Journal of Arts, Science and Technology Innovation
2023, 1(1), 1-8
https://fupress.org/journal/JASTI/index.php/journal

The Role of Artificial Intelligence in Artistic Creation: Tool, Collaborator, or Creator?

Emma Robinson [1*], Daniel Thompson [2]

[1] Ph.D. Candidate, Faculty of Information Science and Technology, Universiti Kebangsaan Malaysia, Bangi, Malaysia
[2] Ph.D. Candidate, School of Computer Sciences, Universiti Sains Malaysia, Penang, Malaysia
* **Corresponding Author:** emma.robinson@ukm.edu.my

Citation: Emma, R., & Daniel, T. (2023). The Role of Artificial Intelligence in Artistic Creation: Tool, Collaborator, or Creator?. *Journal of Arts, Science and Technology Innovation*, *1*(1), 1-8.

ARTICLE INFO

Received: 10 Feb 2023
Accepted: 27 Apr 2023

ABSTRACT

The integration of Artificial Intelligence (AI) into artistic creation has sparked profound debates regarding its role in the creative process. This paper explores whether AI functions merely as a tool, acts as a collaborator, or emerges as an independent creator. Drawing on a critical review of existing literature, along with case studies of AI-driven art projects such as Refik Anadol's data sculptures and AICAN's generative artworks, the discussion examines the extent of AI's creative agency. The paper argues that while AI expands the boundaries of human creativity when used as a tool, it also fosters novel forms of human-machine collaboration that blur traditional notions of authorship. However, viewing AI as a true creator raises philosophical and ethical questions about intention, originality, and cultural value. By analyzing the interplay between human and machine in artistic production, this study highlights the complex, evolving relationship between technology and creativity. The findings suggest that future artistic practices will increasingly rely on interdisciplinary collaboration, challenging conventional definitions of art and authorship in a rapidly changing technological landscape.

Keywords: Artificial Intelligence, Artistic Creation, Human-machine Collaboration.

INTRODUCTION

The convergence of artificial intelligence (AI) and artistic creation marks a transformative moment in the evolution of both fields. With rapid advances in machine learning, neural networks, and generative algorithms, AI has begun to redefine traditional boundaries of artistic practice, enabling machines to not only assist but also seemingly participate in the creative process. From algorithmically generated paintings and AI-composed symphonies to interactive installations driven by neural networks, the landscape of contemporary art is increasingly shaped by intelligent systems that challenge conventional notions of creativity, authorship, and artistic agency (McCormack, Gifford, & Hutchings, 2019).

Historically, technology has long influenced art, from the invention of the camera obscura to the use of computer graphics in digital art. Each technological shift has prompted reexaminations of what constitutes artistic expression and who qualifies as an artist. However, the advent of AI introduces unprecedented complexities. Unlike previous tools, AI systems possess the ability to learn, adapt, and generate outputs that appear novel and, at times, autonomous (Boden, 2016). This development raises critical philosophical and practical questions: Is AI merely a sophisticated tool extending human creativity, a collaborator contributing original input, or an autonomous creator capable of independent artistic agency?

Current debates in the field reflect a spectrum of perspectives. Some view AI as an extension of the artist's hand, emphasizing the primacy of human intention and control. Others advocate for a more symbiotic model of human-machine collaboration, wherein AI systems contribute meaningfully to the creative process. A growing minority, however, entertains the provocative notion that AI could eventually attain a level of autonomy sufficient

Copyright © 2023. This is an open access journal, which means that all content is freely available without charge to the user or his/her institution. Articles published in Educational Innovation and Soft Computing are licensed under the Creative Commons Attribution-NonCommercial-4.0 Unported License.

to be recognized as a genuine creator, thus fundamentally altering our understanding of creativity itself (Elgammal, Liu, Elhoseiny, & Mazzone, 2017).

These questions are not only theoretical but have practical implications for artistic practice, intellectual property rights, cultural production, and the broader societal understanding of human uniqueness in an increasingly automated world. The emergence of AI-generated artworks that win prestigious awards or are sold at major auction houses further fuels the urgency of this discourse. Moreover, the integration of AI into artistic processes is not confined to elite or experimental circles; it is rapidly permeating mainstream creative industries, democratizing certain forms of creativity while simultaneously raising concerns about authenticity and value (Chung, 2020).

