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AI and the Creative Process: Part Three

James Hutson

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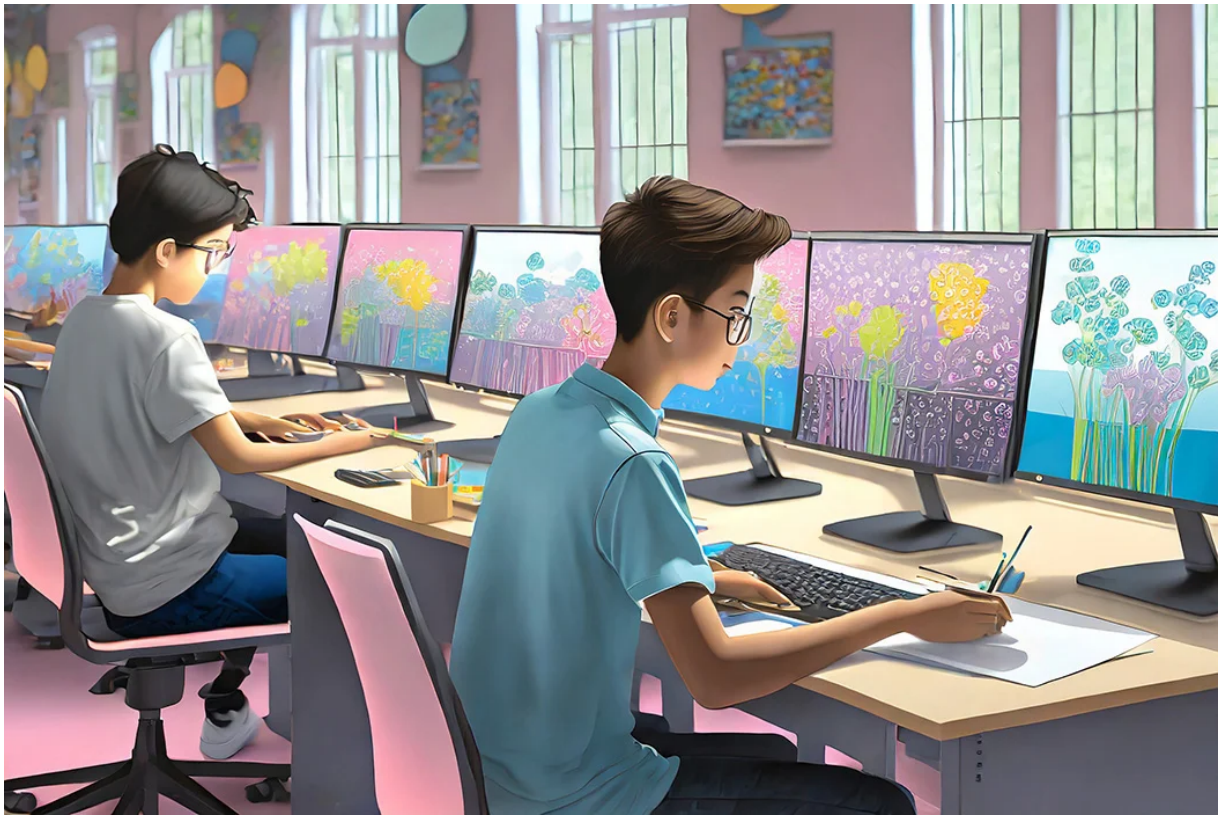
The multifaceted nature of creativity subverts the assumption it's a human endeavor exclusively—meaning we might need to radically re-think the definition of "art."



An AI image created using Adobe Firefly with the prompt, "a room full of students creating art on computers"

By: James Hutson (https://daily.jstor.org/daily-author/james-hutson/) | October 26, 2023 7 minutes

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This is the third article in a three-part series. Read parts ***one (https://daily.jstor.org/ai-and-the-creative-process-part-one/)*** *and* ***two (https://daily.jstor.org/ai-and-the-creative-process-part-2/)****.*

The advent of generative AI art tools, such as Stable Diffusion, DALL-E 2, and Midjourney has sparked not merely fascination among the wider public but also a robust debate within the circles of artists, designers, and educators on the very nature of art. Recent legal developments have intensified the conversation surrounding AI-generated artwork, with the US Copyright Office revising protections for the comic book *Zarya of the Dawn* by Kris Kashtanova, which used

Midjourney. As **Stephen Wolfson has reported (https://creativecommons.org/2023/02/27/zarya-of-the-dawn-us-copyright-office-affirms-limits-on-copyright-of-ai-outputs/)**, the copyright modification, enacted in February 2023, restricts protection solely to the author's text and arrangement, categorically excluding AI-produced artwork. The pivotal decision accentuates the complex relationship between AI-created art and copyright laws, ushering in a critical academic discourse encompassing philosophical and practical challenges concerning human creativity and the role of AI in artistic production.

