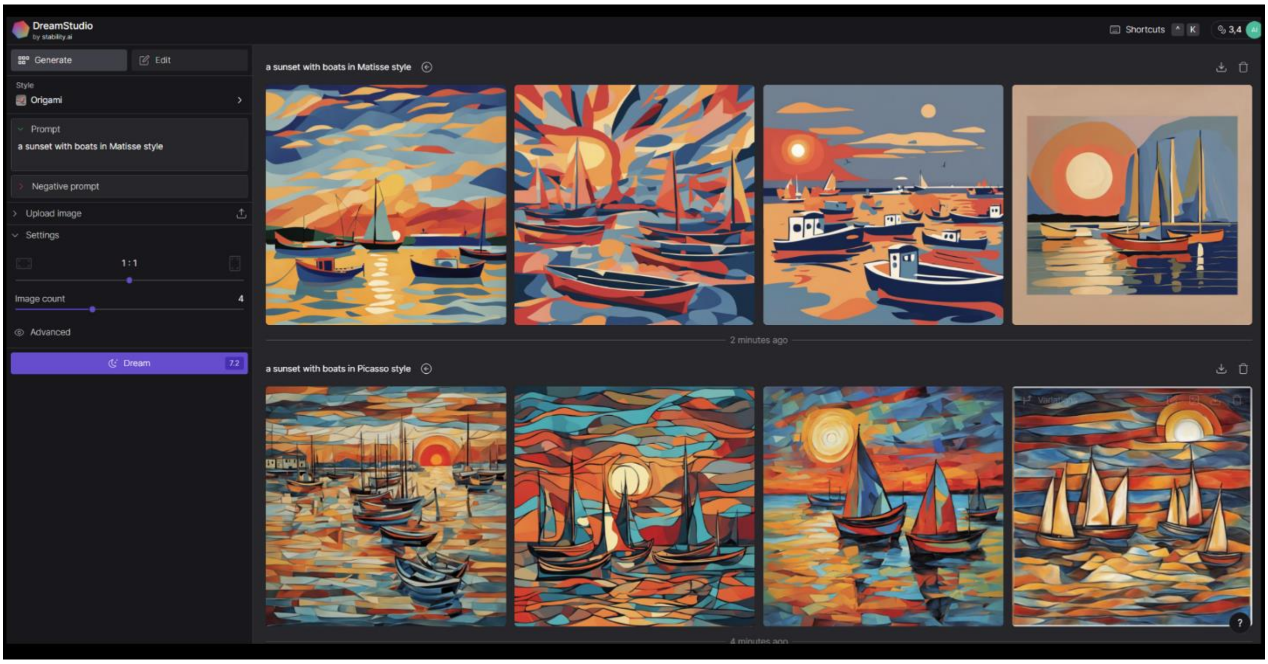

Fig. 3 Image variations generated with DreamStudio using the prompts "A sunset with boats in Matisse style" and "A sunset with boats in Picasso style".

This scenario strongly recalls the generative aesthetics of the 1960s, when artistic value resided in the set of rules and processes that enabled the production of multiple possible combinations. However, in the AI-driven generative culture, these patterns embedded in latent spaces —which represent a realm of potential outputs— become commodities themselves. Therefore, it could be argued that we are witnessing a process of commodification of cultural possibilities. This shift once again aligns with capitalist principles: the more cultural "possibilities" are realized or materialized, the greater the opportunities for profit. For instance, more *tokens*[13] must be purchased by users to generate more outputs, which in turn allows them to derive more benefit from their multiple products. This results in an overproductive and consumptive cycle from which there is no escape.

Moreover, this cycle also generates a considerable amount of digital cultural "waste", as thousands of image or text variations are generated and discarded, almost without effort, in the pursuit of the ideal output, contributing to overproduction as even intermediate, unused outputs circulate. In other cases, the capacity of AI models to

[13] In the context of generative AI platforms, tokens are often used as a form of currency that users exchange for access to the AI's computational resources. On platforms like OpenAI's GPT-3 or DALL-E, users purchase or are allocated a certain number of tokens, which are consumed during interactions with the AI model. Each token represents a unit of computational processing, typically tied to the amount of text or data being processed. Users can purchase additional tokens to continue generating outputs, thus making tokens a currency that regulates access to the AI's capabilities.

generate countless variations of a single theme can fuel a demand for constant novelty, even when no real need exists. As GenAI lowers production costs, content creators and industries in fields such as graphic design, literature, and music can increasingly turn to GenAI tools for mass production, making high-volume content creation standard practice. This normalization reinforces the idea that cultural production should be abundant and inexpensive, fostering a culture of disposability and rapid consumption where content is produced and discarded at unprecedented rates. Similarly, when creation becomes a near-instantaneous act with minimal constraints and low cost, it leads to a culture of artifacts often lacking consideration for long-term value. All these potential derivatives of the creative process illustrate a profound shift in how cultural value is perceived and exploited within AI-driven generative culture, while simultaneously highlighting the inherent problem with the notion of *unlimited possibilities*.

