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Do Computers Ruminates? On the Impossibility of “Thinking-Feeling” in AI Art

Abstract

Artists do not simply think and feel but incorporate feeling into their artistic thinking process or thinking into their feelings. The computer’s problem is neither that it does not think nor has any feelings (it might have some one day). The difference between a human drawing and a robot drawing is thus not that the former thinks and the latter does not. What matters is the “ruminating” aspect of creation that Wittgenstein alluded to, which Mondrian defined as thinking-feeling. I analyze the importance of randomness in human art and AI art.

Keywords

Midjourney, Mondrian, Complexity, Randomness

The year 2022 impressed the world with two spectacular technologies: the chatbot ChatGPT, which creates texts that seem to be written by humans, and Midjourney, which generates colorful images through the understanding of text prompts. Both are natural language processing tools. DALL-E, Imagen, Stable Diffusion, Microsoft’s NUWA-Infinity, NightCafé, and Craiyon, plus a large sub-industry that permits quick online use, offer similar services. Midjourney also allows the inverse approach: clients can upload their images and then have Midjourney create prompts that can be used to create new images.

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ChatGPT demonstrates that AI can think and write like humans or simply better than most humans, and Midjourney is better at visual imagination than 99 percent of us mortals. The question is: can AI produce art? Midjourney is not trying to be photorealistic but emphasizes painterly aesthetics (with a dominance of orange), and DALL-E's name hints at the painter Salvatore Dali. Midjourney art already won an award in a US state fair art competition, which made the techno website Techradar enthusiastically claim that these works should "hang in the Louvre" (Metz 2022). Writer Marcus du Sautoy finds that "AI is quite successful in poetry because it's able to create something that leaves enough ambiguity so the reader can use a lot of their creativity to bring the poems to life" (Samuel 2019).

Humans have taught computers various skills, including drawing and painting. Since the 1960s, computer graphics began creating configurations using an acquired repertory of visual signs. By applying increasingly complicated algorithms, computers became increasingly "creative." John Whitney used mathematical operations to engender artistic images, and Desmond Paul Henry experimented with machine-generated visuals. In 1968, Robert Mallery created the first digitally modeled sculpture, Quad 1. Many of these early digital artists desired to combine science and art. Protagonists of early computer art (which was then called "analog design"), such as Georg Nees, Frieder Nake, and Michael Noll (the "3 N"), relied on mathematical methods. Computer artists like Charles Csuri, Manfred Mohr, Vera Molnar, and Harold Cohen developed more fine arts-oriented approaches.

Since the 1980s, the digital art scene has been populated by artists with a painting background, a film or photography background, or a math and computer science background who experiment with algorithms. Most of the time, digital and traditional artistic means were mixed, and already at a very early point, the evaluation of human input versus computer input created dilemmas. Harold Cohen developed programs "without necessarily having any idea what the final result will be" (Popper 1993, 80). Frank Popper already noted that "the computer becomes a creator or perhaps a simulator of memory, of reasoning and of the brain itself." The computer "almost creates" the image.

More recently, computers have begun operating with machine-learning programs and artificial neural networks able to imitate the neural functions of the brain. These tools produce entirely autonomous interpretations of objects, colors, shapes, patterns, and constellations. They also learn: Generative Adversarial Networks (GANs) pitch two neural networks (generator and discriminator) against each other and create a feedback loop to produce

better and better results. The Creative Adversarial Network system (CAN) reenacts a sort of dialectical thinking process: one neural net classifies images while another one tries to find data sets that challenge this classification. The outcomes are neither predictable nor fully controllable. In Midjourney images, tombstones pop up in a mall, a Hip Hop artist holds a cowbell, or a particular woman's face appears over again. Midjourney founder David Holz dryly comments: "We don't know where it comes from" (Vincent 2022). GANs have even created their own style, which Francois Chollet called "GANism," and made Paul Waelder say that AI art must be considered a conceptual art (Waelder 2020).

As computers can make relatively autonomous aesthetic decisions, it becomes increasingly unclear whether a human or a machine created the work. Of course, a human creates the programs and the dataset. Must the programmer, therefore, be considered an artist? In the 1980s, artist Michel Bret criticized useless software written by engineers who were not knowledgeable about art. When he created his own software, did he simply switch to another medium, from painting to computer code?

