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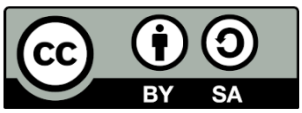

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Do AIs dream of electric comics?
Generative AI models, digital memory, and creativity

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ABSTRACT
Generative AIs are models that, having been trained on large datasets of images, can create original art. Although we are still far from a hegemony of comics made this way, 2022 has already seen the emergence of a new generation of AIs, and with it an initial, yet already significant proliferation of AI-created comics and graphic novels (the most notable cases being *Fastwalkers*, Manouach 2022; *The Abolition of Man*, Grubaugh 2022; *Prompt. Conversations with AI*, McKean 2022; *Lovebot*, VV.AA., 2022).
This article examines the emergence of AIs generating images in the field of artistic creation. These models have the potential to automate certain aspects of the creative process, but also raise several ethical issues related to creativity, labor, and intellectual property. Through an overview of contemporary AIs and a survey of recent AI-generated comics, the article explores the impact of this new technology, discussing whether such creations can be considered "creative" and how they relate to existing artistic practices. Ultimately, the article aims to help navigate this new frontier of artistic creation.

KEYWORDS
Comics; AI; generative AI models; creativity; memory

1. INTRODUCTION: UNPACKING ARTIFICIAL INTELLIGENCE

Artificial intelligence is a vast umbrella term that describes a range of software capable of performing actions related to perceiving, learning, inferring, and synthesizing information. AIs can encompass very different systems, first and foremost in terms of the complexity of their learning process: although machine learning and deep learning are often equated in the general discourse, the latter is a subset of the former, meant to handle larger and more complex datasets by using artificial neural networks with multiple layers (hence the term "deep"). These networks are inspired by the structure and functioning of the human brain and consist of interconnected nodes, or artificial neurons, that process and transmit information. In both cases, their learning process can be supervised, unsupervised, and based on reinforcement. In the first case, the algorithm is trained to make predictions or classify new data based on a labeled dataset. In unsupervised learning, the algorithm receives input data and gradually learns to identify correlations, similarities, and differences among the data until it derives recurring patterns and structures. In the case of reinforced learning, the process is typically focused on a series of decisions and based on a reward system when the desired decision is taken.
AI-based systems underpin such diverse software as speech recognition and computer vision, machine translation, search engines, virtual assistants, and so on[1]. Speech recognition models have traditionally been based on hidden Markov models (HMMs) and, before that, on dynamic time warping (DTW), but in recent years such models have been supplemented with recurrent neural networks (RNNs). Computer vision is a macro field that encompasses (among others) scene reconstruction, object detection, facial recognition, image restoration, and so on. The systems on which it is based are different according to the different purposes: image classification generally rests on convolutional neural networks (CNNs), deep learning algorithms inspired by the organic visual cortex, and designed to automatically and adaptively infer patterns and features from an image. Different types of computer vision may aim at detecting objects (using region-based convolutional networks, or R-CNN) or techniques such as You Only Look Once (YOLO), which allow objects to be detected and tracked in real time. Machine translation utilizes natural language processing (NLP) techniques[2], which have long been based on statistical models and algorithms (statistical machine translation, or SMT), rule-based grammatical systems (rule-based machine translation, or RBMT), or a combination of the two (hybrid machine translation, or HMT), but are themselves increasingly centered on neural networks (neural machine translation, or NMT). NMT is nowadays at the core of the most

[1] For pragmatic reasons I keep out of this list many other automations, often combining several of the techniques, processes and models described here – for example, I will not discuss advanced driver-assistance systems (ADAS), nor social media algorithms and the like.
[2] Natural Language Processing is a subfield of artificial intelligence and computational linguistics focusing on the interaction between computers and human language. NLP can be divided into Natural Language Understanding (NLU), linked to machines' ability to understand the meaning of human language, and Natural Language Generation (NLG), involving the artificial creation of meaningful sentences.

