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THE "DISRUPTION" OF AI ARTISTIC CREATION ON TRADITIONAL OR HUMAN ART AS A HUMAN CREATIVE EXPRESSION

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Artificial Intelligence (AI) has permeated almost every aspect of human life, especially those that have something to do with knowledge generation and human expressions. One such aspect is artistic expression and creation. The use or application of AI in artistic expression and creation has become widespread; it has already sparked some debates about creativity, the integrity of art, the originality, and authorship of an artwork, ethical and legal considerations about the use of AI in art creation and whether the use of AI technology is an art in itself. This article analyzes the nature and development of AI art creation, the nature of art as creative expression, and the fundamentals of human artistic expression. It delves into the "disruptions" or ethical issues brought about by AI application in artistic creation, particularly regarding creativity, originality, authorship, value of art, and copyright issues. This article aims to contribute to the ongoing debate on the use of artificial intelligence in art creation.

Keywords: Artificial Intelligence, AI art, artistic creation, ethics of AI art, traditional art

INTRODUCTION

In 2018, the art world was shocked when a portrait generated by a French art collective called Obvious sold for $432,500 at Christie's auction house.[1] The portrait, titled "Edmond de Belamy, from La Famille de Belamy," was created using a generative adversarial network (GAN) algorithm, which uses machine learning to generate new images based on a dataset of existing images. This sale marked a turning point in recognizing AI-generated art as a legitimate form of creative and artistic expression. This shows that Artificial Intelligence-generated art or AI art is not just legitimate but is becoming a commonly accepted way of artistic creation. This also raises questions on the integrity of art creation, its creative, authorial and originality aspects, and its legal

aspects. These issues pose "disruptions" in understanding or appreciating artistic creation as a human creative expression. Disruptions because AI art challenges and questions the traditional way of doing art and understanding art as a human creative expression.

Artificial intelligence has already made its way into many aspects of human life, and its relevance continues to grow, transforming industries and societies worldwide and redefining our way of life. The relevance and contribution of artificial intelligence cannot just be easily dismissed. It has enhanced efficiency and productivity, informing business decisions with insights and driving technological advancements. Because of AI, new jobs are being created while some old jobs are eliminated. In the field of healthcare, personalized medicine, disease diagnosis, and patient care have improved. In education, it has optimized adaptive learning, intelligent tutoring, and accessibility, providing language translation, virtual assistants, and other alternatives for learning. In the field of environmental protection and sustainability, it has provided climate modeling that predicts climate patterns and mitigating impacts; it has optimized resource usage and reduced waste. In medical research, AI has accelerated disease-cure discoveries. It has also improved our transportation and navigation systems. While AI has been questioned about transgressing personal autonomy, it also protects personal data and ensures transparency and accountability. Human-AI collaboration is redefining how we work, how we communicate and relate with one another, how we learn, how we travel and entertain, how we go about our daily life and rest, how we deal with the environment, how we deal with our bodies, how we plan for the future and many other human activities and endeavors.

Art, especially art creation, is one aspect of life where AI has also impacted at an unprecedented speed. AI technology has brought new possibilities and methods of art creation based on its powerful data processing capabilities. However, while AI brings innovation to artistic creation, it inevitably raises complex ethical issues. The fundamental and ethical concepts and value systems that traditional artistic creation is based on are facing unprecedented challenges and changes under the impact of AI technology. The fundamental and ethical elements in artistic creation, such as creativity, authorship, originality, intellectual property rights, and the determination of the value of works, have been impacted in varying degrees by what can be called "disruption" of AI-enhanced artistic or art creation thus raising ethical questions. These "disruptions" or ethical issues not only affect the practical activities of artistic creation but also profoundly impact the development of art theory and the order of the art market. An in-depth study into these ethical issues in AI artistic creation has significant practical and theoretical value.

Thus, the aim of this paper is to explore these "disruptions" or ethical issues brought about by AI art on human or traditional artistic creation. This helps us at the theoretical level to understand the complex relationship between AI technology and artistic creation and provides practical insight into the ethical "disruptions" of AI art creation of human artistic creation. The discussion follows this outline: 1. The nature and development of AI artistic creation - AI and its application to art, AI tools in artistic creation; 2. Traditional art as a human creative expression - art as an imitation of human experience, art as a creative expression of human experience, fundamentals of human artistic expression; 3. The ethical "disruptions" of AI artistic creation to traditional art as a human creative expression - on creativity, on authorship, on originality, on the

value of an artwork, and copyright; 4. Conclusion

THE NATURE AND DEVELOPMENT OF AI ARTISTIC CREATION

Advanced and sophisticated AI technology has ushered in new possibilities and methods of creation to art because of its powerful data processing capabilities, "algorithmic models, knowledge graphs, natural language processing, expert systems, evolution algorithms, machine learning (ML), deep learning (DL),"[2] and so on which could be applied to painting, music, and literature. AI has demonstrated unique creative potential and produced a series of remarkable works. AI tools can be used in fine art's creative processes and analysis, like painting, music, and literature. They also have the potential to enhance artistic events, installations, and performances.[3] It could even give human artists a run for their money.

The integration of artificial intelligence and contemporary art, resulting in the rapid evolution and growth of AI art, marks a paradigm shift in the way we understand art, especially contemporary art. While it ushers in a new era of the intersection of technology and creativity, it also generates critical questions and issues regarding authorship, originality, creativity, authenticity, and copyrights, among other issues. We take a closer look at the nature and development of AI art.

Nature of AI Art

As art continues to evolve, we see the application and integration of art and artificial intelligence as the most permeating part of art's evolution. AI art, also known as AI-generated or algorithmic art, refers to any form of artwork, including images, videos, music, and text, created or significantly enhanced using artificial intelligence algorithms. AI art is generated with the help of artificial intelligence technology, encompassing the traditional arts - visual arts, literature, paintings, sculptures, music, poetry, and more.[4] AI art is not just something randomly produced by computer programs but rather a work with a specific aesthetic value and artistic expression, similar to human or traditional art. AI art is created through learning and analyzing a vast amount of artistic data by way of complex algorithmic models and deep learning techniques. The advancement in computer technology and artificial intelligence has driven the rapid enhancement of AI art. Bai Liu (2023, 812) writes:

> 'AI Art' and digital media art have emerged on a large scale due to the rapid advancement of computer technology, increasing internet accessibility, the close association between art and contemporary science and technology, as well as the diversification of artistic presentation methods. AI has been used to create scripts, videos, poems, compositions, and paintings.