AI does not only have an infinite font of imagination; it is also knowledgeable about art. As it analyzes thousands of images through sophisticated agents of pattern recognition, it can distinguish specific styles and understand each work's creation process. AI is a good art historian or a good aesthetician. Do such skills automatically enable these machines to create art?

Feeling and Complexity

Why would we consider a machine-produced work as art in the first place? Should we not speak instead of "computational *aesthetics*," which includes functions, interfaces, and codes? Computers can produce and arrange elements aesthetically, often so beautifully and expressively. AI aesthetics can be visually captivating, but does this alone signify that the digital creation process overlaps with a human *artist*? Holz is very categorical: "It's important to emphasize that this is not about art. This is about imagination" (Salkovitz 2022). Midjourney is an "imagination tool" whose productions can be splashed on magazine covers or be used as memes. But mere imagination is not art. Holz seems to echo computer art pioneer Molnar, who claimed decades ago "that the computer can [only] encourage the mind to work in new ways" (Popper 2006, 69). Have we thus not essentially evolved—despite the more sophisticated technology—from the situation of

the 1980s where artists commonly saw “the computer only as a tool, as a canvas or a very elaborate palette with which to ‘paint’” (Popper 1993, 80)?

Something makes us spontaneously think that computers cannot produce art. Computers have neither life experience nor sentiments. These two facts are often used to establish that AI art is not “real art” and that computers are merely good technicians. However, the problem is more complicated than the ‘emotion versus reason’ argument suggests. Art is not simply technique plus feeling with a little bit of reason added. Emotion, for example, is a problematic notion in aesthetics. Artists investing their life experiences and feelings into their works *too directly* can be considered bad artists or, depending on the degree, not artists at all. If the computer can do better than them, should its output not be considered at least closer to art than, say, a painting by Sophie Gengembre Anderson or some works by amateur painters found on Behance or Artsy? If the computer manages to push direct expressions and references through complex systems of deconstruction, alienation, estrangement, or diffusion, will the result not necessarily come closer to art? Why should we hold that bad amateur pictures are *still* art while sophisticated AI productions are not?

Others hold that computers do create art, and one of the most important keywords in such discussions is “complexity.” What impresses us most in recently produced AI art is indeed the works’ intricacy and ramifications. However, how important is complexity for art in general? Midjourney art often attains some surrealistic mysteriousness through complexification, which provides an artistic feel. The same method prevails in “conventional” digital art that uses Photoshop and 3D software. Only complexity can save the pictures of Maggie Taylor or Ray Caesar from being straightforward kitsch. When the creative processes underlying a work are so intricate that we cannot mentally retrace them, when the outcomes are so strange that we cannot entirely understand them, we are inclined to call the production art. Can it thus be concluded that once AI art is sufficiently complex, it must be considered art? I do not think so. The matter is a bit like astrology and pseudosciences, which try to obtain a status of science by becoming infinitely complex. However, complex pseudo-science is not yet science.

Though art is often “too much” for human understanding, this does not mean that artistic expression must always be complex. Much art is minimalist and simple; contrary to what one could intuitively assume, minimalist art has often sought the emotional, empathic, and spiritual. Piet Mondrian’s austere line art does not convey bland computerizable rationality. These

compositions have perhaps been mathematically calculated in their proportions, but they are not, as the painter often insisted, geometrically and rationally constructed. As a matter of fact, Mondrian did not want his lines to be perceived as geometrical at all but was principally interested in the creation of a *feelable* “visual rhythm.” And this rhythm was, paradoxically, not linear for him. The rhythm of Mondrian’s paintings cannot be measured but is, in the painter’s terminology, a matter of spirit with a cosmic connection: “It renders more strongly the cosmic rhythm that flows through all things” (1986, 39-40). Similar statements can be found by Kandinsky, who wrote an entire book on “The Spiritual in Art” (1911) and found that his geometrical compositions, as minimalistic as they often are, contain inner, non-material forces (1991, 102). Can AI ever do this?

For Mondrian, the construction of straight lines—an easy feat for a computer—is not due to a simple act of thinking, nor is it mere feeling. It is rather due to a kind of “feeling-thinking, as Mondrian famously explained when saying about the artist: “When he thinks he feels, and when he feels he thinks” (1925, 27). For the artist, thinking and feeling are never distinct activities. This inequity is the difference: A computer can think, and a non-artist human can feel, but the human artist can bring both together.