popular translation software and typically relies on recurrent neural networks (RNNs) - more specifically, a variant known as the sequence-to-sequence (Seq2Seq) model – or more complex transformer architectures, deep learning models specifically designed for sequence-to-sequence tasks (it is the case of DeepL). While both are based on an encoder/decoder model, the latter are more complex as they incorporate self-attention mechanisms, which enable them to process texts in a non-sequential manner by weighing the importance of different words within sentences. Traditional search engines similarly leverage natural language processing techniques to understand user queries and improve search accuracy, and either machine learning or deep learning to optimize search results based on user preferences and behaviors (an example is Google Search, and a clear overview of the systems that currently underlie the search mechanism is given by Google itself [1]). Virtual assistants can, again, be very different systems. Some are predominantly visual (e.g., Google Lens, Samsung's Bixby Vision), and combine computer vision techniques based on convolutional neural networks, optical character recognition (OCR), and machine translation to recognize and interact with observed objects and situations. Many virtual assistants incorporate chatbots, themselves based on natural language processing and (usually) machine learning; in case they are based on voice commands (e.g., Siri, Alexa), such software also incorporates speech recognition.

More recent examples of chatbots are OpenAI's ChatGPT, Microsoft's Bing Chat (which relies on OpenAI's GPT-4), and Google's Bard, all examples of the latest generative artificial intelligence. Apart from several differences in their training, the GPT (Generative Pre-trained Transformer) model and the LaMDA (Language Model for Dialogue Applications) one, on which Bard is based, are both based on the transformer architecture. The key feature of GPT is its autoregressive nature, which means that it generates text one step at a time, based on previously generated content. It does so by predicting the probability distribution over the entire vocabulary for each word position and following on the previously generated words, incorporating randomness to create diversity in the outputs. Bard, instead – which, at the time of writing this paper, is still not publicly available in my country - is a bidirectional transformer model, which means it considers both right and left context when making predictions.

Generative AIs, due to their unprecedented affordances, are indeed what, in the last months, has subsumed, in the mainstream debate, the whole concept of AI, with particular emphasis on text generation (the aforementioned chatbots), music composition (which will not be discussed here), and image generation. This came with a few overstatements, such as the claim of their occurred sentience [2] or the recent call to radically halt their development [3], in a *Time* op-ed that veers into apocalypticism the more reasonable and urgent appeals to regulate a complex subject matter [4] that currently eludes several of the existing legislative apparatuses - first and foremost, in terms of copyright, but also because of the massive social and economic repercussions that widespread use of generative AI can entail [6]. Nonetheless, these are still considered 'Weak AI' or 'Narrow AI', 'Strong AI' beginning with Artificial General Intelligence (AGI). In this sense, the claims about the alleged sentient nature of LaMDA should rather give pause to the need for more up-to-date tools than the Turing test. While the consequences in terms of labor are probably the most discussed in the debate about text-based generative AI (which is already integrated into the workflow of various professional environments, from cultural work to programming) [9], attention is also drawn to a potential loss of referentiality [7] - an extremely sensitive issue in an era that already faces post-truths and deepfakes [8] - those regarding AIs used for image generation have so far mainly regarded the topics of creativity and related copyright issues.

