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‘Make it New’: GenAI, Modernism, and Database Art

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‘Make it New’: GenAI, Modernism, and Database Art

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Lev Manovich is an artist, writer, and one of the most influential theorists of digital culture worldwide. He is currently a Presidential Professor of Computer Science at the City University of New York’s Graduate Center and the Director of the Cultural Analytics Lab. After studying painting, architecture, and filmmaking, Manovich began using computers to create digital art in 1984. He has played a key role in creating four new research fields: digital culture (1991–), software studies (2001–), cultural analytics (2007–) and AI aesthetics (2017–). He is the author of 190 articles and 16 books, including *Artificial Aesthetics*, *Cultural Analytics*, *Instagram and Contemporary Image*, *Software Takes Command*, and *The Language of New Media*, which has been called “the most provocative and comprehensive media history since Marshall McLuhan.” His projects have been exhibited in 14 solo and 1,242 international group exhibitions at many prestigious institutions, such as the Institute of Contemporary Art (London), the Centre Pompidou, The Shanghai Biennale, and The ZKM | Center for Art and Media.

This essay argues that as an artistic medium, Generative AI can be seen as a new instance of a popular paradigm in 20th century art. Although generative AI and modernist art appear to be opposites of each other (one was focused on “making it new,” the other is based on training data of already existing art), in reality they are similar. While modernist artists explicitly opposed traditions, in reality they achieved innovation by reinterpreting and incorporating older art forms from other cultures. Similarly, generative AI tools allow the creation of new works because they are trained on massive databases of existing art and media. Therefore, making new art and media with GenAI fits into a long-standing tradition in modern art that involves creating new art from accumulations of existing artifacts. This tradition encompasses modernist collage and photomontage, post-modern bricolage, net art, and the pioneering media work of artists like Nam June Paik. Contemporary AI artists, such as Refik Anadol and Lev Pereulkov, exemplify the practice of using AI models trained on specific datasets to produce novel artworks that engage in a dialogue with historical art while introducing new aesthetic possibilities.

The current generation of generative AI systems, such as ChatGPT, Midjourney and Stable Diffusion, have been trained on very large and diverse datasets consisting of trillions of individual texts, or billions of images and their text descriptions. However, many creators working with generative AI chose to either fine tune existing AI models on their own data, or train models only on such data. It is also very interesting to limit the training data set to a more narrow area within the larger space of human cultural history, or to a specific set of artists from a specific historical period. One such project will be a starting point for my discussion.

Unsupervised (2022) by Refik Anadol Studio¹ is an AI art project that exemplifies these possibilities. The project uses AI model trained on the image dataset of tens of thousands of artworks from the MoMA (Museum of Modern Art, New York) collection. MoMA collection, in my opinion, is one of the best representations of the most creative and experimental period in human visual history—the one hundred years of modern art between 1870 and 1970. It captures

1 <https://refikanadol.com/works/unsupervised>

modernist artists’ feverish and relentless experiments to create new visual and communication languages and ‘make it new.’

On the surface, the logic of modernism appears to be diametrically opposed to the process of training generative AI systems. Modern artists desired to depart from classical art and its defining characteristics such as visual symmetry, hierarchical compositions, and narrative content. In other words, their art was founded on a fundamental rejection of everything that had come before it (at least in theory, as expressed in their manifestos). Neural networks are trained in the opposite manner, by learning from historical culture and art created up to now. A neural network is analogous to a very conservative artist studying in the ‘meta’ ‘museum without walls’ that houses only historical art.

But we all know that art theory and art practice are not the same thing. Modern artists did not completely reject the past and everything that came before them. Instead, modern art developed by reinterpreting and copying images and forms from much older art traditions, such as Japanese prints (van Gogh), African sculpture (Picasso), and Russian icons (Malevich). Thus, the artists only rejected the dominant ‘high art’ paradigms of the time (realism and Salon art), but not the rest of human art history. In other words, modernism was deeply historicist: rather than inventing everything from scratch, it innovated by adapting certain older aesthetics to contemporary art contexts. (In the case of geometric abstract art created in 1910s, these artists used images that were already widely used in experimental psychology to study human visual sensation and perception.)