I argue that artists do not simply think and feel but incorporate feeling into their artistic thinking process or thinking into their feelings. The computer’s problem is neither that it does not think nor has any feelings (it might have some one day). The lack of feeling would not matter anyway, as good art with minimal feeling does exist. However, the computer cannot develop an artistic “feeling-thinking.”

Even digital artists perceive this constellation. They use computers, but they program them in a way that they express their feelings. Frank Popper suggests that the vaguely Cubist art of digital pioneer Manfred Mohr “is not a mathematical art but rather an expression of his artistic experience. The rules he invents reflect his thinking and feelings” (2006, 68). In other words, the computer does not think for him, but he thinks for the computer, and in this way, his thinking is combined with feeling.

To clarify the meaning of “feeling-thinking,” we must analyze the meaning of ‘complexity.’ As mentioned, complexity seems to be the most convincing parameter in recent computer art. First, we observe that the complexity we encounter in search-based AI art contrasts with that of pioneer computer art by Nees, Nake, Noll, and most others. Early computer art (and even early electronic art, as shown in Frank Popper’s documentation from 1993) was informed by neo-expressionism and the formalist minimalism of Construc-

tivism and Neo-Plasticism that was in the air just at the time when computers became available. This art opted for geometric simplicity. In the best case, the geometric would blend with the organic. Such aesthetics, would it be *entirely* produced by AI software today, would most likely not be accepted as art but only as graphic design. When simple and minimalistic art is produced *only* by a computer, it will be found too bland. When we see works of reductive minimalism, we must be aware of human input. For example, we want to feel connected to a human being when looking at a painted color field by Elsworth Kelly. A Kelly-style painting entirely produced by a computer would not have the same “feel,” and, consequently, it would not have much artistic interest. It means that Kelly’s abstract minimalism is not merely the result of thinking. When seeing his painting, Kelly even suggested “turning off” the mind, saying: “If you can turn off the mind and look only with the eyes, eventually everything becomes abstract.”¹ However, it does not mean that by being “only eye,” the artist would simply rely on feeling; he rather unites thinking and feeling.

Fifty years onward, AI has dramatically changed the style of digital art by moving from the relatively minimalist abstract expressionism that so many digital artists had favored for decades to the highly concrete. The unrealistic realism of most Midjourney productions found online is particularly expressive through its concreteness. Art produced by graphic designers like Beeple, which is highly successful in the digital art scene, is inscribed in this tendency. It seems that simplification or minimalism is no longer the way to go. The main parameter that can save this art *as art* is “complexity.” However, a simple aesthetic strategy like Mondrian’s can appear strange and mysterious *because* of its simplicity. Mondrian even found that his paintings refer to the spiritual and the cosmic *because* of the utmost simplicity.

The evolution towards complexity was predictable. Algorithms do not do more than combine existing elements, and, creativity primarily arises through further complexifications of these combinations. In the earliest experiments with algorithms, the Bernoulli brothers (17th century) and the young Leibniz attempted to combine elements such as thoughts, numbers, and words. Leibniz identified the central concept of his strategy by giving it the title *De Arte Combinatoria* (1666). By producing an alphabet of human thought, the philosopher wanted to show that all possible concepts are mere combinations of some more basic concepts. Earlier, Descartes had presented

¹ The quote, dozens of times reproduced on the internet, seems to come from a *Los Angeles Times* article from 1991, which I could not trace.

a similar idea in the form of a universal language lexicon consisting of primitive elements whose systematic combination could represent human language (Descartes 1629). But Leibniz also called his technique “art,” which is telling. *De Arte Combinatoria* is supposed to provide a logic of creative invention. Four hundred years later, algorithms offer very complex combinations, and the more complex they are, the more we are tempted to think that they are genuinely creative and perhaps even art.

The brain is complex, and so is art, which can lead to the false conclusion that when aesthetics attains a certain complexity level, there must be some artistic thinking behind it. We are affected when the artistic results cannot be clearly retraced to the sources that inspired them. A complex work’s beauty looks less like a mechanically produced or crowdsourced. One could apply a “complexity test”: When AI presents images that are not immediate derivations of something preexisting but visual elaborations that remain mysterious and inexplicable, we are ready to agree that this is art. However, things are not that simple.