While this paper focuses on creativity, doing so requires a preliminary contextualization of the mechanisms by which currently available AIs generate images. Presently, the architectures used for image generation are of three main types. The first is generative adversarial networks (GANs), which consist of two neural networks (a generator and a discriminator) trained to compete. The generator generates new data samples similar to existing images from a given dataset, while the discriminator tries to distinguish between the generated and real patterns. The two networks are trained simultaneously: the generator attempts to deceive the discriminator and the discriminator tries to correctly identify the real samples. Those that pass the discriminator's sieve are the final outputs. The second type is the diffusion probabilistic model (DPM), or diffusion model (diffusion models can perform various tasks, including denoising, restoring, or enhancing the resolution of existing images, but I will focus here on image generation alone). Generating images involves progressively introducing noise to an initial image until gradually creating a new one. This controlled introduction of noise is facilitated by a diffusion neural network (hence the name). The third type – adopted by most recent generative AIs - relies on an evolution of this mechanism, known as 'stable diffusion', whose first phase is carried on by a transformer model, and consists of image encoding through a neural network pre-trained on a large-scale dataset containing (billions of) image-text pairs, hence capable of associating images and their corresponding textual descriptions. The embeddings it creates are combined to form a joint representation of image and text, capturing the semantic meaning of both. This can be used for various tasks, such as image and text classification, object detection, and so on [10]. In stable diffusion models, further passages convert a text prompt into a text and then an image embedding, which the diffusion neural network transforms into images.

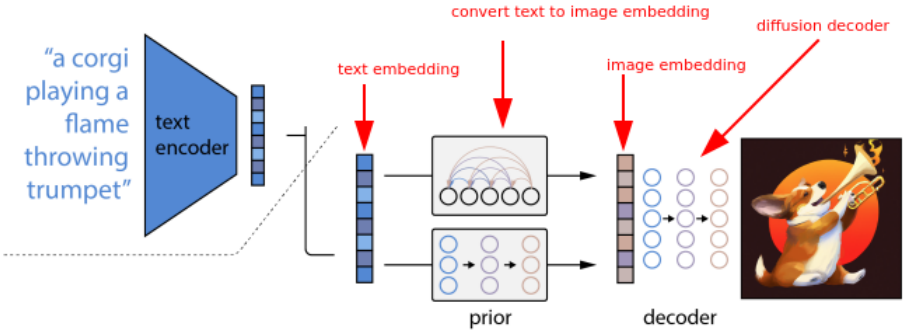

Figure 1. DALL-E2's image generative process [11].

This architecture saw a whirlwind acceleration in 2022, being at the base of the most known current Text-to-Image (TTI) generative models: DALL-E2, Midjourney, and Stable Diffusion itself. DALL-E (whose name is a portmanteau of WALL-E, the robot from the Pixar cartoon of the same name, and Surrealist painter Salvador Dali) debuted in January 2021, originally relying on GANs, but migrated to a stable diffusion model in September 2022 with DALL-E2 (currently asking to pay a small fee per image). Stable Diffusion is an open-source model released by the start-up company Stability AI in August 2022, and whose latest release is version 2.1 (free). Midjourney was released through Discord in July 2022 by the independent research lab Midjourney, Inc, and is currently in version 5.1 (it requires a monthly subscription). Apart from the prices, the main differences between the three concern the specifics of their processes and training. In fact, there are some differences in the way the process of encoding and decoding takes place in these models: Stable Diffusion relies on a succession of denoising autoencoders (through a variational autoencoder, or VAE, and the U-Net convolutional neural network developed by the University of Freiburg); DALL-E2's process begins with the CLIP (Contrastive Language-Image Pre-Training) neural network, created by OpenAI, and ends by upscaling the image generated by the diffusion model through another convolutional neural network. Midjourney has been very elusive about both their training and their model, and it has been speculated that it is based on a GAN (StyleGAN2: [12]) or a diffusion model quite similar to the one implemented by Stable Diffusion [13]. Concerning the datasets on which they were trained, DALL-E2 and Midjourney have not disclosed theirs, but we know that Stable Diffusion mainly relies on the LAION dataset, created by a non-profit organization called LAION, that processes through a CLIP model image-text pairs obtained from another non-profit organization called Common Crawl. Common Crawl, in turn, gets its images by scraping billions of web pages monthly and releasing them as openly available datasets [14]. Although, then, this is a transformative process, where training images data are not stored (vectors are), each isolated source is weighted (to the extent that significant changes in the datasets are needed to alter an output consistently and significantly), and singular outputs are subject to a substantial degree of randomness, generative AIs are uncannily better than the average human being at replicating the style of specific authors or artworks. The rest of the article will discuss this process of appropriation and re-use of existing material.

