



# The future of intelligent images: from simulation to stimulation

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Received: 1 October 2022 / Accepted: 4 April 2023

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The 2022 Colorado State Fair’s digital art competition awarded a \$300 prize to *Théâtre D’opéra Spatial*, an artwork created by artificial intelligence. This piece was submitted by Jason Allen, a video game designer, who created it with Midjourney, providing him with 900 renderings, of which he selected three favourites that he then Photoshopped until he was satisfied with the outcome. In the immediate aftermath of the news of this result, there has been controversy surrounding it regarding how the submission itself was unethical, and recognizing such work would be unfair to other artists who have not taken shortcuts or cheated. However, while the judges were unaware that Allen used artificial intelligence to create his artwork, the knowledge of such would not have affected their assessment of the outcome (see Kuta 2022; Roose 2022).

This brings us to the purpose of this article, which is not to make judgments as to whether the decision to award the artwork made with the assistance of artificial intelligence was ethically sound. The winning piece only highlighted one fact very strongly, which is that artificial intelligence has become so sophisticated that it is no longer possible to determine creativity solely by human metrics. Using artificial intelligence has already demonstrated benefits for humanity in overcoming its limitations, whether by discovering alternative physics (Roy 2022) or even by allowing mundane imagination to envision what the dead celebrities would have looked like today (Ritschel 2022). The purpose of this article is to discuss the extreme possibilities that the future of artificial intelligence holds, which will be able to combine both the aspects of physics and images, thereby not only simulating but also stimulating reality for humans. To discuss the same, consideration has been given to the

concept of Quantum Cinema put forward by Peter Weibel, an Austrian post-conceptualist and media theorist.

Throughout his writing, Weibel looks at the evolution of images, especially when viewed through the lens of cinematic development. He observes that the earliest form, i.e., during the nineteenth century, was focussed on motion, in which the camera performed the “analysis” of motion, while the projector performed the “synthesis” of motion (2003, 594). As the twentieth century progressed, images shifted from simulating motion to “simulation of interaction” (ibid.). Finally, as technology advances, images are becoming self-adaptive, exhibiting “intelligent behaviour” similar to a living organism that mimics evolutionary processes (ibid. 597). The concept of intelligent behaviour by images is identical to that discussed by Margaret A. Boden in her paper on evolutionary art, which is exhibited by artificial intelligence using genetic algorithms (see Boden 2009).

There has been a growing relationship between humans and machines in recent years, and technology plays a crucial role in this. Weibel argues that electronics has built an endo-gate to the world and that now the time has come to build an endo-gate to the electronic world (Weibel 1992). When this occurs, the virtual/real world will become like “Duchampian doors,” functioning as “double gates to outside and inside spaces” (ibid.). The fact that companies such as Google, Microsoft, and Facebook are heavily investing in the metaverse is not without reason, considering it as a potential future that will alter both our interactions with our surroundings and ourselves (see Gorichanaz 2022). In such a space, humans will lose their objectivity status, as they will experience an observer-relative reality, in which the outside may become the inside at any time.

In most cases, over the course of human history, technology has been part of a “hermeneutic relationship” (see Ihde 1979, 11–13) whereby humans interpret the world using technology. In recent years, however, technology has become increasingly complex, evolving into “background relations” (ibid. 13–15), where it has taken on an atmospheric form, a technosphere, into which humans are now interpreting the machine-world. “What we are witnessing today,” according

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to British artist and expert on body responsive technologies, Ghislaine Boddington (2021), “is the emergence of the hypersensory self, blending with real world. As our senses are digitised and thereby transmittable to others, we expand our sensory capacity through digital interface we merge with. The body has finally become the interface.” Weibel asserts something similar, stating that this interface, which is composed of skin and membrane, can change and expand:

Maybe the world is only an interface.... Something that is now the environment can be part of the system in the next step. Something that is the system can be the environment for the sub-system. This means that if I am an external observer of one system, I can become part of the system for the next environment, an internal observer for another external observer. (2003, 596)

In the event that the interface expands, who will have the right to observe us, i.e., humans as external observers? There has always been a moral and ethical debate about human beings watching over other humans and maintaining surveillance over their movements. However, how will humans navigate a world where artificial intelligence, a nonhuman entity, monitors their actions independently? The likelihood of this occurring in the future is real, and achieving AGI is not an absolute prerequisite for the same. As artificial intelligence continues to develop, it will become more powerful and complex until it reaches what is called a “*power singularity*,” described by Thomas Hellström and Suna Bensch (2022), a point at which “when the AI has gained so much power that how it acquires additional power is beyond both human control and understanding.” With time, as humanity moves increasingly into cyberspace, the technology will also become more efficient, as Weibel believes, to allow for the transition from “receptor technology (cameras) to the effector technology” (2003, 599). Consequently, the metaverse or virtual reality will serve as an “experimental platform,” providing artificial intelligence with the opportunity to “conduct experiments to discover causal relationships that can later be used to plan sequences of actions in the physical world” (Hellström & Suna Bensch 2022).

As of now, humans are at least capable of picking up images rendered by artificial intelligence and tweaking them via Photoshop to make them more appealing to their visual sensibility. As this technology advances, however, the likelihood of it gaining control over images is likely to increase, shifting focus from the purely visual aspect of images to their “mobile process by which matter twists, folds, and reflects itself into various structures of sensations and affection” (Nail 2019, 11). As a result, artificial intelligence will be able to completely “deceive the brain” since stimulation, i.e., “artificial pulse-based representation of the world—would replace simulation” (Weibel 2003, 599). The successful implementation of such

technology may result in a blessing for humanity as it will allow humans to access previously unknown dimensions of reality; however, it may also turn out to be an “apocalyptic AI” (Geraci 2008).

Now is the time for AI developers and policymakers worldwide to decide what kind of future they wish humanity to usher in, as that will help clarify the role that technology will play in the future. Observing how this technology advances may only prove disastrous because once it reaches a point of no return, it may become so seductive that it may be impossible to balance its pros and cons. Using the words of futurist and author Gerd Leonhard, “we should embrace technology but not become it” (Armstrong 2016).

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## Declarations

**Conflict of interest** On behalf of all authors, the corresponding author, Amar Singh, states that there is no conflict of interest.

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