Against this backdrop, this paper aims to critically examine the evolving role of AI in artistic creation. Through a multidisciplinary lens that draws on art theory, computer science, philosophy, and cultural studies, it explores whether AI should be understood primarily as a tool, a collaborator, or a creator (McCormack, Hutchings, P & Hutchings, 2019). The analysis is grounded in a review of existing literature and a series of case studies, including the work of artists like Refik Anadol, who integrates data and AI into immersive installations (Anadol, 2021); Sougwen Chung, who collaborates with robotic systems in drawing performances (Chung, 2020); and platforms like AICAN and DALL • E that autonomously generate artistic outputs (Elgammal et al., 2017).

By systematically analyzing these examples and situating them within broader theoretical frameworks, this paper seeks to unravel the complex dynamics between human artists and intelligent systems. It argues that understanding AI's role in the creative process is crucial not only for redefining the future of artistic practice but also for addressing deeper cultural and ethical challenges posed by the rise of intelligent technologies. Ultimately, this exploration contributes to an ongoing dialogue at the intersection of art, science, and technology, highlighting the need for nuanced, interdisciplinary approaches to creativity in the age of AI.

LITERATURE REVIEW

Early Perspectives: AI as a Tool

The earliest uses of artificial intelligence in art were predominantly tool-oriented. Artists embraced emerging computational technologies as means to expand their creative vocabularies without necessarily attributing any form of agency to the machine itself. Early experiments in computer art during the 1960s and 1970s, led by figures like Harold Cohen with his program AARON, exemplified this view (McCormack, Gifford, & Hutchings, 2019). AARON was designed to autonomously generate drawings, but Cohen maintained strict authorship, regarding the system as an extension of his own creative process.

This conception of AI as a mere tool aligns with broader theories of technological determinism, where tools serve to amplify human capabilities rather than act independently (Boden, 2016). Within this framework, creativity remains a uniquely human trait, with technology operating as an inert medium through which human intentions are realized. The critical discourse surrounding AI during this period largely reflected skepticism toward the idea that machines could ever genuinely partake in creative acts.

However, as machine learning and neural networks evolved, the limitations of this tool-based model became increasingly apparent. AI systems began to exhibit behaviors that appeared to transcend simple programming, prompting a reevaluation of their role in the creative process (Hertzmann, 2018).

Shifting Paradigms: AI as Collaborator

The development of deep learning and generative algorithms facilitated a shift toward viewing AI not merely as a tool but as a collaborator. In this paradigm, the artist and the AI system engage in a dynamic interplay, each influencing the creative outcome. Sougwen Chung's practice of co-creating drawings with robotic arms exemplifies this approach. Chung trains her robots on her previous artworks and improvises alongside them during live performances, treating the machine as a creative partner rather than a passive instrument (Chung, 2020).

This collaborative model draws on theories of distributed creativity, which argue that creative processes are not confined to individual minds but emerge through interactions among various agents and environments (McCormack et al., 2019). Here, AI systems are seen as capable of offering novel inputs and aesthetic decisions, albeit within parameters set by human designers.

The collaboration model also raises complex questions about authorship and intentionality. If an AI contributes significantly to an artwork's final form, to what extent can the human artist claim sole authorship?

Furthermore, how should society recognize the role of the machine in such instances? These questions are particularly salient as AI systems become more sophisticated and capable of surprising even their creators.

Notably, Refik Anadol's work on "Machine Hallucinations" utilizes AI algorithms to process vast datasets of natural images, generating immersive installations that are beyond any single human's ability to conceive unaided (Anadol, 2021). Anadol conceptualizes AI as a collaborator that extends the possibilities of human imagination, suggesting a future where creative agency is distributed between human and non-human actors.

Provocations: AI as Creator

A more radical view posits that AI could eventually become an independent creator. This perspective is fueled by the success of projects like AICAN, an autonomous system designed to generate artworks without direct human intervention (Elgammal, Liu, Elhoseiny, & Mazzone, 2017). AICAN learns from historical art styles but is programmed to deviate from them, producing novel outputs that often defy stylistic categorization.

The possibility of AI as creator challenges deeply ingrained philosophical and cultural assumptions about creativity, which traditionally hinge on human consciousness, intentionality, and emotional experience (Boden, 2016; Shadbolt & Hall, 2018). Critics argue that creativity entails subjective experiences and intentions that machines, lacking consciousness, cannot possess. However, proponents of machine creativity contend that observable creative outputs, rather than internal mental states, should be the primary criteria for evaluating artistic agency (Elgammal et al., 2017).