Creative Process: Possibilities (vs) Probabilities

Given that we are addressing a cultural overproduction rooted in creative processes based on the materialization of theoretically infinite possibilities embedded within latent spaces, it is essential to clarify the type of creative process and the nature of possibilities at play. In this regard, it is important to note that GenAI models —as previously mentioned—operate on probabilistic-predictive logics. For instance, when ChatGPT generates text, it calculates the probabilities that one word follows another coherently, according to the learned patterns. Similarly, when DALL-E generates an image, it calculates the probability that a linguistic expression (the prompt) corresponds most closely with a visual representation. Consequently, latent spaces—the structures explored by AI algorithms— should not be conceived as spaces of genuine possibility—understanding possibility as that which is open to unpredictability and indeterminacy, from which something radically new can emerge[14]— but rather as what they truly are: spaces of probability.

The concept of the *seed*, mentioned earlier, illustrates how the idea of open possibility is narrowed down to a set of probabilities. While the word *seed* evokes the unpredictability of life, in computation, the seed is a mechanism designed precisely to control unpredictability. In diffusion models, a seed is a numerical value that ensures the system will consistently generate the same image (with slight variations) from the same

[14] I understand the concept of the “possible” as aligned with the Deleuzian concepts of the *virtual* and *becoming* in *Logique du sens* (Paris: Éditions de Minuit, 1969).

prompt (fig. 4). One might argue that, like a biological seed containing genetic information (DNA), the computational seed ensures the reproduction of a certain type of output (e.g., planting rose seeds yields roses). However, in biological life, germination involves the differentiation of unique and distinct individuals.

