

Toward a Genealogy of Art and “The Automatic”

Jens Schröter

Department of Language, Media Studies and Musicology

Faculty of Arts, University of Bonn

schroeter@uni-bonn.de

ORCID: 0000-0002-4989-686X

This paper concerns the relation of art and artistic work to the mechanical and automatic, to machines and automation, in certain historical constellations. It is divided into five sections. The first section discusses how in the early 20th century, long before computers and AI, a relation already existed between artistic creativity and the automatic. The second then considers experiments in simulating artistic style that were conducted in the 1960s. The third presents some theoretical reflections on the non-automatability of artistic work. The fourth outlines the situation today and, based on a paper by Hal Foster, applies the notion of “style without museums.” The fifth and final section offers a short conclusion, following a reading of an artwork created by the artist Actress with the AI system “Young Paint.” The paper is a first step toward an as-yet-unwritten genealogy of art and “the automatic.”

Keywords: art, artificial intelligence, automation, de-automation, style.

Introduction

In the current debate about artificial intelligence (AI), a term that now refers mostly to machine learning, the question has emerged of whether AI systems can be creative. This discussion heated up when AlphaGo beat Lee Sedol at Go. The famous move 37 in their second match on March 10, 2016, which seemed radically new even for experienced Go players and which no one foresaw, raised the question of whether it was in fact creative, at least in some way. I cannot go into depth here about the theory of creativity or creative subjectivity, and so shall merely note that creative work was and continues to be seen as a specific human activity that is not (or not easily) available to machines.¹ One argument against the possibility of art made by machines points to the “mechanical” and “automatic” character of machines, on which basis it is claimed that machines’ operations follow strict, predetermined rules without any possibility of something new emerging. This was already a topic in Immanuel Kant’s *Critique of Judgement*:

Despite the marked difference that distinguishes mechanical art, as an art merely depending upon diligence and learning, from fine art, as that of genius, there is still no fine art in which something mechanical, capable of being at once comprehended and followed in obedience to rules, and consequently something *academic* does not constitute the essential condition of the art.²

Kant separates mechanical art based on learning pre-given rules and operations from fine art, which is based on “genius” and is not derivable from rules. Kant’s notion of “mechanical art” implies that this art can be produced by machines too, since machines follow strict rules.³ Interestingly, Kant emphasizes that there is also a mechanical element in what he calls fine art. Although he relates this element to “something *academic*,” which can be understood as denoting a set of handed-down rules, from today’s perspective

1 For an overview, see James C. Kaufman and Robert J. Sternberg, eds., *The Cambridge Handbook of Creativity* (Cambridge University Press, 2010).

2 Immanuel Kant, *Critique of Judgement* [1793] (Oxford University Press, 2007), 139.

3 See Ma’ayan Sela, “The Figure of Mechanical in the Articulation of the Artistic in Kant’s Critique of the Power of Judgment,” accessed April 22, 2025, https://www.academia.edu/35495687/The_Figure_of_the_Mechanical_in_the_Articulation_of_the_Artistic_in_Kant_s_Critique_of_the_Power_of_Judgment. She notes that “Kant means ‘mechanical’ in the sense of ‘machine-like.’”

it can be read as implying that there can be something machine-like in art. That is certainly true in forms of art that work with machines, which became common at the latest following the invention of photography.

Although, of course, painting was always a technical endeavor in the sense that brushes, colors, canvases, etc. (and rules of how these were used) were necessary, the possibility of making photographic art was rejected by at least some early theorists of photography in the 19th century. One argument was that photography's automatic image generation and inclusion of unintended details was incompatible with artistic intentionality.⁴ These debates were sparked by the introduction of the first technological device capable of recording images mechanically and automatically, namely, the camera.

Ever since, the emergence of new technological systems has time and again prompted discussions about whether the creative work of art is possible using that technology, and even (at least recently, with regard to AI) whether such systems can produce art on their own. It seems that the now-popular question of whether computers and software can be creative or not cannot be answered ontologically. What "creative" means seems to be too historically contingent and malleable, and largely dependent on the technological media that are dominant at the time the question is asked. In each phase, the "creative" is opposed to the mechanical and a fortiori the "automatic," as that which could in principle be executed by a machine without thinking and sensing. But what can be done automatically changes with different machines.

The genealogy of this discourse, of how art and the idea of artistic work relate to the mechanical and machines, to the automatic and automation, has not yet been written.⁵ In this paper, I want to highlight certain stages of that genealogy, focusing on the 20th century and ending with some recent discussions and practices of art using AI. I will reconstruct

4 See Wolfgang Kemp, ed., *Theorie der Fotografie I: 1839–1912* (Schirmer & Mosel, 1980), 88.

5 Although there are of course many important and very interesting partial accounts. See for instance Paul Chan, "Machina Aesthetica: Impressions on Art in and out of the Machine Age," *October* 187 (2024): 3–18, https://doi.org/10.1162/octo_a_00505. There has been a deluge of recent publications on AI and art in particular, too many to list here. I shall only mention Arthur I. Miller, *The Artist in the Machine: The World of AI-Powered Creativity* (MIT Press, 2019).

some historical “constellations” (to use Walter Benjamin’s term⁶), in which the confrontation of art with the automatic became visible in some way or another. The paper is divided into five sections:

1) Constellation 1: In the early 20th century, under the influence of industrial mass production, as well as increasingly standardized movie production, classical avant-gardes drew on notions of automation and the automatic. One question concerned art’s role in an increasingly automated world (as opposed to the question of whether art itself can be automated). But at nearly the same time, it was also asked how the automatic, which goes beyond conscious thinking, could be seen as a new tool for art (thereby echoing Kant’s early insight that even “fine art” can and has to use the “mechanical”). This section looks at some of the initial reactions of the art world to the ever-wider diffusion of the mechanical, the automatic, and automation by industrial technology.