When it comes to artistic AI, we should not be blinded by how these systems are trained. Yes, artificial neural networks are trained on already existing human art and culture artifacts. However, their newly generated outputs are not mechanical replicas or simulations of what has already been created. In my opinion, these are frequently genuinely new cultural artifacts with previously unseen content, aesthetics, or styles. In other words, I want to suggest that modernist project and AI art phenomenon are often more similar than it may appear.

Of course, simply being novel does not automatically make something culturally or socially interesting or significant. Indeed, many definitions of ‘creativity’ agree on this point: it is the creation of something that is both

However, estimating what percentage of all novel artifacts produced by generative AI are also useful and/or meaningful for a larger culture is not a feasible project at this time. For one thing, I am not aware of any systematic effort to use such systems to ‘fill in,’ so to speak, a massive matrix of all content and aesthetic possibilities by providing millions of specifically designed prompts. Instead, it is likely that, as in every other area of popular culture, only a small number of possibilities are realized over and over by millions of users, leaving a long tail of other possibilities unrealized. So, if only a tiny fraction of the vast universe of potential AI creations is being realized in practice, we can’t make broad statements about the originality or utility of the rest of the universe.

Some AI artists such Anna Ridler,² Sarah Meyohas³ and Refik Anadol⁴ have utilized in their works neural nets trained on specific datasets. Many other artists, designers, architects, and technologists use networks released by other companies or research institutions that were already trained on very large datasets (e.g. Stable Diffusion), and then fine tune them on their own data.

For example, artist Lev Pereulko⁵ fine-tuned the Stable Diffusion model 2.1 using 40 paintings by well-known ‘non-conformist’ artists who worked in the USSR starting in the 1960s (Erik Bulatov, Ilya Kabakov, and others). Pereulko’s image series *Artificial Experiments 1-10* (2023) created with this custom AI model is an original artwork that captures the aesthetic and semantic worlds of these artists without repeating closely any of their existing works. Instead, their ‘DNAs’ captured by the model enable production of new meanings and visual concepts.

Most of the millions of everyday people and creative professionals who employ generative media tools use them as is, and don’t customize them further. This may change in the future as fine tuning these tools to follow our aesthetic preferences becomes more common place. But regardless of these specifics, all newly created cultural artifacts produced by generative AI have a common logic.

Unlike traditional drawings, sculptures, and paintings, generative media artifacts are not created from scratch.

2 <https://annaridler.com>

3 <https://aiartists.org/sarah-meyohas>

4 <https://refikanadol.com>

5 <https://www.instagram.com/pereulkye>

They are also not the result of capturing some sensory phenomenon — unlike photography, film, video or sound recordings. Instead, they are built from a large archive of other media artifacts. This generative AI mechanism links generative media to certain earlier art genres and media making processes. (However, if an artist working with earlier media was selecting and assembling new work manually, thus controlling every detail, artist using GenAI tools works through an intermediary-trained AI model.)

We can compare GenAI media making process to film editing, which first appears around 1898, or even earlier composite photography, which was popular in the nineteenth century. We can also consider specific artworks that are especially relevant, such as experimental collage film *A Movie* (Bruce Conner, 1958) or many Nam June Paik installations that feature edited fragments of TV footage. Seeing projects like *Unsupervised* or *Artificial Experiments 1-10* in the context of this media making tradition and its historical variations will help us understand these and many other AI artworks as art objects engaged in dialogues with art from the past, rather than as purely technological novelties or works of entertainment.

I see many relevant moments and periods when I scan the history of art, visual culture, and media for other prominent uses of this paradigm: making new cultural objects from collections of existing ones. They are relevant to the current generative media not only because many artists in the past at different moments in media history used this approach, but also because the motivation for its periodic reoccurrence seems to remain the same. A new accumulation and accessibility of masses of cultural artifacts led artists to create new forms of art driven by these accumulations. Let me describe a few of these examples.

Net and digital artists created a number of works in the late 1990s and early 2000s in response to the new rapidly expanding universe of the world wide web. Heath Bunting’s *_readme* (1998), for example, is a web page containing the text of an article about the artist, with each word linked to an existing web domain corresponding to that word. Mark Napier’s *Shredder 1.0* (also 1998) presents a dynamic montage of elements that comprise numerous websites—images, texts, HTML code, and links.