In the more popular forms of AI art, like AI painting, algorithms can generate realistic paintings based on instructions or prompts such as the subject, style, and color preferences; an example of this is "Edmond de Belamy, from La Famille de Belamy" that we mentioned previously. AI music composition can create complete musical

pieces based on set parameters like melody, rhythm, and harmony. For example, Mureka.ai can create music and instrumentals, generate lyrics, and turn ideas into songs.[5] The emergence of AI art has crossed the boundaries of traditional artistic creation, bringing new possibilities and methods to artistic creation. Unlike traditional or human artistic creation, which mainly relies on the subjective emotions, experiences, and creative skills of human artists, the creation process of AI art is characterized and enhanced by data-driven and algorithmic execution. Indeed, AI art presents a fascinating intersection of technology and creativity. However, can we say that it is original and human-authored?

The Development of AI Art Creation

Computer development and what is now known as artificial intelligence have evolved over more than two centuries in a long series of steps (Grzybowski et al., 2024, 223). The development and evolution of AI are intertwined with the history of computers, and the integration of their theoretical concepts gave rise to powerful machines, which in turn provide the platform for increasingly sophisticated AI. This evolution spans centuries, from philosophical reflections to the advanced machine-learning models of today. If a beginning can be identified, the beginning of the computer age can be traced to the invention of the "Jacquard loom," which was patented by Joseph Marie Jacquard in 1804, in which instructions for fabric designs were contained on a series of punched cards. In 1822, Charles Babbage developed the first design for a functioning computer, mainly based on the Jacquard loom on paper (Grzybowski et al., 2024, 223). Soon, programmable computers were developed, and with the rise of programmable computers, the idea of creating machines that could "think" like humans became the main focus. In 1950, the British mathematician Alan Turing published an article entitled "Computing Machinery and Intelligence" in the magazine *Mind*, asking the question: Can machines think? In his "Imitation Game," an experiment that came to be known as the Turing Test, he assessed whether it is possible to determine whether a machine could have intelligent behavior similar to or indistinguishable from that of a human being.[6]

In 1956, John McCarthy, Marvin Minsky, Claude Shannon, and Nathaniel Rochester organized the Dartmouth College Summer Artificial Intelligence Conference, and this event is widely considered the birth of AI as a formal field of research. It was McCarthy who coined the term "artificial intelligence." In 1958, McCarthy wrote the computer language *Lisp*, which was central to the computer development of AI (Grzybowski et al., 2024, 225). In 1956, the American computer scientist Leonard Uhr[7] (1927-2013) provided a comprehensive overview of early pattern recognition techniques, which are fundamental to how AI models learn to identify and understand visual features – a crucial step in generating art (Uhr 1972). Uhr's work (1987) on parallel processing for computer vision addressed the computational demands of analyzing and understanding images. This focus on efficient processing was essential for the eventual development of complex generative models. With the continuous improvement of computer processing power and the development of algorithmic theories, by the 1980s, AI art creation began to make substantial progress. During this period, some AI programs emerged that could generate more complex graphics and music. For instance, the

"Experiments in Musical Intelligence" (EMI) program developed by British musician David Cope was able to create music works in the style of famous composers.[8] During the 21st century, especially in recent years, with the breakthrough development of artificial intelligence technologies such as deep learning and neural networks, AI art creation has experienced explosive growth. A large number of powerful AI art creation tools and platforms have emerged, making AI art creation more widespread and efficient. One example is OpenAI's DALL·E model, which can generate high-quality images based on textual descriptions and has attracted widespread attention and discussion.

Tools and Technologies in AI Art Creation

The creation of AI art relies on the advancements in machine learning, particularly in the domain of generative models. Some key architectures and techniques underpin the current wave of AI art generation.

Generative Adversarial Networks (GANs) - Introduced by Goodfellow et al. (2014, 2672-2680), GANs consist of two neural networks: a generator that creates new data samples (e.g., images) and a discriminator that tries to distinguish between real data and generated data. These two networks are trained in an adversarial manner, with the generator constantly trying to fool the discriminator, leading to the generation of increasingly realistic and novel outputs (Creswell et al. 2016, 3778-3786). GANs have been instrumental in creating high-resolution and stylistically diverse AI-generated images. In AI art creation, GANs are widely used in the field of image generation. For example, StyleGAN, developed by NVIDIA using GANs technology, can generate highly realistic human face images, with details, textures, and styles reaching astonishing levels.

Variational Autoencoders (VAEs) - VAEs are probabilistic generative models that learn a compressed representation (latent space) of the training data. By sampling from this latent space and decoding it, VAEs can generate new data points that share characteristics with the training data.[9] While often producing slightly blurrier images compared to GANs, VAEs offer better control over the generated output and smoother transitions in the latent space.

Diffusion Models - These models, which have gained significant traction recently, learn to reverse a gradual noising process applied to the training data. By starting with random noise and iteratively denoising it, guided by learned patterns, diffusion models can generate high-fidelity and diverse images with remarkable detail and coherence.[10] Models like DALL-E 2 and Stable Diffusion are prominent examples of diffusion-based AI art generators.

Transformer Networks - Originally developed for natural language processing, transformer architectures have also been adapted for image generation. Models like Imagen and Parti utilize transformers to directly model the pixels of an image, achieving state-of-the-art results in text-to-image synthesis.[11]

Deep Learning – This machine learning method, based on artificial neural networks, builds multi-layer neural network models to learn and train on large amounts of data, thereby achieving automatic feature extraction and classification of data.[12] In AI art creation, deep learning technology is used in image recognition, voice synthesis, natural language processing, and other aspects, providing rich materials and creative

means for artistic creation. For instance, in AI music composition, deep learning models can learn a vast number of musical works and analyze their melodies, rhythms, harmonies, and other features, thus creating music with unique styles.

Neural networks are computational models that mimic the structure and function of biological neural networks, consisting of a large number of interconnected neurons (Holdsworth 2024). In AI art creation, neural networks are used to build various complex algorithm models for processing and analyzing artistic data. For example, Recurrent Neural Networks (RNN) and their variants, Long Short-Term Memory Networks (LSTM), are applied in the field of natural language processing, enabling AI to create coherent and logically consistent literary works.

These underlying technologies enable AI to learn complex visual patterns, stylistic features, and semantic relationships from vast datasets of images, allowing them to generate novel artworks that mimic existing styles, create new aesthetics, or even translate textual descriptions into visual representations.