2) Constellation 2: In the 1960s, a new technology captured people’s attention: the computer. A new discussion emerged about whether and how it could be used as an artistic tool. The algorithmic character of computers prompted reflections on the potentially algorithmic character of artistic work, which in principle pointed to the possibility of automating such work, although thinkers like Michael Noll had other ideas in mind. Noll and others were formulating their ideas at a time when Andy Warhol named his studio “The Factory.”⁷ This section asks whether with new technologies art can become a technologically automated industry in its own right.

6 Andrea Krauß, “Constellations: A Brief Introduction,” *Modern Language Notes* 126, no. 3 (2011): 439–445. Krauß’s method of observing constellations is compatible with my methodological decision to sketch the outlines of a “genealogy.” Cf. Michel Foucault, *The Archaeology of Knowledge* (Pantheon Books, 1972), 233: “Criticism analyses the processes of rarefaction, consolidation and unification in discourse; genealogy studies their formation, at once scattered, discontinuous and regular,” and 66: “Well to the fore is the role played by the discourse being studied in relation to those that are contemporary with it or related to it. One must study therefore *the economy of the discursive constellation* to which it belongs.”

7 See Caroline A. Jones, *Machine in the Studio: Constructing the Postwar American Artist* (University of Chicago Press, 1996). It is not surprising from my point of view that there is a strong tendency in 20th-century art to conceptualize the artist as a kind of machine.

These two constellations are, of course, far from the whole story. They are just two different cases of art as a reaction to new machines and new forms of automated and mechanical labor in the 20th century.

3) Theoretical interlude: In the third section, I present some theoretical reflections on the problem of automating artistic work. Although it seems possible in principle to automate art (as shown in section 2), that has not happened. Why? The answer necessarily points to the social and historical context of art, as do sections 1 and 2. But these sections describe how artistic practices react in different ways to different technologies. Section 3 discusses why a (hoped-for or feared) takeover of art by technology has not happened and seems unlikely to happen in the future.

4) Constellation 3: With this in mind, I come to section 4, which addresses another, more contemporary constellation. I briefly discuss AI, which has been a topic of much recent debate, and ask whether this technology might not automate artistic work. I reread a text by Hal Foster and deploy his notion of “style without museums.”⁸ This notion highlights that the contemporary problem is not the automation of artistic labor, but the expropriation of style. The problem we are faced with today is the mechanization and automation of style and its potential economic consequences.

5) In the final section, I offer a brief conclusion that makes reference to the work of the artist Actress (Darren J. Cunningham).

Constellation 1: Art, de-automatization, and automatism in the early 20th century

In the early 20th century, there were two parallel developments that were both connected to the “automatic” in a wider sense:

a. Russian Formalism, particularly through the work of Viktor Shklovsky, argued that the task of art is to “defamiliarize” perception,

8 Hal Foster, “The Archive without Museums,” *October* 77 (1996): 97–119, <https://doi.org/10.2307/778962>.

to “make it strange.” Shklovsky saw quotidian perception as marked by automatization: “Automatization eats things, clothes, furniture, your wife, and the fear of war.”⁹ He did not explicitly refer to industrial automation, but his famous essay “Art, as Device” was published in 1917, just four years after Henry Ford first installed his famous assembly line to produce cars. Shklovsky sometimes refers to the car as a paradigmatic example. Carlo Ginzburg writes, quoting Shklovsky: “‘We know how life is made and how Don Quixote and the car are made too.’ Literary criticism as a scientific enterprise, art as a technological artifact.”¹⁰ In another passage, Shklovsky explicitly mentions the “automatic age.”¹¹ Basil Lvoff quotes him as saying: “The machine changes man more than anything else.”¹² Art should in his view present things (or processes) in a new way, so that we as beholders can see them as if for the first time. Art’s task was not to change the political implications of industrial automation or conditions in workplaces, but at least it could change and refresh petrified perceptions. Automatization and perceptual automatism were to be estranged by art in order to provide a fresh perspective on the world.

b. Automatism also played a role in a very different field of art that emerged only a few years later than Russian Formalism, namely Surrealism. Surrealism was tied to notions of mental and bodily automatisms that emerged in psychology and psychoanalysis in the late 19th century. These (semi-)automatic mental processes were often modeled on media technologies. For example, Freud compared the unconscious to a “mystic writing pad” and to photography.¹³ Among other things, Surrealism developed strategies of automatic writing and drawing. André Breton wrote a now-famous essay on

- 9 Viktor Shklovsky, “Art, as Device,” *Poetics Today* 36, no. 3 (2015): 162, <https://doi.org/10.1215/03335372-3160709>.
- 10 Carlo Ginzburg, “Making Things Strange: The Prehistory of a Literary Device,” *Representations* 56 (1996): 8, <https://doi.org/10.2307/2928705>.
- 11 Quoted in Andrei Platonov, “The Anti-Sexus,” *Stasis* 4, no. 1 (2016): 19, <https://stasisjournal.net/index.php/journal/article/download/125/201/>.
- 12 In Basil Lvoff, “When Theory Entered the Market: The Russian Formalists’ Encounter with Mass Culture,” *Urbardus Review* 17 (2016): 65, <https://www.jstor.org/stable/ulbare-vi.17.65>.
- 13 Rachel Leah Thompson, “The Automatic Hand: Spiritualism, Psychoanalysis, Surrealism,” *Invisible Culture: An Electronic Journal for Visual Culture* 7 (2004), <https://web.mit.edu/>

“the automatic message” in 1933.¹⁴ The Surrealists sought to transcend quotidian, rational consciousness through such techniques; the idea was to release unconscious impulses and energies.