In essence, these pioneering tools have raised profound questions around the future trajectory of creativity and the burgeoning interplay between artists and AI, as well as around the ethical, legal, and societal reverberations of AI-generated art. The ability to create has outpaced institutional and legal frameworks that govern creative fields. For some, like **Marcus Du Sautoy** , such advancements are a source of exhilaration, heralding a promising new frontier in creative fields. Others, like **James Manyika** , are apprehensive; they are concerned with the implications of these developments on the future of art and design and current limitations of AI technologies. Regardless, the transformative potential of AI has permeated the realm of art, bringing forth a paradigm shift in the creative landscape. Yet, **as Brendan Paul Murphy reports (https://www.sciencealert.com/is-lensa-ai-stealing-from-human-art-an-expert-explains-the-controversy)**, the accelerating integration of AI-inspired art in mainstream culture has been met with strong criticism by traditionally trained artists and designers.

Creativity is typically associated with intentional planning and the conscious arrangement of ideas, while art is linked to the evaluation, classification, and production of those ideas. AI upends these conventions.

In light of such critiques, a contrast between generative AI art and the tools commonly employed in graphic design and digital art becomes evident. Generative AI harnesses artificial intelligence (AI) and machine learning (ML) to create artwork, based on patterns and styles learned from vast data sets of images. A unique facet of this approach is the employment of user-provided prompts, enabling the AI model to synthesize visual elements into a coherent work, as **discussed by Deepak Somaya and Lav Varshney** . This approach fosters a collaborative relationship between the user and the machine.

By contrast, software like Photoshop and Adobe's Illustrator serves as advanced digital canvases, **Candice McKee relates** , offering tools for creating, editing, and manipulating images, emphasizing a hands-on approach where artists exert direct control over the outcome. These disparate methodologies provoke **crucial inquiries regarding authorship (https://daily.jstor.org/ai-and-the-creative-process-part-one/)** and the **role of technology in artmaking (https://daily.jstor.org/ai-and-the-creative-process-part-2/)**.

Even before the release of the most recent generative models, scholars attempted to shift conceptual frameworks in order to refine our understanding of how machines contribute to the creative process. **Jon McCormack, Oliver Bown, Alan Dorin, Jonathan McCabe, Gordon Monro, and Mitchell Whitelaw** , for instance, suggest a reevaluation of our perceptions of "creation," "art," and the involvement of machines in "creating art." They challenge the traditional dichotomy of human and non-human art forms, and advocate for a collaborative approach wherein technology serves as an ally in the creative process. Likewise, **Feng Tao presents (https://www.tandfonline.com/doi/abs/10.1080/02560046.2022.2112725)** the concept of an "actor network" in art,

whereby humans and machines collaborate, capitalizing on the strengths of each party. Embracing a more "poetic" comprehension of creativity, **per Mark Coeckelbergh's suggestion (https://link.springer.com/article/10.1007/s13347-016-0231-5)**, may facilitate the exploration of novel artistic expressions in collaboration with AI, thereby challenging established notions of artistic production.

These debates have prompted a reconsideration of the concept of creativity itself. **Danyal Ahmed emphasizes (https://www.tandfonline.com/doi/abs/10.1080/17508975.2020.1764327)** the role of arts and humanities and the need to integrate design principles, practices and processes within more scholarly fields of inquiry. **He asserts (https://www.tandfonline.com/doi/abs/10.1080/17508975.2020.1764327)** that the more permanent physical forms of AI found in media museums should be seen as components to be used in the design process, rather than just finished designs themselves. Furthermore, Ahmed proposes a reimagining of AI, beyond merely a product or traditional design image, by analyzing interactive and immersive media installations. He suggests focusing on the translation of "immaterial humanistic characteristics"—such as emotions, experiences, senses, and memories—into tangible form through AI. Thus, the human reactions and emotional responses elicited by engaging with AI-generated art could themselves be recognized as design elements; a more holistic and human-centered approach to integrating AI in creative practices should be a goal.

Naturally, considerations of AI in art inevitably brush against the consequential implications for members of the wider creative community. Discussions around the notion of artistic autonomy tend to center on whether AI-generated art can be recognized as "art" in its fullest expression. While numerous takes on this idea exist, Mihaly Csikszentmihalyi's model is particularly relevant. It comprises three interrelated components: a recognized foundation of knowledge; a purposeful individual or agent who sparks change by altering an aspect of a particular field; and experts in that field who evaluate if the new creation has sufficient merit to warrant inclusion within that domain. In other words, a collaboration between a base of established knowledge, an innovator who introduces changes, and experts who determine whether these changes qualify as genuine contributions to the field.