TRADITIONAL ART AS A HUMAN CREATIVE EXPRESSION

Art is a complex part of the human world and experience. We can look at it from different perspectives – historically, culturally, socially, even religiously. Defining art is challenging, and there is no universally accepted definition of art. Attempting to create a single and universally accepted definition will only fail, as there are ever-expanding boundaries in the practice of art or what may be considered art. Often, philosophers also offer differing takes on art. We are not going to discuss the history of art; we will just focus on two relevant perspectives: art as an imitation of reality and art as a creative expression of human experience.

Art as an Imitation of Reality

One understanding of art was offered by the Greek philosophers Plato and Aristotle, who considered art to be mimesis or an imitation of reality. Plato (1888, Book 10), consistent with his theory of forms or the two-world theory, considers art a mere copy or imitation of the physical reality, which is also a copy of the ideal reality – the forms. If the physical world is a copy of the ideal forms, and the objects in the physical world are imperfect representations of the perfect forms, then art is a copy of an imperfect copy. Artistic works, then, are merely illusions, lacking in the true essence of beauty or truth that can be found only in the world of forms. For Plato (1888, Bk 10)

> Painting or drawing, and imitation in general, when doing their own proper work, are far removed from the truth, and the companions and friends and associates of a principle within us, which is equally removed from reason, and that they have no true or healthy aim.

For Aristotle, while acknowledging that art is an imitation and that imitation is a natural instinct of man, art is not just an ordinary copying of the objects in the material or physical world. As a natural instinct, imitation allows us to learn and find pleasure.

Aristotle stresses that through imitation, artists can represent not just what is actual but also what could be or ought to be, thus exploring universal truths and possibilities. Art is a means of learning and catharsis, offering a more positive perspective. Aristotle (1895, #4) writes:

> The instinct of imitation is implanted in man from childhood, one difference between him and other animals being that he is the most imitative of living creatures, and through imitation learns his earliest lessons; and no less universal is the pleasure felt in things imitated.

The understanding and practice of art and the different arts have evolved over time. From imitation of reality, it has been interpreted as a social commentary that creates critical awareness and challenges social norms, e.g., political cartoons, protest songs, and socially engaged art installations. Throughout human history, art has played a significant role in religious practices and rituals. Ancient paintings and artworks depict man's passage to the afterlife; religious figures and events adorn the intricate stained-glass windows of medieval cathedrals. Art also serves in documentation and cultural preservation, providing a visual record of past events, social customs, and cultural values. For example, Ancient Roman sculptures and paintings provide insights into their political structures and daily life. Chinese calligraphy and crafts embody their unique heritage and skills. Art also provides enjoyment and aesthetic pleasure. Intricate patterns of Islamic tilework and captivating narratives of film can evoke emotions and offer a source of leisure and delight.

Added to this continuing evolution of art is Artificial Intelligence art, or AI art, which is revolutionizing the practice of art. It would seem that AI art is also an imitation of reality. As an art, it is an imitation of reality. However, who does the imitation? Is AI the one imitating reality, or does a human employ AI to imitate reality? Plato and Aristotle never thought of artificial intelligence the way we understand it now, and the ancient and medieval artists never had computers for tools, much less AI tools. AI thus raises critical questions about art as an imitation of reality.

Art as Creative Expression of Human Experience

Every piece of art or artwork is a creative expression of human experience. Art encompasses a broad range of creative expressions, and these creative expressions are present in the artworks. Anything we consider art can be considered a creative expression of oneself. Art is a form of creative human expression that enriches human experience. According to Jove Jim Aguas (2018), "It is one of the conditions of human life and an indispensable means of interconnection or relations between man and man." The great Russian literary writer Leo Tolstoy (1904, #2) writes:

> Every work of art causes the receiver to enter into a certain kind of relationship both with him who produced, or is producing the art, and with all those who, simultaneously, previously, or subsequently, receive the same artistic impression.

Like speech, art serves as a means of communication between or among men; however, speech is different because we usually communicate our thoughts, whereas in art, we communicate our feelings or emotions. Tolstoy (1904, #4) explains, "The activity of art is based on the fact that a man, receiving through his sense of hearing or sight another man's expression of feeling, is capable of experiencing the emotion which moved the man who expressed it." Hence, art is a human activity by which a person who has experienced an emotion intentionally transmits such experience to others. Art can be manifested through one's gestures or movements or the sound of his voice, and another man, when he sees or hears him, comes to a similar state of mind. When someone expresses courage, determination, sadness, and calmness, such a state of mind can be passed on to others. Art can also be manifested when someone suffers and expresses his sufferings by groans and spasms, and such suffering transmits itself to other people, or when someone expresses his feeling of admiration, devotion, fear, respect, or love to certain objects, persons, or phenomena, and other men are affected by the same feelings of admiration, devotion, fear, respect, or love to the same objects, persons, and phenomena (Aguas 2018). All these human experiences can be manifested or expressed in art. Thus, Tolstoy (1904, #5) says that it is "upon this capacity of man to receive another man's expression of feeling and experience those feelings himself, that the activity of art is based."

However, not all infections of human reactions are art. It is not art if one cries because somebody cries or if one is sad because another person is sad. According to Tolstoy (1904, #7), art "begins when one person, with the object of joining another or others to himself in one and the same feeling, expresses that feeling by certain external indications." If a child tells a story about some fearful experience, and by such creative storytelling, he can express his fear and his terrible experience, and he can compel his audience through his creative narration to feel the same feeling, then there is the experience of art. Similarly, there is art when a man who has experienced suffering or enjoyment, whether in real life or simply in his imagination, expresses these feelings on canvas, in marble, or in ceilings or walls so that they infect others (Aguas 2018). Michelangelo's paintings on the ceiling of the Sistine Chapel and his *David* are creative expressions that affected the audience. There is also art when a man feels or imagines to himself feelings of delight, gladness, sorrow, despair, courage, or despondency and the transition from one to another of these feelings and expresses these feelings through music or dances or by other theatrical performances that they infect the listeners or the audience and experience them as the performers experienced them (Aguas 2018).

According to Tolstoy (1904, #10), the activity of art then is "to evoke in oneself a feeling one has once experienced, and having evoked it in oneself, then, by means of movements, lines, colors, sounds, or forms expressed in words, so to transmit that feeling that others may experience the same feeling." Because of man's capacity to be affected by the feelings of others by means of art, all that is being experienced by his contemporaries and those feelings experienced by men in the past are all accessible to him. Through art and man's experiences, the present man can also transmit his own feelings to others, even in the future.