Surrealism’s understanding of automatic strategies in art was very different from Shklovsky’s. While Shklovsky expected art to overcome automation, Surrealism used “automatic strategies.” However, the Surrealists did not understand “the automatic” as a set of mechanized, formulaic forms (as Shklovsky did), but rather as something that, by virtue of its spontaneity, disrupted rational consciousness. Despite that, the goals of Russian Formalism and Surrealism were comparable. They both aimed to transcend conventional, quotidian consciousness and to open up new possibilities of perception and perhaps even political action.

Constellation 2: Style and machine in the 1960s

Let us now jump forward to the 1960s. After 1945, new technologies emerged and computers began to spread. From 1946 to 1953 the Macy conferences on cybernetics were held and then in 1956 the Dartmouth Summer Research Project on Artificial Intelligence (the first time the term “artificial intelligence” was used). It was, among other things, the promise of these radical new technologies that led to ever-new waves of fear of automation. As Amy Bix has shown in her study *Inventing Ourselves Out of Jobs?*,¹⁵ automation, its advantages in terms of productivity, and its possible disadvantages in terms of unemployment were intensely debated issues in the United States after 1945, with the topic coming to particular prominence from the 1960s onward. Whatever is done by humans following strict rules can in principle be automated.

allanmc/www/Automatic_Hand.pdf. See Thomas Elsaesser, “Freud as Media Theorist: Mystic Writing Pads and the Matter of Memory,” *Screen* 50, no. 1 (2009): 100–113, <https://doi.org/10.1093/screen/hjn078>.

14 André Breton, “Die automatische Botschaft / The Automatic Message,” in *The Message: Kunst und Okkultismus / Art and Occultism*, ed. Claudia Dichter et al. (Walther König, 2007), 33–55.

15 Amy Sue Bix, *Inventing Ourselves Out of Jobs? America’s Debate over Technological Unemployment 1929–1981* (John Hopkins University Press, 2000).

Only a few years after intense discussions about the automation of work had raged in the US in the early 1960s, the idea of producing artworks in a certain style with the aid of computers emerged. In 1967, Michael Noll published his essay “The Digital Computer as a Creative Medium.”¹⁶ In the essay, Noll argues that “creativity has universally been regarded as the personal and somewhat mysterious domain of man.”¹⁷ He describes the computer as a new medium for the artist and speaks of cooperation between artists and this new medium. But although he does not argue that computers should or could replace artists, the experiment he describes can also be read that way. After analyzing a painting by Mondrian, Noll used a computer to make an image that looked like a Mondrian and put it beside a real, similar-looking, Mondrian. He then asked a presumably nonrepresentative sample of people about the two images:

In general, these people seemed to associate the randomness of the computer-generated picture with human creativity whereas the orderly bar placement of the Mondrian painting seemed to them machinelike. This finding does not, of course, detract from Mondrian’s artistic abilities.¹⁸

Noll’s experiment can be read as simulating the style of an artist in order to produce works that could replace the artist, since the nonexpert viewers identified the simulation as the real artwork (although his paper was an effort to validate computer artists by revealing how computer outputs are not more “mechanical” than some canonical artworks).¹⁹ In this sense, Noll formalized cognitive work. Interestingly, at the very beginning of his paper he discusses the question of how an artist works.²⁰ Starting

16 Michael Noll, “The Digital Computer as a Creative Medium,” *IEEE Spectrum* 4, no. 10 (1967): 89–95, <https://doi.org/10.1109/MSPEC.1967.5217127>. Noll was of course only one among many proponents of such experiments with early computer art. Mark Wilson, Manfred Mohr, Roman Verostko, Frieder Nake, Vera Molnar, Herbert W. Franke, and Charles Csuri are also worthy of mention. See Frank Dietrich, “Visual Intelligence: The First Decade of Computer Art (1965–1975),” *IEEE Computer Graphics and Applications* 5, no. 7 (1985): 34–35, <https://doi.org/10.1109/MCG.1985.276440>.

17 Noll, “Digital Computer as Creative Medium,” 89.

18 *Ibid.*, 92.

19 Thanks to one of the anonymous reviewers for this point.

20 Noll, “Digital Computer as Creative Medium,” 90.

from an anecdote by Henri Matisse about his stepwise work process, Noll attempts to get to grips with the creative process:

Most of all, the Matisse anecdote suggests that the artistic process involves some form of “program,” one certainly more complex than the anecdote admits, but a definite program of step-by-step action. Without doing too much violence to our sense of what is appropriate, we might compare it to a computational hill-climbing technique in which the artist is trying to optimize or stabilize at a high level the parameter “excitement.”²¹

Noll wanted, of course, to validate the stepwise process of computer artists’ work,²² but his analysis of that process can, even if this was totally unintended by Noll, raise the question of whether and how artistic work can be automated. There have been further attempts to automate style, for example in the work of Joan L. Kirsch and Russell A. Kirsch.²³ They demonstrated these methods through algorithmic descriptions of the styles of Richard Diebenkorn and Joan Miró and the subsequent generation of new compositions in their styles. But artists were not replaced by machines, and art was not transformed, via what Marxists would term “real subsumption,” under an industrial regime of mass production.

Theoretical interlude: Why artistic work cannot be automated

Artistic work seems to be a type of work that cannot or should not be formalized, algorithmized, and automated. But why? At least at first glance, the art market looks exactly like any other market: Artists must earn money through their work and “works.” It is not a realm of freedom, but only a kind of service or consumer goods industry that serves a certain demand. However, on consumer markets we find lots of products that are mainly produced by machines and lack any authorial signature (although there are things like brands, of course). But the idea of art without the intervention of a human creator, even if the artistic strategy consists in demonstratively

21 Ibid.

22 Thanks to one of the anonymous reviewers for this point.

23 Joan L. Kirsch and Russell A. Kirsch, “The Anatomy of Painting Style: Description with Computer Rules,” *Leonardo* 21, no. 4 (1988): 437–444, <https://doi.org/10.2307/1578708>.

withdrawing as a creator,²⁴ does not seem plausible. Even if we do not want to use a now-obsolete notion like that of the Kantian “genius” as that which is by definition non-automatable, we still insist on a certain originality and newness in art that is not the result of random processes (although randomness can be used, provided it is part of an original strategy). On the one hand, this need for nonrandom newness is what you would expect under conditions of market competition. On the other hand, this is in a way exactly what Shklovsky’s de-automation means: Art has to give something “new.” This idea, if we accept it, seems difficult if not impossible to reconcile with programmed machines, insofar as a program by definition seems to mean the automation of a set of given, known, and knowable steps.

