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Editorial : The AI gorithmic Gaze

Reflections on Image Cultures in AI

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II. p. 121, Chunk 5: You
Press the Button, They...
II. p. 4, Chunk 3: Vorwort
III. p. 5, Chunk 13:
Editor's Note

Chunk 1 In just a few years, AI-generated images have evolved from a niche technological experiment to a new force reshaping visual culture. What began as a peripheral curiosity has quickly become one of the most significant and widely discussed phenomena in the realm of generative AI.

At the beginning of this research project in 2021, the focus on AI-generated images and their impact on visual culture was not yet predictable. Notably, none of the five art and design schools involved initially identified image cultures as their primary research focus. However, image-based topics and AI image generation have emerged among the most popular and discussed topics in the field of 'generative AI', becoming a multi-billion dollar industry in a remarkably short time.¹ This rise is largely due to the advent of text-to-image, also known as multimodal AI systems, which enable the generation of images through the use of natural language.

These systems have been identified as a "fundamentally new method"² in media production, have rapidly become a standard method for image synthesis and have also become a topic of considerable discussion in research, art and design, as well as in the general public.

In essence, these systems are trained on extensive datasets and are powered by the CLIP (*contrastive language-image pre-training*)³ foundation model, coupled with a generator model.

1: Jiang, H. H., Brown, L., Cheng, J., Khan, M., Gupta, A., Workman, D., Hanna, A., Flowers, J., & Gebru, T. (2023). AI Art and its Impact on Artists. *Proceedings of the 2023 AAAI/ACM Conference on AI, Ethics, and Society*, 363-374. <<https://doi.org/10.1145/3600211.3604681>>

2: Manovich, L. (2023). AI Image Media through the Lens of Art and Media History. *IMAGE: The Interdisciplinary Journal of Image Sciences*, 37(1), 34-41. <<https://doi.org/10.1453/1614-0885-1-2023-15448>>

3: Radford, A., Sutskever, I., Kim, J. W., Krueger, G., & Agarwal, S. (2021). CLIP: Connecting text and images. In *OpenAI*. <<https://openai.com/research/clip>>

4: Bommasani, R., Hudson, D. A., Adeli, E., Altman, R., Arora, S., Arxiv, S. von, Bernstein, M. S., Bohg, J., Bosselut, A., Brunskill, E., Brynjolfsson, E., Buch, S., Card, D., Castellon, R., Chatterji, N., Chen, A., Creel, K., Davis, J. Q., Demszky, D., ... Liang, P. (2022). *On the Opportunities and Risks of Foundation Models*. arXiv. <http://arxiv.org/abs/2108.07258>

5: Jiang, H. H., Brown, L., Cheng, J., Khan, M., Gupta, A., Workman, D., Hanna, A., Flowers, J., & Gebru, T. (2023). *AI Art and its Impact on Artists*. *Proceedings of the 2023 AAAI/ACM Conference on AI, Ethics, and Society*, 363-374. <https://doi.org/10.1145/3600211.3604681>

6: Dhariwal, P., & Nichol, A. (2021). *Diffusion Models Beat GANs on Image Synthesis*. arXiv. <https://doi.org/10.48550/arXiv.2105.05233>

7: Fukushima, K. (1980). Neocognitron: A self-organizing neural network model for a mechanism of pattern recognition unaffected by shift in position. *Biological Cybernetics*, 36(4), 193-202. <https://doi.org/10.1007/BF00344251>

8: Mordvintsev, A., Olah, C., & Tyka, M. (2015). Inceptionism: Going Deeper into Neural Networks. In *Google Research*. <http://research.google/blog/inceptionism-going-deeper-into-neural-networks/>

9: Akten, M. (2017). #Deepdream is blowing my mind. In *Medium*. <https://memoakten.medium.com/deepdream-is-blowing-my-mind-6a2c8669c698>