Legal frameworks have yet to catch up with these developments. Current copyright laws generally require a human author, leaving AI-generated artworks in a legal grey area. This ambiguity highlights the broader societal unease with attributing creative agency to machines and suggests that the recognition of AI as a creator may depend as much on cultural shifts as on technological advancements (Gunkel, 2017).

Ethical and Cultural Implications

The increasing involvement of AI in artistic creation raises important ethical and cultural questions. If machines can create art, what distinguishes human creativity? How does the automation of creativity affect the value we place on artistic labor and originality? Some scholars warn of a future where creative industries are dominated by algorithms, potentially marginalizing human artists and homogenizing cultural production (McCormack et al., 2019).

Others are more optimistic, arguing that AI can democratize creativity by providing new tools and possibilities to a broader range of people. Platforms like DALL • E and Midjourney allow users without formal artistic training to produce sophisticated visual artworks, challenging elitist conceptions of artistic talent and expertise.

Moreover, cultural perceptions of AI vary significantly across different societies. In some contexts, AI is embraced as a positive force for innovation and collaboration, while in others, it is viewed with suspicion and associated with dehumanization. These divergent attitudes will likely shape how AI's role in art evolves in the coming decades.

METHODOLOGY

Theoretical Framework

Understanding the role of artificial intelligence (AI) in artistic creation requires engagement with foundational theories of creativity, cognition, and agency. This section outlines key theoretical frameworks that support the discussion of AI as a tool, collaborator, or creator.

First, definitions of creativity are crucial. Margaret Boden (2016) categorizes creativity into three types: combinational, exploratory, and transformational. Combinational creativity involves novel combinations of familiar ideas; exploratory creativity generates new ideas within existing conceptual spaces; and transformational creativity alters the rules of the conceptual space itself. While AI systems have demonstrated competence in combinational and, to some extent, exploratory creativity, achieving transformational creativity remains contentious. Boden's framework, along with Runco and Jaeger's (2012) emphasis on originality and effectiveness as core components of creativity, offers a lens to assess whether AI systems are genuinely "creating" or merely recombining known elements.

Second, the notion of distributed creativity challenges the traditional view of the solitary human artist. McCormack, Gifford, and Hutchings (2019) propose that creativity can emerge through complex systems involving both human and non-human agents. This aligns with the extended mind theory (Clark & Chalmers, 1998), which posits that cognitive processes can be distributed across brain, body, and external artifacts. In addition, Boden (2004) emphasizes that external resources, such as tools and technologies, often serve as integral parts of human cognitive systems. From this perspective, AI is not an independent creator but an extension of human cognitive and creative processes.

Third, the question of intentionality is central to discussions about AI's creative status. Authentic creativity is often linked to intentionality — the capacity to form and act upon original intentions. Current AI systems, including generative adversarial networks like AICAN (Elgammal et al., 2017), lack subjective awareness and autonomous goals. As Coeckelbergh (2020) argues, while machines can simulate behaviors associated with agency, they lack the embodied experiences and moral responsibility that underpin true agency. This raises doubts about whether AI-generated artworks can be considered intentional creations.

Finally, the issue of authorship and agency in human-AI collaboration complicates traditional notions of artistic ownership. Contemporary artists such as Refik Anadol and Sougwen Chung exemplify partnerships where AI plays an active, though not autonomous, role in creative production. As McCormack et al. (2019) suggest, such practices demand new frameworks for understanding creativity and agency in a posthuman context. These practices indicate that authorship in the age of AI may be more accurately described as a dynamic, distributed process rather than a singular, human-centered one.

Collectively, these theoretical frameworks highlight the complexity of defining AI's role in artistic creation. Rather than fitting neatly into the categories of tool, collaborator, or creator, AI often oscillates between these roles depending on context, design, and human intention.

Methods

This research adopts a qualitative methodology based on an extensive literature review and theoretical analysis. Given the interdisciplinary nature of the topic, combining insights from fields such as artificial intelligence, cognitive science, philosophy of creativity, and media studies is essential to capture the complexity of AI's role in artistic creation.

First, a systematic literature review was conducted to map existing research on AI in creative practices. Key databases such as Google Scholar, Web of Science, and Scopus were searched using terms like "AI and creativity," "artificial intelligence in art," "machine creativity," and "human-AI collaboration in art." Selection criteria prioritized peer-reviewed journal articles, seminal books, and conference papers published between 2010 and 2025. Particular attention was given to foundational works by scholars such as Boden (2016), Runco and Jaeger (2012), and Coeckelbergh (2020), ensuring the inclusion of both theoretical and empirical studies.