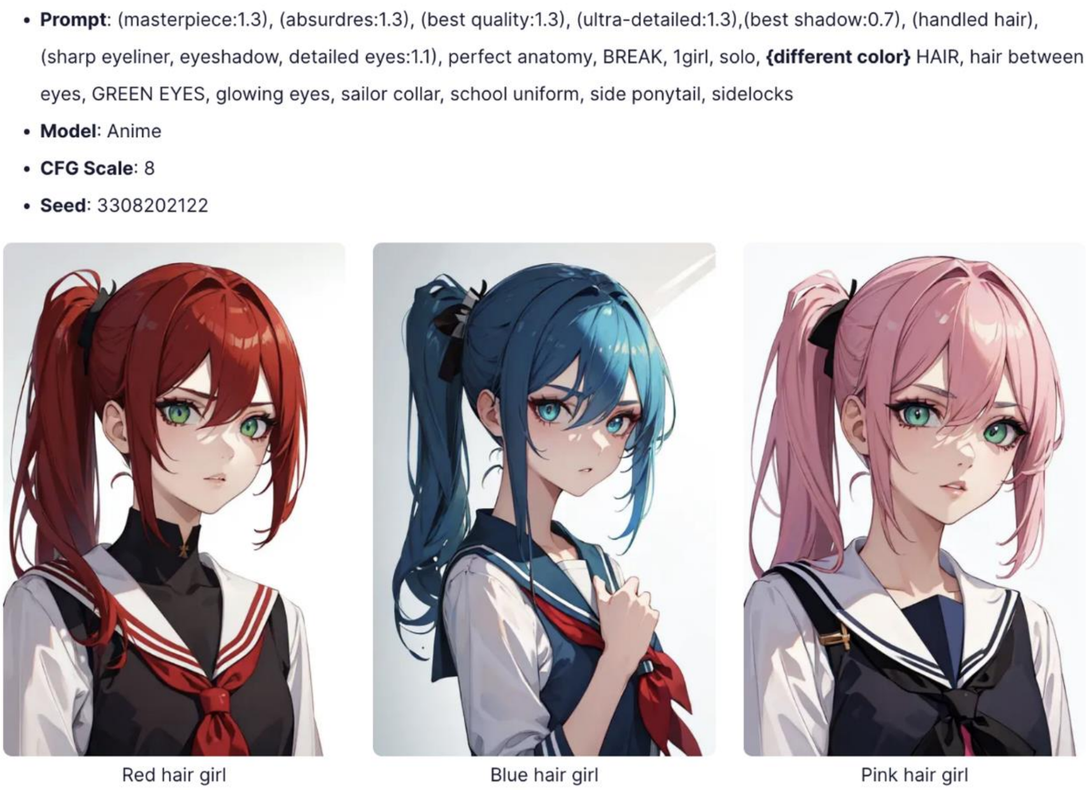

Fig. 4 Method for generating images using different prompts and the same seed. Source: Anime Genius, *Three Best Ways to Use Stable Diffusion Seed*. https://animegenius.live3d.io/tutorial/parameter/three-best-ways-to-use-stable-diffusion-seed

Moreover, the logic of GenAI models—like AI technologies in general—is based on identifying similarities (through pattern detection and extraction, encoding of commonalities, alignment of similar cultural content) rather than fostering differentiation. Therefore, the outputs generated by these models may appear novel and distinct, yet they are, in fact, variations of the same: they are produced through processes of identifying similarities within a controlled space of probabilities rather than through differentiation within a genuine field of possibilities open to radical newness. Thus, when I refer to "variations of the same", I do not mean superficial resemblance or mere "visual similarity". Instead, I mean that the generated outputs are the result of constrained probabilistic processes. Consequently, the seed metaphor ultimately represents an appropriation of the metaphor of life to denote a process that domesticates the inherent indeterminacy of life.

Within this context, the prevailing metaphor associated with GenAI that invokes the creation of new realities and the actualization of new possibilities turns into a vision reminiscent of a mass-production factory of serialized goods. Thus, the generative culture shaped by AI introduces an additional layer to the cultural commodification and productive appropriation of imagination—a process initiated years ago by cognitive and cultural capitalism, which transmuted imagination into the driving force of a content production factory.

Addressing Two Pressing Questions

The scenario described clearly conflicts with sustainability objectives. The overproduction dynamic inherent to generative culture may lead to various forms of collapse—ecological, cultural, and imaginative—that directly impact sustainability. Thus, an era defined by unlimited possibilities could paradoxically become one devoid of possibilities for the future.

As previously discussed, environmental sustainability is challenged by the high levels of energy and resources consumed to sustain this overproduction logic. In terms of cultural sustainability, it is worth recalling that this concept refers to a community's or society's capacity to enhance and enrich its cultural practices and values while preserving its identity and heritage over time. Cultural sustainability, then, promotes balanced development that respects cultural diversity and contributes to human well-being. Social sustainability, on the other hand, aims to foster inclusive, equitable, and connected communities where everyone has access to resources, opportunities, and benefits. Therefore, social sustainability emphasizes the importance of human rights, labor rights, and social justice.

In this context, significant issues are at stake when we consider that GenAI-driven overproduction leads to a rapid and homogeneous flood of content, with AI systems capable of generating repetitive or derivative material at exponential rates. Furthermore, this type of AI-driven overproduction often lacks the intentionality and context that characterized earlier digital content production, wherein creators were individuals or collectives with specific voices, experiences, or purposes. There is, therefore, a clear risk of cultural saturation, a tendency toward distracted and superficial engagement with significant cultural works, and processes of homogenization that may potentially dilute cultural diversity and unique individual expressions—since the same models are being widely used in creative processes. Authenticity is also at risk as AI mimics cultural styles and elements without fully understanding their meaning or context, leading to a devaluation of content quality and cultural relevance. Further issues concern the precarious labor conditions that make these models possible, as well as the logics of accumulation and dispossession on which they are based, given that the effectiveness of these models relies on training with billions of cultural productions, whose authors have yet to receive any compensation. Such a scenario bears little relation to the goals of sustainability.

In light of this situation, two pressing questions arise: first, the need to investigate how the accelerated logic of overproduction, operating within a probabilistic creative framework based on variations of the same, can be transformed into a new logic aligned with sustainability criteria. Second, the need to re-appropriate imagination as a poietic, critical, and emancipatory force. These two questions are interconnected since —as will be discussed in the next section— a poietic and critical imagination could serve as a pivotal mechanism for rethinking the overproduction logic associated with AI-driven generative culture.