10: Offert, F. (2023). KI-basierte Verfahren in der bildenden Kunst. In S. Catani (Ed.), *Handbuch Künstliche Intelligenz und die Künste* (pp. 202-216). De Gruyter. <https://doi.org/10.1515/9783110656978-012>

11: Goodfellow, I. J., Pouget-Abadie, J., Mirza, M., Xu, B., Warde-Farley, D., Ozair, S., Courville, A., & Bengio, Y. (2014). *Generative Adversarial Networks*. arXiv. <http://arxiv.org/abs/1406.2661>

Chunk 2 *Foundation models*⁴ can be defined as large, standard models that can be fine-tuned and utilized for a variety of applications. CLIP may be described as an all-purpose classifier, capable of classifying text and image pairs into categories. With regard to generator models, those based on *diffusion* appear to be the most effective and widely used in AI applications, including DALLE, Stable Diffusion and Midjourney.⁵

Chunk 3 Diffusion models employ an iterative forward/reverse noise process to generate images, resulting in superior image quality compared to earlier standards,⁶ such as *generative adversarial networks (GAN)*.

The field of generative AI as art emerged in 2015 as a byproduct of a scientific tool designed to enhance the understanding of the internal workings (feature visualization) of *convolutional neural networks (CNN)* – a type of neural network developed for “visual pattern recognition,”⁷ – commonly known as the *Google Deep Dream*⁸ algorithm.

Chunk 4 As the images generated by this tool appeared to be “trippy, surreal, abstract, psychedelic, painterly, [and] rich in detail,”⁹ Deep Dream enjoyed considerable momentum as a creative tool until people became disinterested in its singular aesthetic.¹⁰

The just-mentioned *generative adversarial network*¹¹ revived artistic engagement with generative AI.

II. p. 115, Chunk 6: Artefact Hunt
I. p. 203, Chunk 3: 2022 A year of generative...
II. p. 181, Chunk 1: Infinite Boredom

III. p. 255, Chunk 6: Auf dem Weg zu KITEGG
III. p. 237, Chunk 10: Notes Toward AI Un/Learning
II. p. 43, Chunk 3: I Will Rather Lose my Job...

Chunk 5 Here, two neural networks (generator model & discriminator model) are set in an adversarial relation. During training, one model generates samples based on the training data, while the other evaluates those samples. The objective is for the generated samples to become sufficiently mimetic that they are indistinguishable from the actual dataset by the discriminator model.¹²

Critics argue that generative AI art is being hailed as an exemplar of technological novelty driven by platforms and Big Tech.¹³ They claim that the results can be seen as “glorified versions of Candy Crush,”¹⁴ showcasing massive amounts of samples of distinctive aesthetics, described as “inceptionism”¹⁵ or “GANism,”¹⁶ as a spectacle. These aesthetics are pre-determined by their technological infrastructure, thus “turning the mindless generation of images into an art form.”¹⁷

In the context of multimodal AI systems, which have been described as marking a new era of generative AI art,¹⁸ the critique persists but has become more complex, as has the technology itself.

Chunk 6 While the controllability of image generation has been significantly enhanced through the use of language and, in general, systems equipped with a greater number of features, it is still typically the platforms that provide specific features and regulations.¹⁹

Chunk 7 Even though the latent space in multimodal AI is considerably larger, a distinctive standard aesthetic is still technically integrated into these systems, which is particularly evident in the case of Midjourney.²⁰

As Lasse Scherffig and Matthias Grund argue in their essay “**Infinite Boredom**,” these standardizing tendencies extend beyond mere aesthetics. One of the key arguments is that generative AI systems, while seemingly innovative, are in fact merely replicating existing norms and templates in visual culture. They propose that “generative AI reproduces what has been standardized,”²¹ emphasizing how these systems extract and replicate patterns from their training data, which itself is a product of normalized image culture. The practice of ‘prompting’, embedded in platform culture, contributes to the homogenization of results, resulting in a ‘flattening’ of visual culture through generative AI.