Certitude and Incertitude

In the 1950s, the Turing Test attempted to establish whether a human or machine enacts a specific behavior. A human evaluator judged conversations between a human and a machine, and if the evaluator could not reliably tell the machine from the human, the machine would be said to have passed the test. Today’s ChatGPT would pass the test. If there were an “art test” that attempts to distinguish human-made art from AI art, it could be based on complexity features with the result that much AI art would pass the test. However, as I said above, complexity is not essential for art: much art is simple. Therefore, I want to go beyond the complexity theme and put forward another parameter that I believe is crucial for art: incertitude. An artist is never sure of what they are doing, whereas a machine, once it has come to a particular conclusion through processes of calculation and quantification, is simply confident that this is the only sentence it wants to write, the only line it wants to draw, the only color it wants to apply. A “real” artist can never be sure. To distinguish human art from AI art, we would thus need an “incertitude test.”

The complexity achieved by AI is extraordinary, but to an overwhelming extent, it can be obtained through massive quantification processes; all quantification leads to certitude. Is there a method that leads to *incertitude*? By incertitude, I mean two things. First, the incertitude of the artist about

their expression. Can they be entirely certain that this line is exactly where it should be? They were struggling to find the right shape or the right word. When they finally find it, they might find the line or color sufficiently appealing and apply it, but they will not believe it is the “right” or “correct” decision. Some uncertainty persists, and this incertitude is, first, part of the artistic expression; second—and this is my main claim—it is part of the viewer’s aesthetic experience when seeing the work. We feel the artist’s struggle and that lines were not calculated but only approximatively put. Once the line is drawn, it does not claim to be the only right and necessary solution, but its randomness remains virtually present. We not only feel the work’s necessity but also the haphazardness. There were many options, and though the final option that the artist chose is good, it does not mean that all other options were “wrong.” Completely different constellations could have occurred, in which case all options would have changed. Real art is floating. No “necessity” is *absolutely* necessary, and the artist (as well as the viewer) is constantly aware of the imperfection of their choice. They could have drawn the line otherwise; this “could” remains part of the artistic expression or simply of what makes it art. There subsists a mystery about the act of creation, which Wittgenstein attempted to grasp when writing about the art of drawing: “Think of the behavior of one who draws the face by considering its expression. Think of the face and the movements of the one who is drawing. How does it become manifest that every stroke he draws is dictated by the face and that in this drawing nothing is arbitrary?” (VB entry from 1946). Drawing a line is not due to a simple affirmation reached through quantification. Some arbitrariness persists: a sort of marveling skepticism is part of the aesthetics, and this marveling can be transmitted to the spectator. The mystery about the act of creation should not be confused with the mysteriousness of the expression. Mondrian’s lines are not mysterious as such, but the way he found the right proportions and constellations remains mysterious, eventually making the lines mysterious. They do not have the same mysteriousness when drawn by a computer.

Randomness

AI engineers are deeply aware of these problems. Contrary to science, things are not sure, necessary, or absolute in art, so randomness becomes an essential component of AI. When AI attempts to write like a human, in a way of speaking, it wants to pass the Turing Test. But what does it mean to write like a human? A commonsensical answer is writing sentences exactly how

one would expect a human to write. The problem is that humans—especially artists—do not always write how they are expected to. Humans are somehow or other artists, and art tends to produce the unexpected. When art only blandly reinstates our most common expectations, it is bad art, kitsch, or non-art. The AI designers of ChatGPT are attentive to this problem. Even ChatGPT, which is not destined to produce art, must consider the “aesthetic” problems discussed here. Once the chatbot has been fed with an element (a token), it sets out to produce the next element and to do so, and it establishes a ranked list of the possible following words based on the quantification of what has been said before in similar contexts. But should it systematically choose the most likely option (the highest ranked element), the text would precisely *not* look like a human wrote it. Stephen Wolfram explains that AI must not systematically choose the highest-ranked option to think or write like a human: “If we always pick the highest-ranked word, we’ll typically get a very ‘flat’ essay, that never seems to show any creativity. But if sometimes (at random) we pick lower-ranked words, we get a ‘more interesting’ essay” (Wolfram 2022). We need randomness to be creative or at least appear creative. Wolfram calls this technique, which introduces complexity into texts, voodoo, which means that science cannot grasp it. It is a purely practical approach with no theory behind it: “In keeping with the idea of voodoo, there’s a particular so-called ‘temperature’ parameter that determines how often lower-ranked words will be used, and for essay generation, it turns out that a ‘temperature’ of 0.8 seems best.”