The crucial question, then, is to find an equilibrium that ensures generative culture embraces social, cultural, and environmental sustainability. Addressing this challenge requires not only considering ongoing research aimed at reducing the environmental impact of generative models through more efficient algorithms and hardware, but also articulating alternative ways of understanding what it means to be part of a generative culture. As discussed earlier, the sustainability problem lies not only in the significant energy and resource consumption required to train and operate these models but also in the overproduction dynamics that shape the use of these systems. Thus, while designing and developing more efficient algorithms is critical, it will be insufficient if these dynamics are not rearticulated. As previously noted, the problem of sustainability in the context of GenAI is not solely a technological issue; it also pertains to how we conceive of and interact with AI systems. Therefore, it is essential to rewrite the narratives and reshape our sociotechnical imaginaries to model alternative modes of interaction with GenAI. In this regard, Simondon's theory of individuation becomes particularly relevant.

Gilbert Simondon's Lens. Individuation theory as framework

Reconsidering the narratives underlying GenAI models requires repositioning the concept of the generative at the center of the discussion. In this context, it is often illuminating to explore the etymological roots of the words we use in order to identify the meanings that may have been lost over time. The term *generative* has its etymological roots in the Latin *generatum*, the supine form of *generare*, which means "to engender", implying the birth of unique, distinct, and differentiated entities. It is this meaning that has, to some extent, been diluted in the dominant creative and productive logics associated with generative AI technologies.

To recapture this meaning, my approach to the concept of the generative draws on Gilbert Simondon's theory of individuation, which has long been recognized as a key theoretical framework for understanding, explaining, and reinterpreting our hyper-technified society.[15] The argument put forth is that Gilbert Simondon's theory of individuation—in dialogue with other philosophers— offers a compelling perspective for reevaluating the underpinnings of generative logic, as defined in the preceding discussion.

Simondon's theory of individuation is an ontogenetic that explains the emergence or generation of new realities. According to Simondon, individuation occurs when a potential field of forces—referred to in Simondonian terms as the *metastable system*, defined as a system in tension and precarious equilibrium, or alternatively, *the pre-individual*, a field of potentialities not yet completely constituted or fixed—is disrupted due to internal tensions or contradictions. This disruption yields a new structural and energetic configuration through transductive processes, which propagate these changes across the different dimensions of existence (physical, biological, psychological, social). An illustrative example of this process is the generation of light from a continuous electric circuit when a lamp is switched on. Upon activation of the lamp, part of the potential energy available in the electric circuit is discharged into the bulb, which subsequently transforms a portion of the energy into visible light. It is this process of transforming electricity into luminosity that allows us to move from a dark space to an illuminated environment.

[15] Gilbert Simondon, *Du mode d'existence des objets techniques* (Méot, 1958; second ed. Paris: Aubier, 1989; Spanish edition, Buenos Aires: Prometeo Libros, 2007). Gilbert Simondon, *L'individuation à la lumière des notions de forme et d'information* (Paris, Aubier, 1989; reprinted in 2007 with a preface by Bernard Stiegler, Spanish edition, Buenos Aires: La Cebra/Cactus, 2014).

Thus, from Simondon's perspective, what is truly generative is not merely the production/generation/emergence of something, but the modification of the conditions of reality and the transformation of existence into a new order of things through processes of differentiation that actualize a field of potentialities in new materialities or realities. Returning to our example, the generative process would not be simply the production of light but the transformation of electricity into luminosity and the consequent modification of our living conditions.

Moreover, Simondon’s theory conceptualizes the individuation process as an interplay between different orders of scale. This means that individuation occurs within a process where heterogeneous systems and elements of varying scales are brought into relation through a transductive process—a process that enables the continuous integration of the physical, biological, psychic, collective, and machinic realms. To illustrate, consider an AI system for a museum. The initial configuration comprises separate elements, such as the AI architecture, algorithms, learning techniques, training data extracted from the museum collection, AI engineers, curators, computational resources, sensors, and so forth. Through integration and continuous interaction, these elements undergo a process of individuation, resulting in a dynamic AI system that integrates technological infrastructure, AI technologies, management practices, regulatory policies, user interactions, sensor-driven objects, and flows of information, among others. As the system operates, it adapts to the needs and behaviors of the users, curators, institutions, object collections, technology providers, and other actors, evolving over time.