Similarly, the images and language we use to envision a future with AI also rely on established narratives and common metaphors drawn from both AI and sustainability discourses. In her essay “**Sustainable AI: Dreaming of Neutrality**,” Johanna T. Wallenborn explores how sustainable AI is represented through the multimodal metaphor of “Planet Earth as a digital system” in online discourses. These visual and linguistic representations, which repeatedly

12: Scorzin, P. C. (2021). Artificiality: Künstliche Intelligenz, Kreativität und Kunst. In P. C. Scorzin (Ed.), *Kann KI Kunst? AI Art: Neue Positionen und technisierte Ästhetiken* (Vol. 1, pp. 58-75). KUNSTFORUM International.

13: Zylinska, J. (2020). *AI Art: Machine visions and warped dreams*. Open Humanities Press.

14: Zylinska, J. (2020). *AI Art: Machine visions and warped dreams*. Open Humanities Press. P. 76

15: Mordvintsev, A., Olah, C., & Tyka, M. (2015). Inceptionism: Going Deeper into Neural Networks. In *Google Research*.
<<http://research.google/blog/inceptionism-going-deeper-into-neural-networks/>>

16: Chollet, F. (2017). GANism (the specific look and feel of seemingly GAN-generated images) may yet become a significant modern art trend [Tweet]. In *Twitter*.
<<https://twitter.com/fchollet/status/885378870848901120>>

17: Zylinska, J. (2020). *AI Art: Machine visions and warped dreams*. Open Humanities Press. P. 81

18: Offert, F. (n.d.). Five Theses on the End of AI Art. In *Unlearn AI, Ausgabe 1*. forthcoming

19: Ervik, A. (2023). Generative AI and the Collective Imaginary. *IMAGE: The Interdisciplinary Journal of Image Sciences*, 37(1), 42-57.
<<https://doi.org/10.1453/1614-0885-1-2023-15450>>

20: Manovich, L. (2023). AI Image Media through the Lens of Art and Media History. *IMAGE: The Interdisciplinary Journal of Image Sciences*, 37(1), 34-41.
<<https://doi.org/10.1453/1614-0885-1-2023-15448>>

21: See contribution by Scherffig & Grund, “Infinite Boredom: Generative AI as Template Culture” in this publication.

II. p. 102, Chunk 3: Infinite Boredom
III. p. 176, Chunk 6: Introduction
III. p. 203, Chunk 25: An Incredibly Average Face...

present sustainable AI as the definitive solution to global ecological crises, shape public expectations while influencing the trajectories of policy and technological development.

Leon-Etienne Kühr offers a comprehensive examination of the internal mechanisms of latent diffusion models, with a particular focus on the image diffusion artifacts embedded within multimodal AI systems and how they relate.

Chunk 8 A cross-section of student perspectives on image cultures is presented by, for example, Moritz von Laufenberg, who investigates and argues the importance of engaging with photo and image theories, exploring their growing relevance in the context of (generative) AI.

Chunk 9 Jannik Bussmann critically employs a variety of AI-based systems to engage with the way TV news shape our image of the world.

Chunk 10 His speculative "Memoryscapes" are built from location data extracted from global news feeds. In "Flesh Fest," Ava Leandra Kleber explores how AI-generated images of women often contain subtle sexualized motifs, hidden by low resolution and blurry imagery. Upscaling reveals these motifs, exposing how AI systems perpetuate hypersexualized and stereotypical representations of women, highlighting the biases in the models.

The contributions in this chapter illustrate that generative AI is a terrain for both creative experimentation and critical reflection. By examining the complex relationships between AI, aesthetics, visual culture and the narratives we construct around AI technologies, these essays reveal how AI both opens novel possibilities and reinforces existing patterns. As generative AI continues to evolve, conversations around visual culture require ongoing critical inquiry to navigate its possibilities and cultural implications.

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III. p. 81, Chunk 10: Die Pille für KI
II. p. 38, Chunk 4:
Editorial: AI & Society
II. p. 61, Chunk 1: Porn, Power and Platforms...