Art as an expression of oneself is concretized in the Arts.[13] While art is the creative expression of oneself whereby a man is able to communicate his feelings and

evoke the same feelings in others, what we consider as the Arts is the creative, imaginative, and aesthetic body of human activities and work that manifests a people's collective experiences and feelings. Nevertheless, for Aguas (2018), what is manifested in these collective feelings is their core values, ideals, beliefs, practices, and aspirations. Tolstoy (1904, #17) clarifies that we are accustomed to understanding art to be only what we hear and see in theaters, concerts, and exhibitions, together with buildings, statues, poems, and novels. However, this is but a small part of what they try to communicate with each other in real life. According to Tolstoy (1904, #17), all human life is filled with works of art of every kind - from cradlesong, jest, mimicry, the ornamentation of houses, dress, and utensils, up to church services, buildings, monuments, and triumphal processions. It is all artistic activity. However, not every human activity that transmits feelings can be considered a part of the arts of a people, but only those that, for some reason, we attach special importance to.

According to Noël Carroll (2006, 296-302), we can consider anything to be an artwork when it has mostly the following features: 1) It possesses positive aesthetic properties. 2) It expresses emotion.3) It is intellectually challenging. 4) It is complex and coherent. 5) It has the capacity to express complex meanings. 6) It exhibits an individual point of view. 7) It is an original exercise of the imagination. 8) It is the product of skill. 9) It belongs to an established form of art. 10) It is made with the intention of being a work of art. This is far from a real or essential definition of art because these properties are only bits and pieces of what could be considered artwork. As mentioned, anything that is a work of art will have at least one of these features; a work that has more and more of these features provides us with more and more reasons to categorize it as an artwork.

The Fundamentals of Artistic Creation

We have considered two understandings of art: art as an imitation of reality and art as a creative expression of human experience. As an imitation of reality we can consider AI art to be an imitation of reality, although there is a question of who does the imitation. On the other hand, it would seem that AI art would not qualify as a creative expression of human experience. AI, for one, does not possess human experience. Moreover, artistic creation is a fundamental human endeavor resulting in diverse expressions reflecting individual perspectives, cultural values, and societal contexts. From the earliest cave paintings to contemporary digital installations, the desire to create art is a defining characteristic of the human experience. For Ellen Dissanayake (1995, 24-39), artistic creation is not a monolithic process but a complex interplay of internal drives, external influences, and learned skills. It involves the transformation of ideas, emotions, and perceptions into tangible or experiential forms that communicate, provoke, and enrich our understanding of the world. Let us take a closer look at what can be considered as fundamentals of human artistic creation or expression.

Creativity

Fundamental to artistic creation is the concept of creativity. Defining creativity is a difficult task, but it generally involves two things: originality, that is, the ability to generate novel ideas, and effectiveness, that is, it offers valuable ideas or products

(Runco and Jaeger 2012, 92). In the context of art, this often manifests as the ability to generate original ideas, offer solutions to problems, express emotions and ideas, and innovate and experiment. Artists conceive of new concepts, forms, or approaches to existing themes. This might involve seeing the world in a unique way or making unexpected connections between disparate elements. Of course, there is no such thing as the full representation of the particular, and there is no need to duplicate what already exists. However, the artist also uses his categories of shape, dimension, and color to capture something universally significant in a particular. He is not intent on matching the unique, nor is he able to do so, but the outcome of his effort is a uniquely particular object or performance (Arnheim 1974, 2). Artistic creation often involves overcoming technical or conceptual challenges in translating an idea into a finished work. Artists make choices about materials, techniques, and composition to achieve their desired outcome.

Artistic creation involves the expression of emotion, as art serves as a powerful medium for conveying personal emotions, social commentary, spiritual beliefs, and intellectual concepts. The creative process allows artists to externalize and communicate their inner world to others. According to Collingwood (1938, 108), art has something to do with emotion as it expresses emotions. The artist is not just conveying a pre-felt emotion or arousing an emotion, but rather discovering and articulating it through his artistic process.

Authorship

Every art or artwork has a creator or author, and that is the artist. Every artwork is a creative expression of the artist; thus, the artist is considered the author or creator of a piece of art. Authorship has always occupied a central position throughout the long history of traditional artistic creation, with its connotation being rich and undergoing significant modification. For Sherri Irvin (2005, 123), while there are questions about the real author or a particular art, such as in the case of appropriation art, it has often been thought to support the view that authorship in art is an outmoded or misguided notion. Still, in art, especially in traditional art, we can identify the author as the creative mind behind the art. The art and the artist are always intimately connected. The paintings on the ceiling of the Sistine Chapel are connected with Michelangelo, the "Mona Lisa" with Leonardo da Vinci, etc. Since the ancient Greek period, artists have been regarded as exceptional individuals with extraordinary creative powers. At that time, artistic creation was closely related to religion, mythology, and social life, with artists expressing reverence for deities, praise for heroic deeds, and depictions of life scenes through their works. Ancient Greek sculptors created numerous lifelike statues of gods and athletes with exquisite craftsmanship, showcasing the beauty of the human form and embodying the artists' pursuit of ideals and spirit, with their personal style and creativity being initially manifested in their creations.

As time passed, during the Renaissance, the concept of "authorship" was further deepened. Artists began to break free from the absolute constraints of medieval religion and placed greater emphasis on exploring and expressing human nature.[14] Masters like Leonardo da Vinci and Michelangelo, with their unique perspectives and exceptional skills, left countless immortal works in fields such as painting and sculpture. Leonardo's "Mona Lisa" features delicate brushwork and a mysterious

smile, revealing his profound insight into the subject's inner world; Michelangelo's Sistine Chapel ceiling frescoes, with their grand composition and striking visual impact, demonstrate his extraordinary creativity and artistic expressiveness. These works are clearly stamped with the artist's personal style and emotions, and by this time, "authorship" had become the unique identifier of a work, carrying the artist's cognition and expression of the world.

In modern society, with the increasing diversity of art forms, the connotation of "authorship" has also been continuously expanded. In addition to the artist's personal style and creative techniques, cultural background, social experiences, and the ideological trends of the era are deeply integrated into "authorship." For example, Impressionist painters were influenced by the development of optics and color theory at the time, emphasizing the capture of the instantaneous changes in light and color, breaking the traditional constraints on fixed colors and composition.[15] Monet's "Impression, Sunrise," with its hazy light and dynamic colors, pioneered a new painting style, reflecting the new aesthetic pursuits of the era towards nature and life, and also vividly reflects Monet's personal artistic pursuits and creative philosophy.