Consequently, individuation is not an isolated or autonomous event; in our case, it is not simply something that happens within generative models when they operate and produce an output. Rather, it is the activation of a complex system of interrelations that involves and intertwines all dimensions, including the human. It is evident that some fundamental ideas posed by contemporary neomaterialists resonate with this concept. From Deleuze and Guattari’s and Manuel de Landa's notion of the assemblage to Karen Barad’s or Katherine Hayles’ concepts of entanglement, these theories trace their early formulations back to Simondon’s work.

Intellectual Tools for Reframing Generative Logic

Simondon’s theory of individuation provides a compelling framework for rethinking the AI-driven generative logic discussed in the preceding pages. In what follows, I will focus on three key dimensions that I consider most significant for this analysis.

First, this perspective encourages perceiving the generative process not merely as an endless cycle of production, or solely as the generation of outputs, but as a transformative process that impacts reality and living conditions. This perspective also allows us to conceptualize GenAI as a transducer, wherein the generative process becomes a dynamic force that fosters the creative reinvention of positive alternative ways of life. This understanding compels us to reframe the fundamental question: rather than asking, "What can we produce or generate?", we should ask, "What kind of meaningful living conditions are we enabling through AI?"

In this re-imagined context, imagination can be reinvigorated as a creative and emancipatory force, as demonstrated by Metelmann-Welzer's concept of *imagineering* or *transformational poetology*.[16] It is crucial to recognize that imagination is not merely an internal mental activity but has the potential to shape and influence reality. This prompts a critical question: how do we want imagination to impact and interact with society at large?

In this regard, Spanish philosopher Marina Garcés emphasizes the necessity of cultivating a critical imagination, which she defines as the capacity to establish boundaries and limitations.[17] For Garcés, *imagination* does not imply unrestricted creation; rather, it involves grappling with contradictions—such as the tension between generativity and sustainability— and negotiating our relationship with such limits. Thus, in response to the boundless potential of GenAI, critical imagination urges advocacy for a culture of limits.

Fostering a critical imagination, rather than an imagination without boundaries, shifts the focus of inquiry. Instead of contemplating the seemingly limitless possibilities of creation and production that GenAI enables, we should interrogate the boundaries of these possibilities. From this perspective, the cultural possibilities encoded and commodified in latent spaces are no longer perceived as infinite opportunities for generating outputs; rather, they become a critical threshold for deciding freely and

[16] Jörg Metelmann und Harald Welzer, *Imagineering. Wie Zukunft gemacht wird* (Frankfurt/Maine: FischerTaschenbuch, 2020). The concept of *imagineering* as proposed by Metelmann and Welzer refers to the integration of imagination and practical implementation to create transformative change. Originally popularized by Walt Disney, the term *Imagineering* is redefined by Metelmann and Welzer as a process not just for fulfilling personal dreams but as a strategy for societal reinvention. It involves a multidimensional transformation framework that engages the mind (concepts, images, narratives), the hands (practices, routines, everyday actions), and the heart (attitudes, values), aimed at achieving a sustainable and socially just future.

[17] Marina Garcés, "Imaginación Crítica", *Artnodes*, n. 29 (2022): 1-7.

ethically about what should and should not be actualized and brought into existence. A culture of limits, therefore, emerges as an expression of freedom and self-imposed ethical constraints that transcend the compulsions of capitalist overproduction logic.

Second, this perspective advocates a re-envisioned generative logic understood as differentiation rather than a mere variation of regularities. Unlike the generative culture defined by derivative outputs and probabilistic logics, individuation as a process emphasizes the importance of unique, context-specific developments that are responsive to their environments. This approach encourages exploration of the differentiation processes that these technologies make possible and invites consideration of the ways in which GenAI could be recalibrated to prioritize outputs that are contextually and culturally meaningful. Simondon's emphasis on individuation highlights the need for GenAI models that foster unique interactions with cultural and social environments, producing works that are not simply variations of the same but differentiated expressions that resonate with specific contexts and communities.

The question then becomes: how can we interact with these technologies in ways that transform the field of probabilities into a true field of possibilities? Given that latent spaces serve as a reservoir of codified and commodified cultural patterns, accessible at any moment, they can inhibit the dynamic process by which cultures naturally develop new forms and expressions derived from their own pre-individual background. Therefore, one approach might be to reassess the importance of the pre-individual dimension of culture —those elements not yet crystallized into fixed forms— that remain open to multiple paths of development. However, resolving the tension with the pattern-based logic inherent in AI represents a significant challenge for the future. One potential avenue for addressing this could lie in promoting a collaborative approach to the design and implementation of these models, with active participation from the communities whose cultures are being modeled and codified. This approach would not only preserve their cultural traditions, identities, and heritage, but also enrich them, enabling the emergence of new cultural forms through the interaction between AI and local communities.