2. GENERATIVE ART, CREATIVITY, AND SHARED MEMORY

While generative art predates AIs [14, 15], it has certainly experienced a dizzying acceleration in recent years. In 2015, Google launched DeepDream, a convolutional neural network that found and enhanced patterns in images (a process known as algorithmic pareidolia), thus resulting in deliberately over-processed outputs. Soon, numerous apps adopted the mechanisms behind DeepDream to transform one's photos into images in the style of existing artists and works. In 2018, Paris-based art collective Obvious created and printed on canvas Edmond de Belamy, a generative adversarial network portrait, which achieved great notoriety after being auctioned at Christie's for $432,500. In 2021, the first version of DALL-E was disclosed by OpenAI. In August 2022, Jason Allen won the Colorado State Fair's art competition in the category "emerging digital artists", with an artwork titled "Théâtre d'opéra spatial", created using Midjourney, which gave rise to heated controversy. Around the same period, the aforementioned generative AIs opened up to the general public.

The use of generative AIs surely has the potential to automate certain aspects of artistic creation, reducing the need for (some kinds of) human labor and transforming the field. Naturally, this raises several concerns, including ethical issues related to non-factual references (or 'hallucinations': [16]), biases incorporated from the datasets [17], repercussions on the labor market [18], intellectual property rights, and fair compensation for human creators [19]. Debates in the visual arts community have arisen about how AIs rely on datasets acquired by circumventing - according to some, contravening – the traditional ways of copyright [20, 21]. Without a doubt, generative AIs act as a function of an immense shared memory, made of the large image datasets used to train their neural networks. Nonetheless, it is controversial whether this process

exploits the authors of the images that are part of their datasets. Some argue that using copyrighted material without permission is a violation of intellectual property rights, while others point out that the training datasets consist of images that are freely available on the internet, and the generated images are not exact replicas, making it difficult to determine who the original influences are and whether they are being exploited: "AI art models do not store images at all, but rather mathematical representations of patterns collected from these images. The software does not piece together bits of images in the form of a collage, either, but creates pictures from scratch based on these mathematical representations" [20]. Overall, it is clear that the use of generative AIs raises complex ethical questions about authorship, intellectual property, and the role of technology in the creative process.

Nonetheless, the use of AIs in art creation, which some oppose to individual creativity as the manifestation of the capacity of a single genius, rather than rupturing with existing creative practices, points to a new phase of relying on what I define the "shared memory" that has always marked art creation, a process not far from what Perloff has defined "unoriginal genius" [22] and Goldsmith "uncreative writing" [23]. In this sense, the re-use of existing works is not simply a matter of imitation or replication, but instead a complex interplay between the artist's own creativity and the styles, ideas, and techniques they have absorbed from others. Indeed, artistic originality as a defining characteristic of creativity is a relatively recent construct. Before the modern era, artists were not expected to create something entirely new, but to imitate and build on existing models. The idea of the individual artist as a genius producing unique works of art is a product of the Romantic era, which placed emphasis on personal expression and emotion (from an artistic point of view) and needed clear guidelines to attribute the paternity of a work of art (from a more pragmatic, industrial perspective).