Originality

Originality is a fundamental element of art that contributes immensely to its value. Originality is an essential factor in art's evolution and provides unique insights. Originality is central to traditional artistic creation, guiding ethical practice and fueling artistic progress. It is considered the cornerstone of traditional artistic creation. Original works are born from the artist's distinctive creativity and creative talent, and they drive the art world with novel concepts and approaches. Artists are recognized because of their originality. Every art genre has its original artists - da Vinci, Picasso, Michelangelo, van Gogh, Juan Luna in visual arts, Mozart, Beethoven, Bach, Chopin in classical music, Shakespeare, Tolstoy, Hemingway in literature, etc.

It is not only a high recognition of the artist's talent but also the core driving force that propels art forward. For instance, Picasso's Cubist paintings completely revolutionized the traditional representation of objects by presenting them with unique geometric shapes and perspectives from multiple angles, bringing a revolutionary change to the art of painting. This innovative form of art, stemming from Picasso's unique creative thinking and bold break from tradition, has become a landmark example of originality in the history of art. Originality in art often involves a departure from established conventions and traditions, challenging existing norms and pushing the boundaries of artistic expression.

Determining the originality of an artwork typically involves considerations from various aspects. In terms of creative source, the work must exhibit a unique point of inspiration and cannot be a simple imitation or plagiarism of existing works. For example, if a literary work can draw inspiration from a new life experience, a unique historical perspective, or an imaginative space, creating a distinctive plot and characters, it possesses the foundation of originality. In the creative process, the techniques, skills, and style that the artist employs are also crucial. Taking painting as an example, unique brushwork, color combinations, and compositional methods can all reflect the originality of the work. For instance, with their unique impasto technique and strong, vivid color contrasts, Van Gogh's paintings formed a highly recognizable

personal style, making his works stand out in art history. Additionally, the uniqueness of the work's aesthetic value and ideological content is a key factor in determining originality. A work with profound ideological content that can resonate with and provoke thought among the audience often better reflects its originality. For example, Tolstoy's "War and Peace," through its panoramic depiction of people's lives during times of war and peace, delve into profound issues such as human nature, morality, and history, demonstrating unique aesthetic value and ideological depth, becoming a classic of originality in the literary field.

Human Emotions

Aside from creativity, human emotions have always been the soul of artistic works, pervading every aspect of artistic creation. Drawing on their rich emotional experiences, artists infuse their innermost feelings of joy, anger, sorrow, and delight, their insights into life, and their contemplations of the world into their works. According to Zorana Ivcevic and Jessica Hoffmann (2019, 279), artists, designers, musicians, screenwriters, and scientists all describe having experienced "anxiety and frustration at the vagueness of their initial ideas, joy of inspiration, and pain or even anguish in the often long process of working and reworking on the way to realizing an idea in a product or performance." For example, despite becoming deaf in both ears, Beethoven, driven by his love for music and his relentless struggle against fate, composed the stirring "Symphony No. 5." This piece is filled with fervent fighting spirit and profound emotion, vividly depicting Beethoven's struggle and determination in the face of adversity, becoming an immortal classic in the history of music. Such a profound expression of emotion is a unique trait of humans, endowing artistic works with powerful appeal and vitality. Creators also express being inspired by emotion-laden observations and transforming or channeling them into creative work. For example, composers, artists, and writers "describe being inspired by a need to understand the world around them and using emotionally rich observations of their environments – places, smells, interactions – to tell a convincing story" (Ivcevic and Hoffmann 2019, 282). Juan Luna's "Spoliarium" is not just a portrayal of death, suffering, and the indignity of dead gladiators being dragged; it is a powerful statement about human suffering and the harsh realities of life, which reverberated with the Filipino people during the Spanish colonial period.

At the same time, human creativity enables artists to break from convention and create unique artistic forms and techniques. Take, for example, the art of calligraphy from ancient China. Calligraphers, through the skillful use of brush and ink and unique conceptualization of character structures, have created a variety of scripts including seal, clerical, regular, running, and cursive styles. Each script embodies its own unique artistic charm. Wang Xizhi's "Preface to the Orchid Pavilion" showcases its exceptional artistic creativity with its elegant and flowing brushwork and exquisite character postures, becoming a pinnacle work of Chinese calligraphy art. This creativity is reflected in the innovation of artistic forms and the unique interpretation and expression of artistic content. Artists can discover unique beauty from the ordinary aspects of life, presenting it to the audience from a unique perspective and in a unique way, allowing viewers to experience a completely new aesthetic enjoyment when appreciating the works.

Unique Thinking and Aesthetic Judgment

The process of human artistic creation is a highly complex and unique mental activity that embodies the artist's distinctive way of thinking and aesthetic judgment. During the creative process, artists often employ thinking methods such as association, imagination, abstraction, and generalization to process and refine the materials for their creation deeply. Cognitive theorists and psychologists like Howard Gardner associate cognitive or mental processes with artistic creation, such as perception, imagination, problem-solving, and the generation of novel combinations. There are cognitive mechanisms underlying creativity. According to Gardner (1993, 31), "individuals who ultimately make creative breakthroughs tend from their earliest days to be explorers, innovators, and tinkerers." They do not just follow the pack; they can usually be found experimenting with their chosen motif and elsewhere as well. For example, young musical performers often reveal their gift for composing through a constant effort to "rewrite a piece" according to their own preferred specification; budding scientists do not brook received wisdom, but rather demand to see for themselves. For Gardner (1993, 33), "the creative individual is a person who regularly solves problems, fashions products, or defines new questions in a domain in a way that is initially considered novel but that ultimately becomes accepted in a particular setting." For instance, in painting creation, a painter might look at an autumn forest and, through association, link the colors and forms of the forest with the vicissitudes of life and the passage of time, thus creating a profound and poetic atmosphere in the painting. Imagination allows painters to break free from the constraints of reality and create fantastical scenes and images, such as those in Dali's surrealist paintings, which construct absurd yet meaningful scenes through unique imagination.

Aesthetic judgment also plays a crucial role in human artistic creation. Artists refine and perfect the form and content of their works based on their own aesthetic standards and artistic pursuits. Different artists have different aesthetic tendencies; some pursue a simple and clear style, while others favor elaborate and complex expressions; some focus on the realism of their works, while others emphasize the artistic conception and emotional expression of their pieces. For example, in the history of Western painting, classical painters sought strict composition, perfect proportions, and delicate realism, whereas romantic painters placed more emphasis on the expression of emotion, the expressiveness of color, and the dramatic effect of the Screen. This unique aesthetic judgment gives each artist's work a distinct personality and unique artistic value, making artistic creation diverse and colorful.