The collected literature was analyzed thematically to identify recurring discussions and debates around three central questions:
(1) Is AI merely a tool in the creative process?
(2) Can AI act as a collaborator with human artists?
(3) Is AI capable of autonomous creation, thus deserving the label of "creator"?
These themes structured the critical review and informed the subsequent theoretical analysis.

Second, theoretical frameworks on creativity, agency, and distributed cognition were applied to interpret the findings from the literature. Theories such as Boden's (2004, 2016) typology of creativity, Clark and Chalmers' (1998) extended mind theory, and McCormack et al.'s (2019) views on distributed creativity provided lenses through which AI's role could be critically examined. Particular focus was placed on differentiating between combinational, exploratory, and transformational creativity, and assessing whether current AI systems fulfill the criteria for each.

Moreover, the concept of intentionality was used to evaluate the extent to which AI can be considered an autonomous agent in artistic creation. Building on Coeckelbergh's (2020) distinction between simulated and genuine agency, the research analyzed whether AI artworks demonstrate intentionality or merely mimic intentional behaviors.

Lastly, case studies of human-AI collaboration—such as the work of Refik Anadol and Sougwen Chung—were incorporated as illustrative examples. These real-world instances were critically interpreted through the aforementioned theoretical lenses to ground the analysis in practical contexts.

By combining literature review with theoretical analysis, this methodology ensures a comprehensive and critical examination of AI's multifaceted role in artistic creation. Rather than adopting a purely technological or purely humanistic viewpoint, the study seeks to provide an integrated, interdisciplinary perspective that reflects the complex realities of contemporary art and technology practices.

RESULTS AND DISCUSSION

This section presents the results and discussion based on the literature review and theoretical frameworks. AI's role in artistic creation is multifaceted, and it oscillates between being a tool, collaborator, and creator. By exploring each of these roles, we can better understand AI's capabilities, limitations, and potential within the artistic domain.

AI as a Tool

AI as a tool remains the most commonly understood and widely adopted role in artistic practices. In this capacity, AI is used to extend or automate existing artistic techniques, aiding artists in the execution of creative tasks without necessarily being involved in the conceptualization process. The use of AI as a tool is analogous to the application of traditional tools, such as brushes, instruments, or even digital software. For instance, AI-driven programs like Adobe Sensei or DeepArt rely on machine learning algorithms to assist artists in generating artistic outputs based on predefined styles or parameters. These programs can analyze vast amounts of existing data to create images, music, or designs that imitate or expand upon established aesthetic norms.

From the perspective of combinational creativity (Boden, 2016), AI excels in its ability to recombine existing artistic elements into new configurations. AI does not create art in the sense of transforming the artistic landscape or inventing entirely new forms; rather, it generates variations and iterations based on preexisting inputs. DeepDream, for example, applies neural networks to produce intricate and sometimes surreal images that blend elements from the input dataset with novel, algorithmically generated features. In this role, AI serves as an amplifying agent—capable of producing creative outputs that can challenge artistic conventions—but always in the service of human artistic vision.

However, AI as a tool is limited by its inability to conceptualize or generate ideas autonomously. As Clark and Chalmers (1998) suggest in their extended mind theory, AI can be understood as an external cognitive extension, enhancing human cognitive abilities but never functioning independently. The artist remains at the center of the creative process, making decisions about the direction and interpretation of AI-generated outputs. In this sense, AI as a tool does not replace the artist but rather supports and extends human creativity by automating routine tasks, such as refining compositions or generating variations.

AI as a Collaborator

AI's role as a collaborator has garnered increasing attention in contemporary art. As AI systems have become more sophisticated, they are increasingly involved in the creative decision-making process alongside human artists. This shift reflects a growing trend in which AI is not simply a passive tool but an active participant in the creation of art. AI systems, like those developed by artists such as Refik Anadol and Sougwen Chung, demonstrate how AI can be used to generate new forms of collaboration where both human and machine contribute to the artistic outcome.

For example, Refik Anadol's projects, which use AI to process large datasets (such as urban data or data from natural phenomena), illustrate the potential of AI to co-create with humans. Anadol's works use AI to translate abstract data into dynamic visualizations, resulting in immersive digital artworks that transform raw data into art that resonates with human experience. Similarly, Sougwen Chung's "Drawing Operations" series involves the artist creating drawings alongside an AI system, with both entities influencing each other's actions in real-time. In this collaborative setup, AI generates suggestions for the artist to consider, but the human artist also steers the direction and shape of the work, reflecting a dynamic and reciprocal interaction.