The importance of randomness is not an original discovery. When algorithms were used to compose music by following the quantified rules of musical trends, it was quickly found that this approach “ignores the disruption which is part of the artist’s business [because] there will always remain a contingent and chancy part” as said the director of the French IRCAM Franck Madlener (Carpentier 2021). Suprapersonal algorithms absorb those elements that emerge randomly, for instance, ingenious ideas and on-the-spot metaphors. Already, digital pioneers like Molnar were aware of the importance of randomness. Molnar tried to “make the accidental or random subversive in order to create an artistic shock and to rupture the systematic and the symmetrical,” comments Popper (2006, 64). One of Molnar’s works was called “One Percent Disorder” (1976). Manfred Mohr even insisted on parametric rules that appear to be similar to the AI rules pointed out above: “Even though Mohr’s work process is rational and systematic, its results can be unpredictable. Random decisions are switching points that ensure a value-free method of moving the program ahead” (Popper 2006, 67).

Continuing this tradition, contemporary AI introduces randomness through various techniques. GANs pitch two neural networks against each other and obtain random results. The diffusion technique used by Midjourney and others scrambles images until they become pure noise. Then, neural networks change the noise into an image, effectively generating randomness. Interestingly, the above “imperfection measures” are necessary not only for art but also for the production of pictures that are supposed to look realistic. Algorithms use a “fitness function” to decide if, for instance, an AI face shows enough similarity with a real face. But again, “the final works that are presented are not the most accurate ones but are ones with an intermediate fitness value” (Johnson 2021, 35). Not the highest fitness value should be chosen, but an intermediate one. Also, in neural networks trained to recognize objects (called deep dreaming images), the network “is cut off a few stages before converging on an accurate recognition of a scene” (36) to enforce randomness and, finally, to obtain a more convincing reality effect. By importing randomness, AI distorts straightforward thinking processes such as calculation and quantification. It wants to produce the illusion that here, not only thinking but perhaps some “feeling” also impacted the expression.

Noll could transform a picture by Mondrian into numerical data and then transform the code back into a picture. In 1966, Noll undertook an “art test” using Mondrian’s “Composition With Lines” from 1917. With an IBM 7094 computer using “a trial-and-error approach,” he produced a picture similar to Mondrian’s (1966b, 72). Noll suspected Mondrian of following some unknown scheme or program. Noll put the result next to the original picture and asked 100 subjects to indicate which one they believed to be the original Mondrian. He also asked them which of the two they preferred. Only 28% correctly identified the computer-generated picture; 59% preferred the computer-generated picture.

For Noll, the “success” of the computer picture was due to randomness. The majority preferred the computer composition because it was more random than Mondrian’s. Computers were expected to produce mechanical, orderly pictures, and many “were fooled into incorrectly identifying the Mondrian as being the computer picture” (1966, 72). The computer picture was found more “imaginative.” Human creativity was associated with randomness, and the random algorithm was more attractive than Mondrian’s more orderly pattern. However, as Noll quickly points out, the randomness introduced by the computer was “completely deterministic, and the resulting pattern is mathematically specified in every detail” (9). It was not “real”

randomness. Noll also believed that the computer should “mix together randomness and order” (1966b, 73), as entirely random pictures are not interesting.

Noll did not ask a follow-up question. Would people, once told that they had been tricked into preferring the computer Mondrian, still stick to their choice? Is the fact of knowing that there was an artist or a computer behind the work decisive for our aesthetic appreciation? From my above argumentation, it emerges that it is. Once we know that the randomization process is artificial, we no longer have the same “feeling” for the work. We no longer have the same aesthetic experience.

Art cannot only follow the necessary rules, but it needs randomness. However, artificially produced randomness is not identical to human-produced randomness. The old question of whether nature or animals can produce art expresses this problem. There is randomness in a weather-beaten rock or a picture drawn by a chimpanzee (see Saw, 49). But these productions will still not be recognized as art because here, no artist has produced random options. It is nature that randomized options and then picked one. There is no tension and no incertitude in the mind of an artist about what the right option could or could not be. There is no thinking-feeling, so the result cannot be traced to a creative process. Though AI has sophisticated quantifying and randomizing techniques, in principle, it cannot do better than the weather and the monkey. So, what is a human artist doing more precisely?