However, artistic creativity has always relied on existing works, authors, and schools to create new art. According to Margaret Boden's influential taxonomy [15], there are three types of creativity: combinatorial, which involves generating unfamiliar combinations of familiar ideas; exploratory, which relies on existing stylistic rules or conventions to generate novel structures; and transformational, which alters some defining dimension of what Boden calls 'the conceptual space' that previously existed. Although Boden's categories are easily misinterpreted, and even though they are focused on identifying different types and strategies of creative processes, it is significant that they all presuppose that creativity lies in what is already existing. Artists draw inspiration from their predecessors, learn from their techniques, and build on their ideas. The unfolding of art history can as such be seen as a continuous dialogue between the past and the present, with each new movement or style emerging as a response to what came before it, and every single work as carrying, both consciously and unconsciously, the inscription of the whole system of references held by the single artist. The artist's relationship with shared artistic memory is not always direct or deliberate: sometimes, artists are influenced by works of art that they have never seen, but have known, heard, or learned about through cultural osmosis – for example, they may have seen a pastiche, a parody, or a reference. Other times, artists may be unconsciously influenced by broader social and cultural trends. Again, influences may depend on the sociocultural milieu in which artists are immersed – with mass communication, the continuous flow of information that we process every day and are inevitably distilled in artistic production.

Although the idea of art with which we were raised was that of the product of an individual, original, inspired mind, everything in the history of art points to the exact opposite. Art creation has always been at the crossroad between individual and collective style, originality, and reuse. Twentieth-century art largely acknowledged it through techniques such as ready-made, collage, assemblage, cut-up, sampling, conceptual art. Away from avant-gardes, this has been particularly evident in a 'dirtier', openly industrialized art practice such as comics, where copying other people's works was initially born out of necessity as a time-saving, barely licit practice in the creation of cheap, pulp stories. Not accidentally, now that comics have acquired a more consistent cultural capital, it is, on the contrary, used mainly by recognized authors as a way to pay homage to artists they admire and to ground their production in the system of existing works through intertextual references [24].

In this sense, creation employing AI makes no exception. Rather than a novum, the process can be seen as a continuation and a re-proposition of mechanisms that have always underpinned creativity [25, 26], albeit with a new set of tools and techniques. As said, every output obtained by generative AIs carries within it the potential inscription of *all* the previously existing works through which it was trained, drawing attention to how creativity has always been about reusing and recombining existing ideas and material; yet, at the same time, it results from *none* of them specifically, because the encoding/decoding process results in a deviation that it is tempting to attribute to a sort of synthetic unconscious which would take a step further from Hayles' idea of 'nonconscious cognition' [27, 28] (after all, part of the behavior shown by LLMs is still inexplicable to their creators: [29, 30]). This introduces a new non-human element that situates between an actor and a tool, performing part of the creative labor in a way that, at present, we can only partially deconstruct and control. The novelty of the technological unconscious lies not in the process per se, but in the fact that AIs partake in the memorial act that substantiates artistic creation in a way that a chisel or a brush couldn't. This thus calls both for a reframing of creativity as a collective practice that relies first and foremost on memory, and of the agency behind creation as a way more

ramified process than proclaimed by the modern, Western, Romantic idea of genius, one that encompasses both human and non-human actors in a shared creative venture.

Nonetheless, to provide effective results, generative AIs currently need a careful, ad-hoc prompting (in the case of TTIs) that is all but intuitive, instead being somewhere in between a new narrative form and a technical language; current AIs still struggle with offering complete control over their images, especially when asked for logical permutations, specific quantities, shapes or spatial requirements, qualities, and consistency over a set of images. Similarly, GANs' training entails selecting the datasets, which implies choices and directions imparted by the human authors controlling the process. Furthermore, the output image obtained from a generative AI not only is the result of significant tweaking, but usually needs to be selected, retouched, and edited, before reaching its ultimate form: if generative AIs are not as simple a tool as a chisel, neither they are single authors: there is no doubt that the results one can obtain through them is, up to now, always a co-creation between a human and a non-human actor, where the former still plays the most significant role.

3. COMICS, THE DIGITAL, AND THE EMERGENCE OF AIS

Comics are a particularly interesting test case in this regard, for a few different reasons. First of all, because of the close link they have been able to weave with digital culture, from which they have been interpenetrated and to which they have perhaps lent some systems of signification (the language of memes, for example, owes a great deal to that of comics).