Intellectual Property, Attribution Rights, and Copyright

Intellectual property refers to creations of the mind, and in the art world, this primarily encompasses the intangible rights associated with an artwork (Anderson 2015, 769). It grants creators exclusive rights to control how their creations are used and to benefit from them. It holds an irreplaceable and important position in the field of artistic creation as it is the legal protection of artists' intellectual labor achievements. Fundamentally, intellectual property confers a series of exclusive rights to artists over their creative works, including the rights to reproduce, distribute, exhibit, and perform. This protection mechanism is of profound significance for the prosperity and development of artistic creation. Moreover, it provides artists with solid economic

security, allowing them to commit to their creative work fully. For example, through copyright protection, a musician's excellent musical composition can generate corresponding economic benefits from the sale of records and the holding of concerts, thereby providing more resources and energy for subsequent creation. Intellectual property protection encourages artistic innovation. When artists' creative results are effectively protected by law, they are more motivated to explore new art forms and express new ideas and emotions, bringing more novel and unique works to the art world. For instance, in the film industry, the protection of directors' and screenwriters' intellectual property rights encourages them to continuously innovate filming techniques and write compelling scripts, driving the ongoing development and progress of film art. To produce excellent publications that are beneficial to society, promote social, spiritual civilization, and cultural undertakings, publishers can utilize specific "events" to achieve mass and serialized production and effectively adjust the form and quantity of publications according to the focus of the event, thereby achieving precise publishing (Huazheng 2016, 67-71.

Copyright is the most significant form of IP protection for artists. Copyright or author's right is a legal term that describes creators' rights over their literary and artistic works. According to the World Intellectual Property Organization (2007), works covered by copyright include books, music, paintings, sculptures, films, computer programs, databases, advertisements, maps, and technical drawings. It protects original works of authorship, such as paintings, sculptures, photographs, digital art, and drawings, as soon as they are fixed in a tangible medium (e.g., on canvas, paper, or in a digital file). The author or the artist acquires property rights in their work by virtue of the mere act of creation. Since they spend time and effort on the creation of a work, it is deemed right and to afford her the opportunity to reap the fruit of this creative labor (Giblin and Weatherall 2017, 27). In the context of art, copyright applies to a wide range of works, including paintings, sculptures, photographs, digital art, and even conceptual art when sufficiently documented (Greenberg 2013, 427-456).

Aside from economic rights, moral rights recognize the artist's personal connection to their work even after copyright or physical ownership has been transferred. One of the key moral rights is the right of attribution or the right to be recognized as the creator of the work. Attribution rights, as an integral part of intellectual property, carry special significance and value within the ethics of artistic creation. This right is a cornerstone of what is broadly termed "moral rights," which protect the non-economic interests of creators in their artistic output (Daemmrich 2017, 147-166). They represent the author's identification with their creative works and are a direct acknowledgment and respect for the author's creative output. Attribution rights are a crucial aspect of an artist's moral rights. They ensure that artists are properly credited for their work and that when an artwork is displayed, reproduced, or otherwise used, the artist's name should be clearly and reasonably associated with it.

From an ethical perspective, attribution rights reflect the author's responsibility for their work. When an author signs their name to a work, it signifies their commitment to the work's quality, content, and values. For instance, when a renowned painter signs their painting, they are not only showcasing their creative achievements to the world but also vouching for the artistic standards and aesthetic value contained within the work. Moreover, attribution rights provide clear source information for the

audience and the art market, which helps establish a trusting relationship between the author and their work. When appreciating art, audiences are often more inclined to pay attention to the works of an author they trust and admire. For example, in the field of collecting, collectors typically favor artworks with clear attribution and a good reputation for the author, as the signature represents a sure guarantee of the work's authenticity and artistic value. For example, a painting signed by Picasso or Van Gogh carries more worth and value than a painting that is only attributed but unsigned.

The scope of copyright protection broadly covers various forms of artistic works, including traditional paintings, music, literary works, and emerging digital art. In the field of painting, an oil painting, watercolor, or sketch becomes copyrighted to the author from the moment of its completion, granting rights to reproduce, display, and modify the work. In music, compositions and lyrics are protected by copyright, and others may not copy, perform, or adapt them without permission. The same applies to literary works; the copyright of a novel or poem belongs to the author, prohibiting unauthorized plagiarism or publication by others.

Once infringement is discovered, the infringer must bear legal consequences such as ceasing the infringement, compensating for damages, and eliminating the impact. For example, in some cases of copyright infringement in film and television, if a film or television work uses another's musical composition or script idea without authorization, the court usually orders the infringing party to immediately cease the broadcast and distribution of the work and pay economic compensation to the copyright owner. Additionally, the infringing party is required to take measures to eliminate the negative impact on the copyright owner caused by the infringement. This strict mechanism for pursuing legal liability aims to protect the legitimate rights of copyright owners and ensure fairness and order in the field of artistic creation.

THE DISRUPTIONS OF AI ARTISTIC CREATION ON TRADITIONAL OR HUMAN ARTISTIC CREATION

While AI art has revolutionized artistic creation in an unprecedented manner, it has also raised questions, particularly in some ethical issues related to creativity and authorship, originality, rights, and the value of art. Previously, we discussed art as an imitation of reality based on Plato and Aristotle's understanding and as a creative expression of human experience based on Tolstoy's thought. Firstly, AI art could qualify as an imitation of reality, although it would be an enhanced imitation of an imitation if we consider it as a tool that the human artist employs to create an artwork. In this sense, the imitator, that is, the artist, is the human artist, not the AI artist. It becomes complex when we assume that AI itself is the one creating the artwork, like in the case of "Edmond de Belamy." In either case, however, AI art is an imitation of reality, whether it is an AI-enhanced human art or a completely AI-generated art. Secondly, in the case of art as a human creative expression of human experience, it would seem that AI art cannot be art in this sense because, in the first place, AI does not have a human experience simply because it is not human. Moreover, while we can say AI art is a creative expression, at best, it is an enhanced or perhaps a better creative expression, but it will never be a human expression, again because AI is not human.

Well, it could be argued that an AI-enhanced art by a human artist is a human expression, but it is the human artist who created the artwork by employing AI technology. Still, it is the human artist who created the artwork.

AI, however, raises certain questions and issues that somehow disrupt and even challenge the way we understand art with respect to creativity, authorship, originality, value of art, and rights, matters, or elements that we traditionally assign to human art. In fact, AI forces us now to distinguish between AI art and human art, something that we never did before. Let us now take a closer look at these elements of art and analyze and evaluate how AI art challenges or disrupts our understanding of these elements.