Play

To answer this question, we must approach AI art from another angle: play. Through randomness, a rationally and logarithmically constructed text begins to “play.” By lowering the “temperature” or “diffusing” images, the workings of AI come closer to that of a game. Games are not straightforward or wholly utilitarian. Their results are unpredictable, similar to the artistic production process. We cannot follow the movements of a game as if they were mere necessities because, to some extent, they depend on contingency. A more philosophical way to express this is to say that skepticism undermines any straightforward action in a game. When Molnar, Mohr, Noll, or AI incorporate incertitude, they employ systemic doubt. AI *doubts* that the highest-ranked response to a token is the best option and chooses a lower-ranked one. This approach comes closer to human thinking, and the result passes the Turing Test. But it is still not identical with human thinking, espe-

cially with artistic human thinking. Though AI moves closer to human creation, there remains a difference. AI's artificially created doubt is not a persisting doubt but merely a Cartesian "useful" doubt that eventually looks for certitude. The lower-ranked option will be considered the "better" option, and here, all skepticism ends. By contrast, in human-made art, the doubt remains.

Doubting is human. Doubting gives freedom and is part of the human condition. Usually, humans do not move around in a universe of certitude. When it comes to art, this becomes particularly obvious. Doubting permits us to marvel at art. Through doubt, we come closer to a work's meaning. We understand something though—or just *because*—we cannot fully grasp its meaning. This uncertainty establishes a vital difference with machines. Machines can doubt, but they cannot doubt forever. They must come to a final conclusion; otherwise, their mechanism breaks down or they are stuck in an infinite loop and cannot stop. Quantifying computer software, no matter how complex, always arrives at a "final" conclusion, at a certitude. It introduces skeptical, playful devices such as the change of "temperatures" or diffusion but cannot incorporate and express constant doubt. Its doubt is Cartesian *methodological* skepticism, which differs from philosophical skepticism. Philosophical skepticism radically questions the possibility of knowledge and develops skepticism not merely as a method but as an attitude. This skepticism is also the artistic or hermeneutic attitude we can develop in interpretations.

Artistic creation is based on philosophical skepticism. Art evolves through constant doubt, whereas AI is cartesian. It is no coincidence that Descartes was fascinated by mechanistic interpretations of life. His 'animal = machine' paradigm, defined in Part V of the *Discourse on Method* (1637), explains animal behavior in terms of the necessities dependent on the disposition of the animal's organs. No doubt interferes with these mechanics.

With regard to machines, no philosophical doubt is possible, even if we randomize the functions. But art cannot be reduced to mechanical models, so it cannot be produced by algorithms, not even the most complex ones. Art does not find solutions but makes suggestions—eternally imperfect suggestions.

The difference between a human drawing and a robot drawing is thus not that the former thinks and the latter does not. What matters is the "ruminating" aspect of creation that Wittgenstein alluded to in the above quotation, and which represents what Mondrian defined as thinking-feeling. The computer does not ruminate. The British artist collective "Tracey" suggests

that drawing is always “uncertain, defiantly idiosyncratic, marking specific difference rather than aspiring to universal values, stubbornly refusing resolved forms, and incorporating the principle of erasure—the will to unmark” (Tracey, xi). It means that the drawing-erasing sequence inherent in drawing contains a kind of skepticism. Drawing is, by definition, unstable. Drawing is ruminating. The line, the shape, or the artistic choice are due to a complex ontology that the Tracey collective pertinently describes as such: “At the moment at which the point (of the pencil) makes contact with the surface, we cannot see (literally or figuratively) what is about to emerge, and yet the point anticipates the memory of what has been seen in the past: it both stops and anticipates what is to come” (xvii).