Niklas Luhmann remarks: “The artist’s genius is primarily his body.”²⁵ One could say that *the separation of knowledge from the working body*, which Harry Braverman describes in his study *Labor and Monopoly Capital* as characteristic of the progression of capitalism,²⁶ does not or cannot take place in art. In that sense art remains in an uneasy, complicated relation to skilled craft.²⁷ This also means that the work of art is somewhat removed from capitalist wage labor, since the artist is not separated from the means of production, e.g., the artist’s unique brushstroke, what we call their “style.”²⁸

24 The withdrawal of the artist or author is a recurring figure in 20th-century art and theory. See among many others Roland Barthes, “The Death of the Author,” in Roland Barthes, *Image Music Text*, ed. and transl. Stephen Heath (Fontana Press, 1977), 142–148.

25 Niklas Luhmann, *Art as a Social System* (Stanford University Press, 2000), 38.

26 Harry Braverman, *Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century* (Monthly Review Press, 1974).

27 Dave Beech, “Art and the Politics of Eliminating Handicraft,” *Historical Materialism* 27, no. 1 (2019): 155–181, <https://doi.org/10.1163/1569206X-00001554>.

28 The brushstroke is, of course, only one example of the material realization of style. On photography, see Nigel Warburton, “Individual Style in Photographic Art,” *British Journal of Aesthetics* 36, no. 4 (1996): 389–397, <https://doi.org/10.1093/bjaesthetics/36.4.389>. After having defined style in a way very similar to my argument, namely as a “pattern of embodied [!] intentions” (391), Warburton criticizes Roger Scruton’s argument that photography could not embody an individual style because of its automatic character. He argues that photographic style is predominantly a result of the “selection of particular photographs as part of [the photographer’s] artistic output” (395). The selection is the work of the photographer, that is to say, the photographer is not separated from the means of production.

But where does this indexical (and also juridical, if one considers copyright) correlation of knowledge and body come from? For even if an artist, let us say Noll, were to define themselves precisely by delegating all work to machines, we would still call the result “a work by Noll” and the original idea would consist in delegating the work of art to machines. Another example: According to Sebastian Egenhofer, the work of Donald Judd is “dissolved in the anonymity of the industrial apparatus.”²⁹ Nevertheless, it would still be pointless for another person or a company to produce the same, or similar, object again, based on the knowledge of how it was made, as is also done in the industrial production of identical copies of, say, a chair. Such a copy would not be recognized as a work of art.

Building on this, I would like to provide another example: Elaine Sturtevant borrowed the screen-printing matrices for Warhol’s *Flowers* (1964/1965) and remade the work. In 1991, she actually made an entire exhibition of Warhol *Flowers*, and Warhol is said to have once replied, when asked about the production process of his *Flowers*, “I don’t know. Ask Elaine.”³⁰ Nevertheless, Sturtevant’s appropriation of Warhol’s knowledge was not a rationalization of Warhol’s work in the sense that Sturtevant now simply made “cheaper Warhols.” Rather, she made “Sturtevents.” Works of art must not be the connection between knowledge and a *false body*: That would be what we call forgery. But Sturtevant did not create forgeries, she connected herself to a body of work that appropriated another body of work.³¹ And this appropriation directs our attention to the complex relation of art and automatic reproduction. Of course, we can produce inexpensive reproductions of *Flowers* as posters, yet they would not count as works of art, but rather as reproductions. Warhol’s life ended in 1987 and that stopped the production of original “Warhols.” In the long run, the mortality of artists necessarily makes artworks by a given artist scarce and that is one reason why they have market value.

The historical situatedness of artworks is also relevant in another way. Diedrich Diederichsen points out that the ongoing work of assigning

29 Sebastian Egenhofer, *Abstraktion Kapitalismus Subjektivität: Die Wahrheitsfunktion des Werks in der Moderne* (Fink, 2008), 214. My translation.

30 Quoted in Bill Arning, “Sturtevant,” *Journal of Contemporary Art* 2, no. 2 (1989): 44.

31 One factor that is especially important for her work is, of course, that she emphasizes the gender of the artistic body by appropriating the work of male artists.

relevance by curators, critics, museums, audiences, etc. is also part of the work that creates the artwork and its market value.³² The distributed character of this work makes it impossible to rationalize, since it continuously accompanies the work, i.e., never ends, and can also take unpredictable turns (e.g., Sturtevant's could become more important and more expensive than Warhols in the future).

In Noll's work (and more generally in "information aesthetics"), works of art are removed from their historical context and reduced to abstract structures that can be formalized. This phenomenon is apparently being repeated in recent AI art: "That might be an inevitability of AI art: Wide swaths of art-historical context are abstracted into general, visual patterns."³³ Art is dehistoricized and restylized. Style wins over history. This would mean it is enough to have an image in the *style* of Warhol. It would no longer be necessary to link a given artifact indexically to a historical artist-body. The artist's work could then be automated as *style*. This can be seen as a threat to the art market. Alternatively, it can be seen as democratization. One could even argue that having the stylistic options available in, let us say, DALL-E or Stable Diffusion is not very different from buying posters featuring artworks by Warhol or Van Gogh in IKEA, except that we can now be "creative prosumers," mixing our own Warhol-meets-Van-Gogh-meets-Star-Trek cocktail. But discourses of "prosuming" are highly ideological, representing a pseudo-creativity that produces the illusion of mastery over the archive. This leads us to the next constellation.