On Creativity

Can AI be considered an "artist"? Who is the actual creator: artificial intelligence or the user, that is the human artist who employs AI technology in creating an artwork? In AI-enabled or enhanced art creation, the question of whether AI can be recognized as an "artist" has sparked widespread and intense debate across academic, artistic, and societal circles. From the perspective of human artistic creation, the title "artist" carries profound humanistic connotations. An artist is an individual with rich emotions, unique thoughts, and exceptional creativity who, through long-term learning, practice, and life experiences, has accumulated exquisite skills and a unique aesthetic perspective, thereby being able to transform his inner spiritual world into concrete works of art. We can imagine how Michelangelo, Mozart, Shakespeare, and Luna, as artists, brought and integrated their rich human experiences, emotions, and skills in crafting their artworks.

The essence of creativity is in the relationships and connections between things, and new relationships and connections must be constantly discovered that bring about new things. If there is human artistic creativity, there is also AI artistic creativity. Liu (2023, 813) explains that AI artistic creativity "relies on processes and algorithms, which in turn rely on clear logic. The basic logic is that creating art is decomposable, processable, clearly relational, representable, and datable." Creativity is a fundamental capacity of human intelligence, and it is a challenge for AI to duplicate. According to Margaret Boden (1998, 347), AI techniques can be used to create new ideas in three ways: "by producing novel combinations of familiar ideas; by exploring the potential of conceptual spaces; and by making transformations that enable the generation of previously impossible ideas."

As mentioned already, creativity is based on making relationships and connections as artists discover some associations. In the case of AI artistic creation, which is supported by big data, algorithms, and other AI-related technologies, the same can be done in AI art. Creation, in the case of AI art, can be considered a 'creative conception' and composition an 'execution.' For Liu (2023, 815), while AI's ability to "conceive" is questionable, some have argued that "AI is better at imitating existing artistic styles or structures than creating new ones... and in terms of the performance of artistic activities and their outcomes, AI can first produce art and create new ideas by refining existing styles." For example, in the case of the famous AI painting tool Midjourney,[16] a free AI image generator, users only need to input simple textual descriptions, such as "a castle under a dreamy starry sky." Midjourney can generate

multiple paintings with different styles and exquisite beauty in a very short time. These works not only have high aesthetic value in terms of composition and color matching but also often impress with their creativity and imagination. The emergence of Midjourney and other AI image generators means that painting creation is no longer limited to professional painters; ordinary users can also easily create artistic works within minutes.

However, AI, as a tool built on technology, lacks the emotional experiences, subjective consciousness, and intrinsic creative impulses humans possess. While AI can generate novel content based on existing patterns, true creativity, innovation, and "thinking outside the box" remain human capacities. AI cannot produce genuinely new ideas and create art and music with emotional depth. The AI's creative process is based on analyzing vast amounts of data and operating algorithmic models. Although it can generate works that appear to have artistic value, this process is more mechanical computation rather than being driven by internal human emotions. For example, AI painting tools can generate dazzling artworks based on input commands, but they cannot truly understand the emotional significance of color combinations or appreciate the artistic conception conveyed by the images. Hence, according to Jia Chi (2024, 55), while "AI systems can produce artworks based on pre-existing styles and data, these works lack the 'soul' and authenticity of artworks created by human hands and minds… AI algorithms do not possess personal experiences or emotions, which traditionally inform the creative process." Hence, according to Lucas Bellaiche et al. (2023, 17), even in the case of art appreciation, art created by humans generates more interest and preference compared to AI-generated art, as it reflects a profound human experience. Artworks done without human experience, like AI art, can produce only sensorily similar, still comparatively beautiful, and liked pieces of visual art, but will lack the artist's efforts.

On Authorship

With regard to the actual creator of AI works, this question is more complex. The developers of AI programs write code and design algorithms, providing the basic framework and technical support for AI creation. However, during the actual creative process, developers often do not participate in the generation of each specific work; they cannot predict the final form of the AI's output, nor can they be responsible for the artistic value and emotional expression of the works. For users or human artists who create with AI tools, they guide the AI to generate works through input commands. However, most of these users have not received systematic art training and lack the professional skills and creative experience that traditional artists possess. Their contribution to the works is mainly reflected in the setting of commands rather than through their own artistic literacy and creativity. For example, a regular user uses AI music creation software, inputs the lyrics and some simple style and theme requirements, and the software generates a piece of music. In this process, the user simply waits for the AI to generate the output and cannot deeply process the melody, harmony, rhythm, etc., of the music with his or her own abilities; the generation of the work relies more on the algorithms and preset patterns of the AI software. Therefore, the creator identity of AI works cannot be attributed to developers or users, and this

ambiguity poses a significant challenge to the clear and definite authorship identification in traditional artistic creation.

Should AI work be attributed to the program developers, users, or the algorithm itself? The issue of ownership of AI works is a thorny and highly controversial ethical dilemma in the field of AI-enabled art creation. From different perspectives, attributing AI works to the program developers, users, or the algorithm itself all have their rationality and limitations. If AI works are attributed to the program developers, the developers might gain excessive benefits and reputation due to their AI generating a large number of outstanding works. The developer of popular AI painting software might be widely praised for the beautiful paintings generated by the software, but in reality, the creation of these works does not entirely depend on the developer's artistic creativity. "Edmond de Belamy, from La Famille de Belamy," which was created using a generative adversarial network (GAN) algorithm, was not only praised; it was sold at a high price. Was it because of the developer's artistic creativity? Moreover, during the development process, developers often design based on general technology and algorithms and cannot precisely foresee the content and style of the AI's final output. Fully attributing the works to the developers is unfair to the users who actually participate in the creation.

If AI works are attributed to the users, although they participate in the creative process to some extent by inputting commands, they differ fundamentally from traditional artists in terms of creative ability and contribution. Users rely more on AI tools' powerful functions than their own artistic literacy and skills. For example, a user who has never learned painting can generate a work using an AI painting tool, and their artistic creativity and professional skills demonstrated in the creation process are minimal compared to those of a professional painter. Entirely attributing the works to the users makes it difficult to gain widespread recognition in the art world and among the public and cannot reflect the professionalism and seriousness of artistic creation.