Thinking in Images

We note a further difference with AI art. The computer thinks in images. Within seconds, it “imagines” existing images, chooses the right ones, and combines them following a complex “Arte Combinatoria.” This process differs from human art production. Holz says that Midjourney is an imagination tool. The artist does not have such a tool. When the artist chooses lines or figures, they do not necessarily imagine them beforehand; they simply draw them (while ruminating). The used elements do not have an objective or subjective (imagined) existence before they are drawn. “We cannot see (literally or figuratively) what is about to emerge,” says Tracey (xvii). In short, creating is not about the combination of existing elements. In the rumination process, the elements are not yet objectified as images but are only “thought-felt.” When they finally appear on the paper, they are manifestations of a not-yet-objectified consciousness dependent on constant affirmation and negation processes or of belief and skepticism.

AI’s objectifying process becomes most apparent when considering that Midjourney and DALL-E do not even think with images in the first place but with words. To create an image, the artist must suggest a prompt such as ‘Image in a Japanese room, window, flowers, wabi-sabi, red.’ The human artist does not work with such text prompts. They have a vague idea of something not yet materialized as an image-option. They have a thought that is only a feeling.

Jacques Derrida describes the human process of drawing as such: “The thought of drawing [is] a certain pensive pose, a memory of the trait that speculates, as in a dream, about its possibility. Its potency always develops on the brink of blindness” (1993, 2). The fact that the element lands on the

paper the way it does is not due to an act of affirmation but to an act of perpetual skeptical speculation. This action differs from a computer that merely recuperates, chooses options, and perhaps complexifies them. The artist involves the lines in a thinking process, meaning they do not think about the lines but instead think with the lines.

We can also say that drawing unravels itself like a game. Art is not construction but an organic development that breeds or unfolds itself through an artist. Tracey says that the artist relies on the drawing's "breeding quality." Similarly, Newman and Zegher write in their "Drawing Papers" that drawing is "necessary thoughtlessness" (2003, 36), which means that art is not produced through a conscious thinking process that chooses from a list of options nor through text prompts. The artist does not consciously know what they are doing and seems to play a game.

Art is due to some half-conscious, automatic bodily function, so computers will never be able to produce art. Art does not follow the human mind but has its own mind or plays its own game that the artist "feels;" to some extent, they play the game of creation without knowing what that game is. Computers cannot do that: they need objective tokens that they can choose from, or they need prompts. Furthermore, they process them following defined rules. The skeptical methods of randomization that AI introduces (due to a *methodological* skepticism) try to blur the fact that the system chooses from a range of objective options and follows rules. However, despite the complexity, it remains a fact that Midjourney thinks in images or words.

Conclusion

I said above that art never finds solutions but makes suggestions. Let us go one step further. The doubting activity essential to art is often linked to an existential questioning about the world and the cosmos, which is how art can sometimes acquire the "spiritual" component that Mondrian and Kandinsky mention. Frank Burch Brown writes that art is not merely a virtuosic display but can "convey a sense of what matters most in life and in the cosmos as a whole" (1989, 113). "Imagination" acquires a status that Holz and the Midjourney creators probably never considered. Saint-Simon reminded French revolutionaries that "the 'men of imagination' were [once] set up as magi, prophets, or diviners of a revelation" who have insights into the "depths of nature or of the soul" (Gauchet 1998, 34). One does not merely imagine and combine shapes and colors, but the aesthetic sign has a transcendent power. Brown writes that art can "fictively represent, and imagina-

tively transform ‘worlds’ in a revelatory or prophetic way” (103). This description sounds more like the above thinking-feeling. I am not saying that art *must* have visionary and prophetic dimensions, but the fact that it *can* have such dimensions shows that algorithmically established art, even when it is very complex and has been pushed through an “Arte Combinatoria” or neural networks, will always essentially differ from human-made art. What is needed for art is not a Cartesian mechanism that explains the world in terms of necessary rules but the will to express the inexpressible and, thus—logically—to incorporate enduring skepticism into expressions.

Last, it should be said that the recent algorithmic productions of art fit into a neoliberal world that quantifies and patterns desires, beauty, and everything else. The modern world has adopted creativity as a motto of “self-realization” for individuals, institutions, and companies. Here, AI is expected to help. In a neoliberal world, everybody is supposed to think “outside the box.” Randomizing technology and complex GAN mechanisms are supposed to push the AI mind out of the box. However, the above analysis has shown that AI stays inside the box. As Johnson says, “The drivers are almost always decided before the search process begins. By contrast, the human artist appears to generate these during the development of a work, drawing on a lifetime of experience, knowledge, and emotion” (2021, 52). Therefore, eventually, AI imagination cannot produce “prophetic” statements about existence, the soul, or the cosmos. For AI, imagination is merely a “useful” value, which is also why it produces “art” that is not skeptical but that looks for certitude. Byung-Chul Han writes that “neoliberal psychopolitics seduces the soul; it pre-empts it in lieu of opposing it. It carefully protocols desires, needs, and wishes instead of ‘depatterning them’” (2017, 36). This politics seeks confirmation, and AI art is following and serving this culture. Instead of considering various possibilities, one wants results. Instead of infinite speculation, one wants certitude.