Similarly, GenAI could be designed not simply to exploit latent spaces for probabilistic generation but to treat them as sites of continuous negotiation, where AI outputs are dynamically attuned to their environments. For instance, rather than generating thousands of variations in response to a prompt, an individuated GenAI model could be calibrated to generate a limited number of contextually relevant outputs that reflect the specific needs and values of a given cultural or social context. This approach would promote a form of sustainable creativity, where the emphasis is on creating meaningful, culturally responsive outputs rather than contributing to overproduction.

Third, Simondon's theory draws attention to the concept of interconnectedness as inherent to the phenomenon of individuation. This focus encourages us to examine the co-evolutionary process among all dimensions from a transindividual perspective. This approach aligns with Simondon's view of technology as part of a living system, whose stability and functionality depend on the harmonious integration of all its components. Indeed, Simondon challenged the conventional perception of technology in his time as merely a collection of tools or products, arguing that its true value lies in its process of individuation—in how it emerges, adapts, and integrates into its environment. Instead of viewing AI as a static tool, this approach to GenAI emphasizes its adaptability, responsiveness, and integration with human and environmental concerns.

This perspective has two important consequences. First, it shifts the focus of sustainability from the technology itself to the entire ecosystem. It suggests that not only AI, but the entire ecosystem must be sustainable, advocating for a holistic approach that examines how interactions within the ecosystem can foster more harmonious and sustainable development. Therefore, it calls for going beyond merely developing energy-efficient algorithms and hardware, which ultimately aim to create the conditions for continued overproduction.

For example, a GenAI model conceived from this perspective could involve algorithms that adjust their parameters based on feedback not only from user interactions but also from broader socio-environmental metrics. An AI system designed with transductive principles would thus be capable of modifying its generative processes in response to indicators of cultural and environmental impact, producing outputs that are not only relevant to users but also aligned with sustainability objectives. In practical terms, this might involve limiting the scope of certain generative tasks to reduce resource consumption or employing AI-generated outputs in ways that support cultural heritage preservation rather than commodification.

Second, the concept of transindividuality implies a notion of collective responsibility among individuals insofar as they are involved in the process of individuation and transformation. This perspective advocates distributed responsibility, wherein individuals work collectively to transform the conditions of reality. This perspective also helps us move away from a solutionist mindset —which often relies on technological developments to address contemporary challenges, thus depriving individuals of their capacity for active participation in world-changing actions. Ultimately, this approach compels recognition of individuals as responsible subjects and, as Marina Garcés argues, highlights the need to make ethical decisions about the conditions of our technological models of life.

For example, by embedding ethical checkpoints within the generative process, GenAI could be programmed to avoid producing outputs that perpetuate cultural appropriation or contribute to exploitative labor practices, thereby aligning with a model of generative culture that values diversity and inclusivity. Thus, an ethical checkpoint could be implemented that recognizes sensitive cultural symbols or practices, avoiding their reproduction or misrepresentation. For instance, if the model were to generate imagery based on Indigenous art, it would be programmed to identify cultural motifs, symbols, or styles that hold deep spiritual or cultural significance. The ethical checkpoint would flag these elements, preventing them from being used without appropriate context or permission from the relevant cultural communities. Additionally, the model could be programmed to prompt users to provide evidence of cultural consultation or collaboration before allowing the generation of culturally sensitive content.

An ethical checkpoint could also be embedded in GenAI systems to monitor the carbon footprint and energy consumption associated with large-scale data processing. For instance, a content generation platform using AI could be designed to give users feedback on the environmental cost of their requests. If a user repeatedly generates high volumes of variations for image or text outputs, the system could alert them to the energy usage involved and suggest ways to optimize their creative process with less environmental impact.

Finally, Simondon’s perspective allows rethinking imagination as a collective rather than an isolated, individual phenomenon. In a generative culture shaped by AI, imagination is often treated as a resource to be harnessed and exploited for content production. However, Simondon’s framework proposes that imagination should be viewed as a collective process that emerges from interactions within a system. This reimagining of imagination as a collective, relational phenomenon has implications for sustainability, as it calls for a more participatory model of creativity shared across individuals, communities, and technological systems. Applied to GenAI, one might envision a model where imagination is not simply commodified as a driver of content production but is cultivated as a shared cultural resource.