Going earlier to 1980s, we also find artists reacting to the accumulation of

22 historical art and culture artifacts in easily accessible media collections. This is paradigm known as post-modernism. Post-modern artists and architects frequently used bricolage to create works that included quotations and references to historical art, rejecting modernism's self-proclaimed emphasis on novelty and breaking with the past.

While there are many possible explanations for the emergence of the post-modern paradigm at that time, one of them is particularly relevant to our discussion. The accumulation of earlier art and media artifacts in structured and accessible collections such as slides libraries, film archives, art history textbooks with many photos of the artworks, and other formats—where different historical periods, movements, and creators were positioned together—inspired artists to begin creating bricolages from such references as well as extensively quoting them.

And what about modernism of the 1910s–1920s? While modernists claimed they valued originality and innovation, one of the methods they employed to achieve this novelty was the incorporation of direct quotations from the rapidly expanding realm of contemporary visual media. In these decades, use of large headings and the inclusion of photos and maps made newspapers more visually impactful; new visually oriented magazines, such as *Vogue* and *Times*, were launched in 1913 and 1923, respectively; and of course, a new medium of cinema continued to develop.

In response to this visual intensification of mass culture, in 1912 Georges Braque and Pablo Picasso began incorporating actual newspaper, poster, wallpaper, and fabric fragments into their paintings. A few years later, John Heartfield, George Grosz, Hannah Hoch, Aleksandr Rodchenko, and a handful of other artists began to develop photo-collage which became another method of creating new media artifacts from existing mass media images.

Contemporary artworks that employ AI models trained on cultural databases, such as *Unsupervised* or *Artificial Experiments 1-10*, continue a long tradition of creating new art from accumulations of images and other media. Thus, these artworks create novel possibilities for art and its methodologies, specifically within the realm of what I previously described as database art.⁶ The introduction of new methods for reading cultural

⁶ Lev Manovich, "Database as a symbolic form," in *The Language of New Media*, Lev Manovich (Boston, MA: MIT Press, 2001), <https://manovich.net/index.php/projects/database-as-a-symbolic-form>

databases and creating new narratives from them is part of this expansion.

Unsupervised neither creates collages from existing images, as did modernist artists of the 1920s, nor quotes them extensively, as did postmodern artists of the 1980s. Instead, Refik Anadol Studio trained AI model to extract patterns from tens of thousands of MoMA’s artworks. The model can generate new images that have the same patterns as training data but don’t look like any specific paintings. However, rather than simply displaying these images separately, the installation presents the viewers with the constantly changing animation. As we watch it, we travel through the space of these patterns (e.g., ‘latent space’), exploring various regions of the universe of modern art as represented in MoMA collection.

Pereulikov’s *Artificial Experiments 1-10* use a different technique to generate new images from an existing image database. He chose only forty paintings by artists who share certain characteristics. They developed their oppositional art in late communist society (USSR, 1960s–1980s). They also lived in the same visual culture. In my memories, this society was dominated by two colors: grey (representing the monotony of urban life) and the red of propaganda slogans and flags.

In addition, Pereulikov chose paintings that share something else: “I chose, as a rule, paintings that conceptually relate in some way to the canvas—or to the space on it. For example, I use the image of a painting *New Accordion* from Ilya Kabakov, which features paper applications on top of the canvas.”⁷ Pereulikov also crafted custom text descriptions of each painting used for fine-tuning the Stable Diffusion image generation model. To teach the model the specific visual languages of the chosen artists, he added terms such as ‘thick strokes,’ ‘red lighting,’ ‘blue background,’ and ‘flat circles’ to these descriptions.

Clearly, each of these steps represents a conceptual and aesthetic decision. In other words, the key to the success of *Artificial Experiments 1-10* is the creation of a custom database with particular art images and specific descriptions added by the author. This work demonstrates how fine-tuning an existing AI model that was trained on billions of image and text pairs (such as Stable Diffusion) can make this network follow the artists’ ideas. The biases and noise of such a massive network can be overcome and minimized, and it does not need to dominate our own imagination.

⁷ Personal communication with Pereulikov, 04/16/2023.