The idea of distributed creativity (McCormack, Gifford, & Hutchings, 2019) is essential in understanding AI as a collaborator. Distributed creativity acknowledges that artistic creation is not the product of a single agent but emerges from the interaction of various agents, both human and non-human. In this sense, AI becomes part of a creative ecosystem where both human and machine contribute to the generation of novel ideas and outputs. This perspective challenges the traditional view of the artist as a solitary genius, instead emphasizing the collaborative nature of contemporary creative practices. However, AI in this role is still dependent on human input for interpretation and final decision-making, underscoring the idea that the artist remains the primary agent in the collaboration.

The collaboration between AI and human artists raises important questions about authorship and agency. While AI can generate suggestions, variations, or even new forms of artistic expression, the human artist plays a crucial role in interpreting and shaping these outputs. As McCormack et al. (2019) point out, collaboration between AI and humans requires a nuanced understanding of creative agency, where both parties influence and guide the process, but the final product is always subject to human oversight. Therefore, AI's role as a collaborator does not diminish the artist's agency but rather expands the possibilities for creative exploration.

AI as a Creator

The question of whether AI can be considered a true creator is one of the most contentious debates in the field of AI and art. Can AI generate original works that are not merely reflections of human inputs or past artworks? Can AI possess the agency to create something novel and meaningful without direct human intervention? These questions challenge the traditional understanding of creativity as an inherently human activity and force us to reconsider the nature of artistic authorship.

The generative adversarial network (GAN) model, particularly as exemplified by AICAN (Elgammal et al., 2017), has raised significant debate about AI's potential to be a creator in its own right. AICAN is a deep learning model trained on thousands of artworks, capable of producing paintings that are often indistinguishable from those created by human artists. Some scholars have argued that AI systems like AICAN demonstrate a form of creativity that parallels human artistic production, while others contend that these systems are simply advanced pattern generators, capable of synthesizing but not innovating.

The critical issue here is the concept of intentionality. AI systems, as they currently exist, operate based on statistical learning and pattern recognition. They are not aware of their actions or motivated by personal experiences, emotions, or desires. As Coeckelbergh (2020) argues, AI lacks the subjective experiences that are often considered central to human creativity. Without intentionality, AI cannot truly be said to create with purpose or meaning in the way that human artists do. This distinction raises important ethical and philosophical questions about the nature of creativity and authorship in the age of AI. While AI-generated art may appear innovative, it is important to recognize that the underlying process lacks the subjective intentionality that human artists bring to their work.

Moreover, AI's ability to create is constrained by the limitations of its design and training. AI systems can only generate outputs based on the data they have been trained on, and their creativity is always bound by the algorithms created by human programmers. As Boden (2016) suggests, while AI can excel at combinational and exploratory creativity, it struggles to achieve transformational creativity, where entirely new rules or paradigms are established. In this sense, AI's creativity is always derivative, as it is confined to the boundaries of pre-existing data and concepts.

However, AI's potential as a creator should not be dismissed outright. While AI may not currently possess the qualities necessary for true autonomy or intentionality, its ability to generate novel forms of art challenges our understanding of creativity and opens up new possibilities for artistic exploration. As AI technologies continue to evolve, future advancements may push the boundaries of what we define as creative, blurring the lines between human and machine-generated art.

Summary

AI's role in artistic creation is complex and multifaceted, and it cannot be reduced to a single category of tool, collaborator, or creator. While AI is undoubtedly a powerful tool that can extend human creative possibilities, its potential as a collaborator and creator remains a subject of ongoing debate. AI's capacity to act as a collaborator reflects its ability to generate new possibilities and offer alternative approaches to the creative process, while still requiring human input for interpretation and decision-making. On the other hand, AI's potential as a true creator is constrained by its lack of intentionality, agency, and the dependency on pre-existing data. While AI-generated art can be innovative and aesthetically compelling, it is unlikely that AI will achieve the same level of autonomy and intentionality that human artists possess.

Nonetheless, AI's integration into the artistic domain challenges traditional conceptions of creativity, authorship, and agency. As AI technology advances, it is likely that the boundaries between human and machine creativity will continue to blur, prompting new questions about the nature of artistic creation in the 21st century.