Bibliography

1. Brown Frank Burch (1989), *Religious Aesthetics: A Theological Study of Making and Meaning*, Princeton: Princeton University Press.
2. Carpentier Laurent (2021), “L’Algorithme, nouvelle machine à tubes”, *Le Monde*, February 15.
3. Derrida Jacques (1993), *Memoirs of the Blind, the Self Portrait and Other Ruins*, trans. P.-A. Brault and M. Naas, Chicago: University of Chicago Press.

4. Descartes René (1629), "Letter to Mersenne, 20 November (ed. Clerselier [1657])", Adam-Tannery, Paris: Cerf.
5. Gauchet Marcel (1998), *La Religion dans la démocratie*, Paris: Gallimard.
6. Han Byung-Chul (2017), *Psychopolitics*, London: Verso.
7. Johnson Colin G. (2021), "Aesthetics, Artificial Intelligence, and Search-Based Art", [in:] P. Machado, J. Romero and G. Greenfield (eds.), *Artificial Intelligence and the Arts: Computational Creativity, Artistic Behavior, and Tools for Creatives*. Cham: Springer, pp. 27-61.
8. Kandinsky Wassily (1911) [1988], *Du Spirituel dans l'art et dans la peinture en particulier*, Paris: Gallimard.
9. Kandinsky Wassily (1991) [1926], *Point et ligne sur plan*, Paris: Gallimard.
10. Mondrian Piet (1925), *Neue Gestaltung*, München: Albert Langen Verlag.
11. Mondrian Piet (1986), *The New Art—The New Life: The Collected Writings of Piet Mondrian*, trans. H. Holtzman and M.S. James, Boston: G. K. Hall and Co.
12. Newman Avis and de Zegher Catherine (2003), *Drawing Papers. The Stage of Drawing: Gesture and Act* (Catalogue of exhibition at the Drawing Center), New York: The Drawing Center.
13. Noll Michael A. (1966), "Human or Machine: A Subjective Comparison of Piet Mondrian's 'Composition with Lines' (1917) and a Computer-Generated Picture", *The Psychological Record*, 16, pp. 1-10.
14. Noll Michael A. (1966b), "Computers and the Visual Arts", *Design Quarterly*, 66/67, pp. 64-71.
15. Popper Frank (1993), *Art of the Electronic Age*, New York: Harry N. Abrams.
16. Popper Frank (2006), *From Technological to Virtual Art*, Cambridge, MA: MIT Press.
17. Salkowitz Rob (2022), "Midjourney Founder David Holz on the Impact of AI on Art, Imagination and the Creative Economy," *Forbes*, September 16.
18. Samuel Sigal (2019), "Artificial Intelligence Can now Make Art. Artists, Don't Panic," *Vox*, May 17.
19. Saw Ruth L. (1972), *Aesthetics: An Introduction*, New York: Macmillan.
20. Tracey (artist collective) (2007), *Drawing Now: Between the Lines of Contemporary Art*, London: I.B. Tauris.
21. Vincent James (2022) "'An Engine for the Imagination': The Rise of AI Image Generators. An Interview with Midjourney Founder David Holz," *The Verge*, August 2.
22. Waelder Paul (2020), "Beyond GANism: AI as Conceptual Art", *CIAC AI MTL Magazine*, 3, April 15.
23. Wittgenstein Ludwig (1980), *Vermischte Bemerkungen. Culture and Value*, Chicago: University of Chicago Press.
24. Wolfram Stephen (2023), "What Is ChatGPT Doing, and Why Does It Work?", On Wolfram's website, [online] <https://writings.stephenwolfram.com/2023/02/what-is-chat-gpt-doing-and-why-does-it-work> [accessed: February 14, 2023].