The last two decades have seen a significant shift towards the digitization of comics creation. Comics authors have progressively abandoned traditional tools like pencils, inks, and paper, in favor of digital tools like tablets and software that allow faster, more easily editable works. Working only with analog tools is now a non-prototypical choice for comics authors, as would be writing a book with a typewriter; this kind of creative choices is generally meant to make up for (the perception of) the lack of authenticity and aura of the digital. Digitization has also changed the way comics are distributed and consumed. Most print-based comics now know a double life in their digital form, born-digital comics have explored the affordances of their supports and experimented with new forms of storytelling, while some comics platforms (e.g., Comixology, Webtoon) have acquired a widespread diffusion and comics circulating on social media platforms have subtly remediated the characteristics of the comics form in light of the increased, accelerated communication with the readers thanks to the digital environment. The whole process of progressive digitalization has come with some discontent, and the initial assertions by many scholars and practitioners that digital comics – remarkably, those that transgress the static nature of the image and the division into pages and panels - are not *proper* comics [31]. This is one of the reasons why many digital comics aim at an afterlife in print form where their authors can capitalize on their online success through the traditional market, still the locus of both proper cultural legitimation and commercial success.

Secondly, the relevance of comics lies in their hybrid, 'dirty' nature, in perpetual oscillation between culturally legitimized artistic practices and fully commodified industrial production apparatuses. As a consequence, their symbolic structures are always conflicted between an industrial side relying on supply chains and an artistic one that reveres the myth of the author. Unsurprisingly, then, several comics authors have been on the frontline in voicing their concerns against AI-created comics [32, 33], clamoring for greater protections in terms of transparency of the datasets on which such AIs are trained, the right to opt out of such corpora, and payment of royalties if their works are part of the material on which this training is conducted. However, such claims, even if they seem to have been provisionally accepted by the European legislator [34] (less so, though, by the US court [35]), open the way to much broader questions: how to regulate copyright compliance not only in the US or Europe, but from a supranational perspective? What kind of compensation can result from being a billionth of the training corpus from which a generated work is derived? Would the resulting system be sustainable, or would it end up disrupting the profits of small- and medium-sized artists, as it has already happened in music through the mechanism of streaming platforms (despite them having a more direct royalties mechanism)?

Be as it may, I argue that the changes introduced by AIs are not limited to the most evident repercussions affecting the Taylorist side of comics production (the comics studios where writers, drawers, colorists, inkers, and editors are separated persons that act as components of an assembly line), but extend to its more *artistic* embodiment, regarding independent, *auteur* comics and graphic novels[3]. It is further interesting, in this sense, that generative AIs are currently more efficient in making paintings or photorealistic images than in producing comics, which makes it still a liminal practice - although this may also depend on the extent and variety of datasets containing comics and the generative AI models used so far.

However, and although we are still far from a hegemony of comics made this way, 2022 has indeed seen the emergence of a first batch of AI-created comics and graphic novels, the most notable being *Fastwalkers* by Ilan Manouach; *The Abolition of Man*, by Carson Grubaugh; *Prompt. Conversations with AI*, by Dave McKean; and *Lovebot*, hosted in the Italian self-

[3] I will stick to this dichotomy for the sake of the brevity of this article, but it should be nuanced and deconstructed [36, 37].