Kyle Jennings further clarifies (https://link.springer.com/article/10.1007/s11023-010-9206-y) what it means for an "agent" to be considered a creative, autonomous system by identifying three essential criteria: the system must be able to evaluate independently, without being swayed by external forces; it must have the ability to create variations on a standard on its own, without specific instructions; and importantly, it must be able to operate with intention and control, rather than randomly generating outputs. When applied to AI art and "creativity," Jennings contends that to evolve from a "capable apprentice to a creator in its own right, [an AI system] must be able to both independently apply and independently change standards it uses." This aspiration is termed "creative autonomy," and signifies the system's liberty to deviate from its programmer's or operator's intentions. On the other hand, that creativity does not exist in isolation; rather, **Gianmaria Ajani argues (https://books.google.com/books?hl=en&lr=&id=pW9xEAAAQBAJ&oi=fnd&pg=PA253&dq=Ajani+G+(2022)+Human+authorship+and+art+created+by+artificial+intelligence%E2%80%93where+do+we+stand%3F+Dig+Ethic:+The+Iss+of+I**
it "depends on individual capacity, acquisition of information, and judgment by experts." Since creativity requires approval from external sources, AI itself cannot be evaluated by these standards. Experts in the fields of art and/or design must assess whether the resulting product can be labeled as "creative." This implies that creativity cannot be inherently attributed to AI, but rather is determined by human judgment within the specific context.

Our definition of what we classify as 'art' might very well extend beyond the sphere of human experience.

The intricate **relationship between AI and creativity (https://daily.jstor.org/can-artificial-intelligence-be-creative/)** necessitates nuanced understanding. Creativity is typically associated with intentional planning and the conscious arrangement of ideas, while art is linked to the evaluation, classification, and production of those ideas. AI upends these conventions; it creates unparalleled outcomes and broadens the concept of creativity beyond traditional limitations. Moreover, while the idea that all art is a product of creativity is well-traveled, **as asserted by the late Virgil Abloh (https://press.princeton.edu/books/hardcover/9780691213798/abloh-isms)**, the converse—that all creativity results in art—is not necessarily true. Creative efforts can produce a wide variety of results, ranging from scientific breakthroughs to innovative business strategies, which might not conform to conventional definitions of art. If nothing else, this variety underscores the multifaceted nature of creativity and challenges the belief that art and creativity are solely human endeavors. It suggests that our definition of what we classify as "art" might very well extend beyond the sphere of human experience.

This is the last in a series. Read parts **one (https://daily.jstor.org/ai-and-the-creative-process-part-one/)** and **two (https://daily.jstor.org/ai-and-the-creative-process-part-2/)** in this series.

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An Alternative Rationalisation of Creative AI by De-Familiarising Creativity: (https://www.jstor.org/stable/j.ctv26qjjhj.6?mag=ai-and-the-creative-process-part-three)
By: Jenna Ng
AI for Everyone?: Critical Perspectives, pp. 49-66
University of Westminster Press

Getting AI Right (https://www.jstor.org/stable/48662023?mag=ai-and-the-creative-process-part-three)
By: James Manyika
Daedalus, Vol. 151, No. 2, AI & Society (Spring 2022), pp. 5-27
The MIT Press on behalf of American Academy of Arts & Sciences

Ownership Dilemmas in an Age of CREATIVE MACHINES (https://www.jstor.org/stable/26949112?mag=ai-and-the-creative-process-part-three)
By: DEEPAK SOMAYA, LAV R. VARSHNEY
Issues in Science and Technology, Vol. 36, No. 2 (WINTER 2020), pp. 79-85

Arizona State University

Review of Seven Books on Adobe Photoshop (https://www.jstor.org/stable/43090739?mag=ai-and-the-creative-process-part-three)
By: Candice McKee
Technical Communication, Vol. 53, No. 2 (MAY 2006), pp. 259-263
Society for Technical Communication

Ten Questions Concerning Generative Computer Art (https://www.jstor.org/stable/43834149?mag=ai-and-the-creative-process-part-three)
By: Jon McCormack, Oliver Bown, Alan Dorin, Jonathan McCabe, Gordon Monro, Mitchell Whitelaw
Leonardo, Vol. 47, No. 2 (2014), pp. 135-141
The MIT Press