32 Diedrich Diederichsen, "Zeit, Objekt, Ware," *Texte zur Kunst* 88 (2012): 95–101, <https://www.textezurkunst.de/de/88/zeit-objekt-ware/>. This institutionalist argument was developed by many authors, among them: Arthur C. Danto, "The Artworld," *Journal of Philosophy* 61 (196): 571–584, <https://doi.org/10.2307/2022937>, George Dickie, *Art and the Aesthetic: An Institutional Analysis* (Cornell University Press, 1974), and Howard S. Becker, *Art Worlds* (University of California Press, 1982). They all argue, even if they do not explicitly mention the ongoing and additional work of commentators, etc., that artworks are constituted and stabilized over time in an "artworld" or similar institutional context.

33 Ian Bogost, "The AI-Art Gold Rush Is Here: An Artificial Intelligence 'Artist' Got a Solo Show at a Chelsea Gallery. Will It Reinvent Art or Destroy It?" *The Atlantic*, March 3, 2019, <https://www.theatlantic.com/technology/archive/2019/03/ai-created-art-invades-chelsea-gallery-scene/584134/>.

Constellation 3: Style without museums

Today, an anxious and multifaceted discussion on the future of work has reemerged, prompted by the challenges of robotics and AI. I have addressed this complicated discussion elsewhere.³⁴ It would appear that, once again, art is not directly threatened by computerization. Art does not appear in the widely discussed and controversial Oxford research report by Carl Benedikt Frey and Michael A. Osborne from 2013, according to which 47% of jobs could be computerized in the near future: The only job they mention that resembles artistic work is that of the “art director,” which gets off quite lightly with a ranking of 95th on the computerizability probability list.³⁵ Even today, although there is a lot of discussion about the possibilities of AI and robotics automating work, the question of whether artistic work can be automated is not central.³⁶ To be precise: All kinds of standardized, formulaic art (what Kant would call “mechanical” art) can be formalized and automated by AI and will presumably be automated to save costs; examples include the “Muzak” played in supermarkets and conventional poster designs. But the “high art” system, with its principles of originality, newness, and authorship, is less endangered for the reasons outlined in the last section.

The problem, however, may not lie in the possibility that an AI system could replace the work of artists. The issue seems to be, as was already hinted at above, that all styles are now available at people’s fingertips. In his 1996 essay, “The Archive without Museums,”³⁷ art historian Hal Foster mused about the expanding academic discourse called *visual culture*, in contrast to the discourse of *art history*. Visual culture, characterized by an erosion of dichotomies between high/low, art/nonart, etc. (in this respect, it was an offspring of cultural studies), was much debated at that time. Foster was very skeptical about “visual culture” as a disciplinary field. In his essay

34 Jens Schröter, “Digitale Medientechnologien und das Verschwinden der Arbeit,” in *Mensch und Maschine: Freund oder Feind? Mensch und Technologie im digitalen Zeitalter*, ed. Thomas Bächle and Caja Thimm (Springer, 2019), 183–210.

35 Carl Benedikt Frey and Michael A. Osborne, “The Future of Employment: How Susceptible Are Jobs to Computerisation?” (Oxford Martin School, University of Oxford, 2013), <https://www.oxfordmartin.ox.ac.uk/publications/the-future-of-employment>.

36 See, for example, the paper by Nobel Prize winner Daron Acemoglu and Pascual Restrepo, “The Wrong Kind of AI? Artificial Intelligence and the Future of Labour Demand,” *Cambridge Journal of Regions, Economy and Society* 13 (2020): 25–35, <https://doi.org/10.1093/cjres/rsz022>.

37 Foster, “Archive without Museums.”

he discusses the historical, institutional, and technological conditions that led to its emergence. Right at the beginning, he contrasts these conditions with those that led to the emergence of art history. He proposes three different conditions for each field.

The emergence of art history is founded on:

- a. the foregrounding of the “constructive aspect of the artwork”;
- b. an interest in “alien,” non-European art fostered by 19th-century imperialism (according to Foster, both a. and b. are shared by art history and modern art); and
- c. the technologies of photographic reproduction: “Art history relied on techniques of *reproduction* to abstract a wide range of *objects* into a system of *style*—as defined in diacritical terms by Wölfflin in *The Principles of Art History* (1915).”³⁸ The “system of style” is also what organizes the logic of museums.³⁹

Foster then characterizes the conditions that led to visual culture. He mentions:

- a. the “visual virtuality of contemporary media”;
- b. the interest in “cultural multiplicity in a post-colonial age”; and
- c. the possibility that visual culture “might [...] rely on techniques of *information* to transform a wide range of *mediums* into a system of image-text—a database of digital terms, an archive without museums.”⁴⁰

It seems that the performance of style by AI systems like DALL-E does, in some respects, belong to the paradigm of visual culture. AI systems like DALL-E are based on databases of images taken from the Web and in that sense on an archive without museums. The postcolonial cultural multiplicity is also a characteristic trait of our contemporary situation. There might be significant biases in DALL-E and similar software, due to the underlying dataset, and the fact that these biases are being critically discussed is a sign of our postcolonial condition.