produced and self-distributed comics magazine Čapek, and attributed to an AI aptly called Nobot (but whose human authors are probably Jazz Manciola and Hurricane Ivan, both members of the Čapek editorial staff).
Despite having been all published in 2022, the four stem from different paths and practices in drawing with AIs: Manouach, who is a conceptual comics artist, had already been experimenting with AI creation in shorter forms, with the *Neural Yorker* – a series of automatically generated, New Yorker-ish strips (2020) - and with the conceptual/erotic graphic novel *Le VTT comme je l'aime* (2022), before devoting himself to *Fastwalkers*. The latter is a 512-pages manga generated through a GAN; the text of the manga was, in turn, generated by an artificial intelligence model called GPT-3, and a random generator arranged the layout. McKean is (mainly) a comics artist known for his unique, innovative approach to visual storytelling, blending various artistic mediums such as illustration, painting, photography, sculpture, and digital techniques. His *Prompt. Conversations with AI* was realized in a very short period (less than two weeks) by experimenting on Midjourney, and explores the role of artificial intelligence in the creative process. Grubaugh is a painter and an art professor; his evocative title plays with the machinic imaginary, but actually comes from a philosophical essay written by C.S. Lewis in 1943, dealing with education and morality, that Grubaugh adapted into a graphic novel with Midjourney. Finally, all we know about *Lovebot* is that it is a short collective comic that appeared on the Italian underground webzine Čapek, and was allegedly created by training a GAN on a corpus of erotic comics.
Two of these works have thus been created via TTIs, two by processing a curated database of stylistically coherent comics. Two of them present, more or less explicitly, Midjourney as a co-creator, while the other two frame the AI as a single author, to the point, in the case of *Lovebot*, of hiding the name of the human (co-)authors (Manouach's name is, on the contrary, clearly visible on the cover, but this has to do with the commercial side of the authorial function. Moreover, two of the four works are graphic novels; one is a manga – although by an avant-garde comics artist, not a mangaka; and one is an experimental underground comic. In all cases, the creators – a conceptual artist, an experimental storyteller, a painter, and an underground collective – are backed up by a consistent cultural (sometimes counter-cultural) capital, which positions their works no matter their specific features. If there is a formal or structural trait that holds together the four works mentioned here, it is their eccentric position in relation to prototypical comics, followed by the symbolic insistence on the uncanny charge related as much to the erotic component (an alienated and dehumanized eroticism) as to that of the imaginary of the human-like machine. While the two comics made with Midjourney stand out for the markedly pictorial nature of their trait, the works created with the GANs return imperfect, unnatural, segmented bodies fused in impossible poses. *Fastwalkers*, which is the work that most pushes this idea to its radical consequences by also entrusting an AI with the verbal component of its narrative (and, thus, with its plot) is, in fact, an unreadable text, whose value lies in its reflection on the production practices and semiotic conventions of comics, but which does not establish solid causal links in its narrative progression, preventing from any kind of linear reading or search for an exact meaning. In this, one wonders how long such works will be experimental and subversive, and how far they align themselves, instead, with certain ongoing trends in digital culture (e.g., glitch art, post-ironic memes) in which referentiality and meaning are constantly hampered by a frayed and fragmentary signification, the reading of which offers no closure apart for the realization of an inescapable, fundamental lack of meaning. Digital culture often foregrounds humorous works, and humor - like creativity - arises from a deviation, a cognitive dissonance stemming from what already exists. Maybe, then, works of art created through AIs are not only a reproduction, in a more evident form, of the series of reuse and remix processes that have been a constitutive part of artistic creation since time immemorial and that after a downturn during modernity have regained, during the 20th and 21st centuries, an increasing preponderance. Maybe, even more significantly, they express and allow for a sensation of loosening of meaning common to much contemporary sensibility.

4. CONCLUSIONS

The emergence of AIs in comics creation has opened up new opportunities and possibilities, but also new criticalities. While AI-generated art is often seen as a departure from existing artistic practices, it is instead profoundly connected to the history of art, foregrounding creative processes grounded on the kind of shared memory that underlies traditional artistic creation. As such, the process of synthetic artistic generation is not a replacement for human creativity but rather a complement to and a continuation of it, albeit in a new form. The use of AI for artistic creation implies an unprecedented distribution of cognitive processes, but one that still needs guidance and whose randomness is still significant. The example of comics shows how the impact of image-generating AIs involves practical repercussions on the industrial aspects as much as theoretical implications for contemporary creation. Ultimately, the current use of AI in comics creation and artistic production at large, and its potential consequences and ramifications, are still being explored. It is up to all of us to grapple with the issues they will face us with, and determine how to best navigate this frontier.

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