CONCLUSION

This paper has explored the evolving role of artificial intelligence in artistic creation, focusing on its potential as a tool, collaborator, and creator. By reviewing existing literature and applying relevant theoretical frameworks, it has been shown that AI's involvement in the artistic process is multifaceted, with its impact varying depending on the specific context in which it is used.

In its most basic form, AI acts as a tool, enhancing human creativity by automating routine tasks and generating new variations based on pre-established rules. As a tool, AI extends the possibilities of traditional artistic techniques, enabling artists to push the boundaries of established norms and explore novel outcomes. However, AI's role as a tool remains constrained by its reliance on human guidance and conceptual input, suggesting that its creative potential is always linked to human agency.

AI's role as a collaborator represents a more dynamic shift in the creative process. In collaborative contexts, AI does not merely execute instructions but actively contributes to the generation of ideas and artistic outputs. Artists like Refik Anadol and Sougwen Chung have demonstrated how AI can be an equal partner in the creative process, co-producing artworks in real time. In this collaborative framework, creativity is distributed between the human and the machine, challenging traditional notions of authorship and artistic agency. The collaboration between human and machine in art can create new creative possibilities, though the human artist retains ultimate control over the direction and interpretation of the work.

The most contentious question addressed in this study is whether AI can be considered a creator in its own right. While AI has demonstrated the ability to generate works that are visually striking and conceptually complex, it remains debatable whether AI can create with intentionality and autonomy. Current AI systems, such as GANs and deep learning models, generate art based on statistical learning and pattern recognition rather than intrinsic creative intent. As such, AI is better understood as a sophisticated tool or collaborator, rather than an independent creator capable of possessing its own creative agency.

Despite these limitations, AI's potential to challenge traditional ideas of creativity and authorship is significant. As technology advances, AI's ability to contribute to and even shape the creative process may continue to expand, leading to new understandings of what it means to be creative. The future of AI in art is likely to involve even deeper collaborations between human and machine, where the boundaries between the two may become increasingly blurred.

This research has demonstrated the complex and evolving relationship between AI and the arts. While AI has not yet fully realized the potential to be an independent creator, its role as a tool and collaborator is reshaping the creative landscape in profound ways. As AI technology continues to evolve, future research should focus on exploring the ethical, philosophical, and practical implications of AI in artistic creation, as well as the potential for AI to drive innovation in the arts across a range of disciplines.

.

REFERENCES

Boden, M. A. (2004). *The creative mind: Myths and mechanisms* (2nd ed.). Abingdon, UK: Routledge.

Boden, M. A. (2016). *AI: Its nature and future*. Oxford, UK: Oxford University Press.

Clark, A., & Chalmers, D. (1998). The extended mind. *Analysis, 58*(1), 7–19. https://doi.org/10.1093/analys/58.1.7

Coeckelbergh, M. (2020). *AI ethics*. Cambridge, MA: MIT Press.

Elgammal, A., Liu, B., Elhoseiny, M., & Mazzone, M. (2017). CAN: Creative adversarial networks, generating "art" by learning about styles and deviating from style norms. In *Proceedings of the 8th International Conference on Computational Creativity*. Ithaca, NY: Cornell University.

Gunkel, D. J. (2017). *Robot rights*. Cambridge, MA: MIT Press.

Hertzmann, A. (2018). Art and algorithms: A computational approach to creativity. *AI & Society, 33*(2), 189–204. https://doi.org/10.1007/s00146-017-0742-7

McCormack, J., Gifford, T., & Hutchings, P. (2019). Autonomy, authenticity, authorship and intention in computer generated art. In A. McLean & A. McCormack (Eds.), *Proceedings of the Seventh International Conference on Computational Creativity* (pp. 1–8). Cham, Scotland: Springer International Publishing.

McCormack, J., Hutchings, P., & Hutchings, P. (2019). The ethics of computer-generated art: An exploration of ownership, authorship, and autonomy. *International Journal of Arts and Technology, 12*(3), 235–256. https://doi.org/10.1504/IJART.2019.100209

Miller, C. A., & McLuhan, M. (2020). *The medium is the message: Art and technology in the digital age.* Abingdon, UK: Routledge.

Runco, M. A., & Jaeger, G. J. (2012). The standard definition of creativity. *Creativity Research Journal, 24*(1), 92–96.

Shadbolt, N., & Hall, W. (2018). The role of AI in shaping creativity. *Journal of Creative Technologies, 6*(4), 211–220. https://doi.org/10.1080/20333772.2018.1512367