Final remarks: Returning to the Museum

As previously discussed, generative culture confronts us with an environment of relentless overproduction. Content is generated at an unprecedented scale and speed, driven by the efficiency, productivity, and optimization principles central to GenAI's underlying capitalist narrative. The result is a culture in which creation and consumption merge seamlessly, and the imaginative potential of AI is harnessed as an engine for endless content production. Generative culture thus becomes not only a response to technological advances but also a reconfiguration of cultural value —one that risks overwhelming diversity, authenticity, and sustainability in favor of a high-volume, low-variance content landscape. As argued throughout this essay, the effects of AI-driven overproduction are not confined to the digital realm; they have real-world consequences for labor conditions, environmental impact, and cultural integrity. Achieving a balance that aligns generative culture with social, cultural, and environmental sustainability will require redefining the role of imagination, revisiting narratives around AI, and rethinking interaction with generative systems through frameworks such as Gilbert Simondon's theory of individuation.

Simondon's theory of individuation, with its focus on relationality, transduction, and ethical responsibility, offers a compelling framework for rethinking this scenario. By viewing GenAI systems as individuated entities embedded within a complex socio-technical network, it becomes possible to develop models that prioritize sustainability, cultural relevance, and ethical integrity. This perspective encourages moving beyond the capitalist imperatives of efficiency and productivity, advocating instead for a generative culture that values meaningful differentiation, collective imagination, and responsible stewardship of cultural and environmental resources.

In this landscape, museums are uniquely positioned to play a critical role in addressing the implications of generative culture. As institutions dedicated to preserving, curating, and interpreting cultural heritage, museums are fundamentally spaces for reflection and critical engagement with art, history, and the cultural forces shaping society. By incorporating GenAI thoughtfully, museums can provide a platform for exploring and questioning the impacts of generative culture while promoting a balanced integration of technology that respects cultural sustainability.

Museums can act as mediators in the cultural discourse around GenAI by facilitating dialogue and showcasing the complexities and ethical considerations of generative logic. Through exhibitions, educational programs, and collaborations with artists, they can unpack the implications of overproduction, explore the balance between creativity and technology, and examine how GenAI influences concepts of authenticity, originality, and cultural identity. For example, museums can curate exhibits that not only showcase GenAI works but also contextualize them within broader artistic and historical narratives, offering audiences a deeper understanding of the shifts in creative processes and cultural value.

Additionally, museums have the potential to advocate for sustainable cultural practices by critically examining the environmental and social costs of generative culture. By raising awareness about energy consumption, labor practices, and ethical dilemmas associated with AI-driven overproduction, museums can foster an informed public dialogue. They can engage audiences with questions about the environmental footprint of digital creation, the nature of "digital cultural waste" generated by GenAI systems, and the implications of AI for labor in the creative industries.

Furthemore, museums can encourage alternative approaches to imagination and creativity, offering a space where GenAI is viewed not only as a tool of efficiency but also as a catalyst for critical reflection and innovative thought. Museums could play a crucial role in facilitating spaces where human and AI-driven creativity intersect in ways that are dialogic and reflective, rather than extractive. By embracing the poietic, critical, and emancipatory dimensions of imagination, museums can challenge the prevailing narratives of generative culture. Exhibits and educational programs can highlight how artists, thinkers, and creators are using AI in ways that transcend commercial applications, fostering a critical understanding of AI as a medium for exploring new forms of expression and alternative visions for the future.

Lastly, in alignment with Simondon's theory of individuation, museums can emphasize the interconnectedness of technology, culture, and society, promoting a holistic view of generative culture. By situating AI within broader frameworks of human and environmental relationships, museums can help reframe generative logic as part of a networked and interdependent system rather than an isolated technological phenomenon. Through this approach, museums can contribute to a new narrative where GenAI serves not only as a tool for production but as a means for fostering inclusive, culturally diverse, and sustainable modes of creation.

While generative culture presents profound challenges to sustainability, museums have the potential to guide society toward a more reflective and responsible interaction with GenAI. By fostering critical engagement, promoting sustainable practices, and embracing diverse forms of imagination, museums can contribute to a generative culture that respects both the technological and human aspects of creativity, helping to forge a future where the values of cultural sustainability, diversity, and ethical responsibility are integral to our engagement with artificial intelligence.

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