But the notion of style is, for Foster, connected to the paradigm of art history and its media: “After photographic reproduction the museum was not so much bound by walls, but it was bordered by style.”⁴¹ This abstraction

38 Ibid., 97.

39 Ibid., 115.

40 Ibid., 97.

41 Ibid., 115.

of a wide range of objects into a system of style seems to be highly characteristic of contemporary AI-based visual culture. In that culture, however, we find less a system and more a heterogeneous multiplicity of styles. As Roland Meyer put it in a concise essay on DALL-E: “Style here can mean the individual style of a canonized artist, but also the visual qualities of certain technical media or the look of pop cultural imagery.”⁴² AI software systems produce *style without museums*, in the sense that style is no longer constituted and controlled by the museum or art history. Such systems tend to be a danger to artistic work in a different way: Users of generative AI can produce images in the style of this or that artist without the artist gaining any economic benefit from it. Generative AI systems are trained by scraping huge datasets of image/text pairs from the Web, mostly without paying any attention to copyright. Artistic work is expropriated in this generative “primordial accumulation,” as Marx would term it. Some artists have already sued the companies Stability AI, Midjourney, DeviantArt, and Runway AI for violating artists’ rights by illegally storing their works in their image generation systems.⁴³ It remains an open question what will come of this.

Conclusion

I would like to conclude with one last example. It concerns the work of Darren J. Cunningham, aka Actress, a fascinating DJ who creates experimental electronic music. He created an AI system/neural network called “Young Paint,” which is trained with music created by the artist himself. Cunningham uses this AI as a kind of musical partner in his other creative work and in his concerts.

42 Roland Meyer, “Im Bildraum von Big Data: Unwahrscheinliche und unvorhergesehene Suchkommandos: Über Dall-E 2,” *Cargo* 55 (2022): n.p., <https://www.cargo-film.de/heft/55/essay/im-bildraum-von-big-data/>. My translation.

43 See, for example, Torey Akers, “US Artists Score Victory in Landmark AI Copyright Case,” *The Art Newspaper*, August 15, 2024, <https://www.theartnewspaper.com/2024/08/15/us-artists-score-victory-in-landmark-ai-copyright-case>. See also Winston Cho, “Artists Score Major Win in Copyright Case against AI Art Generators,” *The Hollywood Reporter*, August 13, 2024, <https://www.hollywoodreporter.com/business/business-news/artists-score-major-win-copyright-case-against-ai-art-generators-1235973601/>; Jocelyn Noveck and Matt O’Brien, “Visual Artists Fight Back against AI Companies for Repurposing Their Work,” *AP News*, August 13, 2023, <https://apnews.com/article/artists-ai-image-generators-stable-diffusion-midjourney-7ebcb6e6ddca3f165a3065c70ce85904>.

Young Paint has been progressively learning and emulating the shadowy, unpredictable, UK bass- and rave-inspired music of Darren J. Cunningham, aka Actress. Over the course of 2018, the AI-based character has spent time programming and arranging Cunningham's sonic palette, learning not only how to react to his work, but also to take the lead with the occasional solo. A life-size projection of Young Paint working in a virtual studio parallels Cunningham's performance on stage, visualising their collaboration.⁴⁴

Young Paint is not conceived merely as a tool, but also as a partner, automating and at the same time transforming the *style* of Actress. Cunningham mirrors himself in a machine learning system that on the one hand learns and mimics his aesthetic strategies, yet on the other produces unforeseeable digressions. This is a kind of "surrealism without the unconscious," to quote Fredric Jameson,⁴⁵ but in a new and critical way: Cunningham/Actress forms a new assemblage with his double, Young Paint, which enhances his aesthetic self-reflection in the form of Actress/Young Paint. I have discussed this example at length elsewhere.⁴⁶

What interests me here is only one point: In this case, *style* is not only separated from the artist, in a similar way to Noll's Mondrian, but also recursively modifies the artist themselves. The artist, Cunningham, himself is de-automated, to use Shklovsky's notion. He must react to the contingency produced by Young Paint. This might be a novel aspect of interactive systems collaborating with artists, although one could say it was already a strategy of the Surrealists, insofar as strategies like automatic writing implied contingency.

New technologies like machine learning led to new constellations in which the "mechanical" (Kant) in art and its relation to the creative process is newly negotiated, as the example of Actress/Young Paint shows. The role of the author is de-familiarized in a new way in this case. A technological

44 "Actress + Young Paint," *Transmediale*, accessed November 14, 2024, <https://transmediale.de/content/actress-young-paint-live-2-Feb>.

45 Fredric Jameson, *Postmodernism, or, the Cultural Logic of Late Capitalism* (Verso, 1991), 67–96.

46 Jens Schröter, "Critical Transhumanist Aesthetics? The Automatic Subject, Actress and Young Paint," *New Proposals: Journal of Marxism and Interdisciplinary Inquiry* 12, no. 1 (2021): 111–120, <https://ojs.library.ubc.ca/index.php/newproposals/article/view/195470/191442>.

system learns to behave (at least partially) like the artist and can thereby become a kind of partner. At the same time machine learning led to the new and heavily discussed “AI images,” in which auctorial styles are seemingly available “without museum,” to use Foster’s phrase. These two examples are two aspects of the current constellation. But the question of the relation between art and the “mechanical,” that is: “the automatic,” haunted art for a very long time. This relation changed historically and some of the constellations were described in this paper.

The emergence of photography was a first case. The automatic character and the mass of unintended details of the photographic image were a hindrance for the acceptance of photography as art in the 19th century. Photographers like Edward Steichen took recourse to aesthetic strategies borrowed from painting to evade this problem. This constellation and its later transformations finally resulting in the acceptance of photography as an art would have to be presented in a more detailed genealogy of art and the automatic.⁴⁷

The next constellation emerged in the 1920s. The “automatic” was on the one hand still seen as a threat, and even more so than before. For Shklovsky, it was now the central problem that the whole of ordinary perception became “automatized,” as he put it. He associated this standardization of perception with the industrialized machine system and work processes that became central to Western societies since the 19th century. The realm of the mechanical had grown, so to speak, to include all perception. The function of art was for Shklovsky to shatter these petrified forms of perception. At nearly the same time the mechanical returned, via psychoanalysis, in a completely different way in Surrealism. Surrealism’s goal was to use “automatisms,” as in automatic writing. But interestingly, the goal of Surrealism was similar to Russian Formalism, namely, to disrupt established forms of perception. The difference between the discussion on photography in the 19th century and this constellation is that in the first case the automatic in art was still seen as a problem to be overcome, while Surrealism saw it as a potential to disrupt daily forms of consciousness.⁴⁸ Russian formalism had

47 Christopher Philips, “The Judgment Seat of Photography,” *October* 22 (Autumn, 1982): 27–63.

48 Rosalind Krauss, “The Photographic Conditions of Surrealism,” *October* 19 (Winter 1981): 3–34.

a kind of intermediate position, on the one hand criticizing the automatic in the tradition of the 19th century, but not specifically in art, but as the mode of quotidian perception as such. This whole development beginning with Kant's musings on the mechanical in art, through the discussions on photography up to the (at least) twofold way in which the automatic was an important notion in art and art theory of the 1920s must be analyzed in more detail in a complete genealogy of art and the automatic.

These two constellations, photography in the 19th century and the twofold reception of the automatic in Formalism and Surrealism remained related to traditional machines like photography (and related to the background of modern industry). But after the Second World War a new machine emerged, the computer (and its relation to industrial work was heavily discussed). This marked the emergence of a new constellation. One approach was to design algorithms that in a way can simulate artistic working processes or at least result in images that resemble artistic works. Since already Kant argued that there is always something "mechanical" in art, this idea is not farfetched. I described, very shortly, the constellation of Noll trying to simulate Mondrian. A complete genealogy of the art and the automatic would require a far more detailed reconstruction of these early experiments with computers. There are many more positions besides Noll, e. g. Manfred Mohr, which would have to be presented and analyzed in more detail. Anyway, with Noll, Mohr and many others the focus shifted again. The computer, in the 1950s conceptualized as an "electronic brain" seemed to be able to simulate cognitive processes, so why not also creative processes? And this question re-emerges again and again in different ways in relation to computing machines, nowadays in the form of AI.

A detailed genealogy of the different constellations in which art and the work of the artist are related in different ways to the "mechanical" and the "automatic" remains to be written, although the research presented in this paper shows already the outlines of some of its central stages.

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Bibliography

- Acemoglu, Daron, and Pascual Restrepo. "The Wrong Kind of AI? Artificial Intelligence and the Future of Labour Demand." *Cambridge Journal of Regions, Economy and Society* 13 (2020): 25–35.
- Arning, Bill. "Sturtevant." *Journal of Contemporary Art* 2, no. 2 (1989): 39–50.
- Barthes, Roland. "The Death of the Author," in Roland Barthes. *Image Music Text*. Essays selected and translated by Stephen Heath, 142–148. Fontana Press, 1977.
- Becker, Howard S. *Art Worlds*. University of California Press, 1982.
- Beech, Dave. "Art and the Politics of Eliminating Handicraft." *Historical Materialism* 27, no. 1 (2019): 155–181. <https://doi.org/10.1163/1569206X-00001554>.
- Bix, Amy Sue. *Inventing Ourselves out of Jobs? America's Debate over Technological Unemployment 1929–1981*. The John Hopkins University Press, 2000.
- Braverman, Harry. *Labor and Monopoly Capital. The Degradation of Work in the Twentieth Century*. Monthly Review Press, 1974.
- Breton, André. "Die automatische Botschaft / The Automatic Message." In *The Message. Kunst und Okkultismus / Art and Occultism*, edited by Claudia Dichter, Hans Günter Golinski, Michael Krajewski and Susanne Zander, 33–55. Walther König, 2007.
- Chan, Paul. "Machina Aesthetica: Impressions on Art in and out of the Machine Age." *October* 187 (Winter 2024): 3–18.
- Egenhofer, Sebastian. *Abstraktion Kapitalismus Subjektivität. Die Wahrheitsfunktion des Werks in der Moderne*. Fink, 2008.
- Elsaesser, Thomas. "Freud as Media Theorist: Mystic Writing Pads and the Matter of Memory." *Screen* 50, no. 1 (2009): 100–113.
- Danto, Arthur C. "The Artworld." *Journal of Philosophy* 61 (1964): 571–584.
- Dickie, George. *Art and the Aesthetic. An Institutional Analysis*. Cornell University Press, 1974.
- Diederichsen, Diedrich. "Zeit, Objekt, Ware." *Texte zur Kunst* 88 (2012): 95–101. <https://www.textezurkunst.de/de/88/zeit-objekt-ware/>.
- Dietrich, Frank. "Visual Intelligence: The First Decade of Computer Art (1965–1975)." *IEEE Computer Graphics and Applications* 5, no. 7 (1985): 34–35.
- Foster, Hal. "The Archive without Museums." *October* 77 (1996): 97–119. <https://doi.org/10.2307/778962>.
- Foucault, Michel. *The Archaeology of Knowledge*. Pantheon Books, 1972.
- Frey, Carl Benedikt, and Michael A. Osborne. "The Future of Employment. How Susceptible are Jobs to Computerisation. Resource Document." Oxford Martin School, University of Oxford, 2013. <https://www.oxfordmartin.ox.ac.uk/publications/the-future-of-employment>.
- Ginzburg, Carlo. "Making Things Strange. The Prehistory of a Literary Device." *Representations* 56 (1996): 8–28. <https://doi.org/10.2307/2928705>.
- Jameson, Fredric. *Postmodernism, or, the Cultural Logic of Late Capitalism*. Verso, 1991.
- Jones, Caroline A. *Machine in the Studio. Constructing the Postwar American Artist*. The University of Chicago Press, 1996.
- Kant, Immanuel. *Critique of Judgement* [1793]. Oxford University Press, 2007.
- Kaufman, James C., and Robert J. Sternberg, eds. *The Cambridge Handbook of Creativity*. Cambridge University Press, 2010.
- Kemp, Wolfgang, ed. *Theorie der Fotografie*, Volume 1, 1839–1912. Schirmer und Mosel, 1980.
- Kirsch, Joan L., and Russell A. Kirsch. "The Anatomy of Painting Style: Description with Computer Rules." *Leonardo*

- 21, no. 4 (1988): 437–444. <https://doi.org/10.2307/1578708>.
- Krauss, Rosalind. “The Photographic Conditions of Surrealism.” *October* 19 (Winter 1981): 3–34.
- Krauß, Andrea. “Constellations. A Brief Introduction.” *Modern Language Notes* 126, no. 3 (2011): 439–445.
- Luhmann, Niklas. *Art as a Social System*. Stanford University Press, 2000.
- Lvoff, Basil. “When Theory Entered the Market: The Russian Formalists’ Encounter with Mass Culture.” *Ulbardus Review* 17 (2016): 65–85. <https://www.jstor.org/stable/ulbarevi.17.65>.
- Meyer, Roland. “Im Bildraum von Big Data. Unwahrscheinliche und unvorhergesehene Suchkommandos: Über Dall-E 2.” *Cargo* 55 (2022): 50–53. <https://www.cargo-film.de/heft/55/essay/im-bildraum-von-big-data/>.
- Miller, Arthur I. *The Artist in the Machine. The World of AI-Powered Creativity*. MIT Press, 2019.
- Noll, Michael. “The Digital Computer as a Creative Medium.” *IEEE Spectrum* 4, no. 10 (1967): 89–95. <https://doi.org/10.1109/MSPEC.1967.5217127>.
- Philips, Christopher. “The Judgment Seat of Photography.” *October* 22 (Autumn, 1982): 27–63.
- Platonov, Andrei. “The Anti-Sexus.” *Stasis* 4, no. 1 (2016): 10–19. <https://stasisjournal.net/index.php/journal/article/download/125/201/>.
- Schröter, Jens. “Digitale Medientechnologien und das Verschwinden der Arbeit.” In *Mensch und Maschine: Freund oder Feind? Mensch und Technologie im digitalen Zeitalter*, edited by Thomas Bächle and Caja Thimm, 183–210. Springer, 2019.
- Schröter, Jens. “Critical Transhumanist Aesthetics? The Automatic Subject, Actress and Young Paint.” *New Proposals: Journal of Marxism and Interdisciplinary Inquiry* 12, no. 1 (2021): 111–120. <https://ojs.library.ubc.ca/index.php/newproposals/article/view/195470/191442>.
- Sela, Ma’ayan. “The Figure of Mechanical in the Articulation of the Artistic in Kant’s Critique of the Power of Judgment,” https://www.academia.edu/35495687/The_Figure_of_the_Mechanical_in_the_Articulation_of_the_Artistic_in_Kant_s_Critique_of_the_Power_of_Judgment.
- Shklovsky, Viktor. “Art, as Device.” *Poetics Today* 36, no. 3 (2015): 151–174. <https://doi.org/10.1215/03335372-3160709>.
- Thompson, Rachel Leah. “The Automatic Hand: Spiritualism, Psychoanalysis, Surrealism.” *Invisible Culture: An Electronic Journal for Visual Culture* 7 (2004), https://web.mit.edu/allanmc/www/Automatic_Hand.pdf.
- Transmediale. “Actress and Young Paint.” Accessed November 14, 2024. <https://transmediale.de/content/actress-young-paint-live-2-Feb>.
- Warburton, Nigel. “Individual Style in Photographic Art.” *British Journal of Aesthetics* 36, no. 4 (1996): 389–397.

Link meno ir „automatizmo“ genealogijos

Jens Schröter

Reikšminiai žodžiai: menas, dirbtinis intelektas, automatizacija, deautomatizacija, stilius.

Straipsnyje nagrinėjami meno ir meninės veiklos santykiai su mechanika, automatika, mašinomis ir automatizacija tam tikrose istoriniuose kontekstuose. Tyrimas pradamas nuo pastebėjimo, kad jau Immanuelis Kantas savo veikale *Sprendimo galios kritika* pabrėžė ambivalentišką meno santykį su tuo, ką jis vadino „mechanika“. Nors menas aiškiai atskiriamas nuo mechanikos, Kantas pripažino, kad ji neišvengiamai yra meno prielaida. Remiantis šiuo pastebėjimu, straipsnyje analizuojami įvairūs meno santykio su „mechanika“ ir „automatika“ etapai XIX a. pabaigoje ir XX a. Pirmiausia trumpai aptariama XIX a. diskusija dėl fotografijos priskyrimo menui. Toliau straipsnis skirstomas į penkias dalis. Pirmojoje nagrinėjama, kaip dar XX a. pradžioje, gerokai anksčiau nei atsirado kompiuteriai ir DI, meninės kūrybos bei automatikos santykį jau svarstė tiek rusų formalistai, tiek siurrealistai, nors visiškai skirtingais aspektais. Antroje dalyje analizuojami 7 deš. eksperimentai, kuriais buvo mėginama simuliuoti meninę stilių, kartu iškeliant meno automatizavimo idėją. Trečiojoje pristatomos teorinės refleksijos apie neįmanomumą automatizuoti meninę veiklą. Ketvirtojoje apžvelgiama šiandieninė situacija, pasitelkus Halo Fosterio tekstą ir jame pasiūlytą „stiliaus be muziejų“ sąvoką, padedančią suprasti su generatyviuoju DI susijusius naujus procesus. Penktoje, baigiamojoje, dalyje pateikiama trumpa išvada, remiantis menininko Actress (Darreno J. Cunninghamo) kūrinium, sukurtu naudojantis DI sistema „Young Paint“. Straipsnyje teigiama, kad menas susijęs su mechanika, automatika ir mašinomis, nors jų santykis nuolatinis, bet ir kintantis. Tai pirmasis žingsnis link dar neparašytos meno ir „automatikos“ genealogijos.