The legal matters pertaining to AI art authorship are still evolving. For instance, the U.S. Copyright Office (2023) is firm in its position that copyright protection extends only to works created by human beings. The Office stated that AI-generated content will not register works "produced solely by a machine or mere mechanical process that operates randomly or automatically without any creative input or intervention from a human author." Many other countries are grappling with this issue, with some leaning towards a human-centric view of authorship while others explore potential avenues for recognizing the contributions of those who facilitate AI art creation.

Boden (1998, 349-353) argues that AI work should be attributed to the algorithm itself, as advanced AI exhibits a form of emergent creativity that goes beyond mere mimicry, generating novel outputs that surprise even its creators. Moreover, the specific architecture, training data, and parameters of an AI model significantly influence the style and content of the generated artwork, suggesting a substantial contribution beyond that of a passive tool. However, an algorithm is merely a technical means, lacks independent legal personality and consciousness, and cannot bear the rights and obligations attached to the work. Ludwig Nagl (2022, 61-64) argues that algorithms, "as ensembles of tools, are in permanent need of human, socio-political control," and since they are exclusively focused on means-end relations, they

systematically exclude, as Kant points out, the (core ethical) question whether the ends they implement are good or evil. For example, an algorithm cannot make decisions about using and disseminating works like a human creator, nor can it be responsible for legal disputes and moral controversies that the works may cause. Moreover, AI art is fundamentally based on learning from existing datasets, raising concerns that the output is inherently derivative and lacks the originality required for authorship (Lessig 2004). AI cannot claim moral rights as it is not a moral agent. Moral rights, such as the right to attribution and integrity, are applicable only to human authors and their personal connection to their work. Granting authorship to an AI that lacks such a connection raises complex questions about the applicability of these rights.

Still, since the definition of AI work ownership involves complex interest relationships and ethical considerations, a clear and widely accepted solution has not yet been formed. This issue has not only caused many contradictions and disputes in artistic creation practice, such as issues of authorship and copyright revenue distribution, but it also poses significant challenges to the formulation and enforcement of relevant laws and regulations.

On Originality

The originality and novelty of human art are intimately related to human creativity and human authorship. Human art is humanly original and novel, not only because it is new and innovative, but because a human artist created it. The originality of AI-generated work is a complex and controversial topic. On the surface, AI can generate works that are distinct in form and content from existing works through learning and analyzing vast amounts of data. Computer programs have their respective unique random processes that can perform this function. For example, generative art, which breaks the path limitations of design software in the traditional sense, is no longer bound to the boundaries of software and is not a structured design system. Hence, according to Liu (2023, 816), in the case of originality and artistry, "the calculation of beauty, done by the designer who sets the rules through computer programming, gives the design a whole new possibility, both in terms of the rules and quantification of art, and the disorder and randomness of design." We can see here that "the randomness of the random function contributes in some way to the 'originality' of AI art" (Liu 2023, 816). For example, OpenAI's GPT-3 model excels in natural language processing and can generate high-quality text content. Whether it is news reporting, novel creation, or poetry writing, GPT-3 can produce coherent and logically sound text based on given themes and requirements. Some writers use GPT-3 to assist in novel creation, gaining inspiration and creativity through interaction with the model, significantly improving creative efficiency.

AI painting can create unique compositions, color combinations, and fantastic imagery that may not be common in traditional art. AI can produce novel melodies, rhythms, and harmonies in terms of music composition, bringing new auditory experiences to the music field. From this perspective, AI works seem to possess a certain degree of originality. The Flow Machines[17] project, developed by Sony Corporation in Japan, is capable of composing music in the style of famous musicians. For instance, it created a song titled "Daddy's Car," which is based on the style of The

Beatles. The song is very similar to The Beatles' works in terms of musical structure, melodic progression, and harmony use, and it has even gained recognition from professional musicians. This case demonstrates that AI has reached a high level in the field of music composition and is capable of creating musical works with certain artistic value. Even if AI is not granted full authorship, the role of the human user in the creation of AI art is undeniable. Users craft prompts, select parameters and often curate and refine the AI-generated outputs. This raises the question of whether the user can be considered the author or a co-author of the final artwork or is the output or end product and original output of AI.

However, as we have shown, it is apparent that AI's creation is fundamentally based on learning and imitating existing data. AI lacks the unique sources of inspiration and intrinsic creativity that human artists possess. It extracts patterns, styles, and elements from a large number of artworks, then recombines and varies them. For example, after learning from numerous Impressionist paintings, AI can mimic Impressionist color usage and brushwork to generate a new painting. However such creation is more based on imitation and derivation of existing styles rather than an innovative breakthrough from scratch.

Moreover, AI may overly rely on particular specific works or styles during the learning process, resulting in generated works that bear evident traces of imitation. For example, when AI takes the works of a famous painter as its primary learning subject, the resulting works may be strikingly similar in style and technique to those of the painter, making it difficult to demonstrate true originality. In other words, while AI can render something new and innovative, such innovation can be dismissed as imitation of the style and techniques of a human artist. Therefore, the determination of the originality and authorship of AI artworks cannot be simply based on the surface form of the works but needs to comprehensively consider factors such as the principles of AI creation, the sources of data, and the relationship with existing works. AI art relies on an enormously large amount of data from existing human artworks. A human artist can also imitate the styles and techniques of another human artist; similarly, an AI artist imitates the styles and techniques of a human artist. In both cases, there is an element of imitation, and the source that is imitated is a human artist. Ultimately, the originator is a human artist, not an AI artist.

On Plagiarism

Against the backdrop of the vigorous development of AI art creation, accurately defining the relationship between AI works and existing human art has become a key issue that urgently needs to be addressed. Since AI requires the use of a large number of existing artworks as data during the training process, this creates intricate connections between AI-generated works and existing human artworks.

AI works may have similarities with existing works in terms of style, technique, and theme. Such similarities may stem from AI's learning and referencing of existing works, or they may be due to the algorithm's limitations, resulting in outcomes similar to those of existing works during the creative process. For example, after learning a series of traditional Chinese landscape paintings, AI-generated works may have similarities in composition and brushwork with traditional landscape paintings, but

although there could be issues about plagiarism, this does not necessarily mean that AI works are plagiarisms of traditional landscape paintings.

At present, there is a lack of unified and clear standards and methods for defining the similarity between AI works and existing human artworks. From the perspective of a functional definition of what could strictly be considered as art, one that could be displayed and sold at museums and galleries, for example, the products of AI's involvement in art creation are not artworks. In terms of the originality that art relies on, artworks need to possess certain qualities to deserve the honor bestowed by the art world, and in the halls of art galleries, they are not only exhibited as art but also as good art. According to this view, although AI is involved in art creation, its products cannot be called artworks. However, as we have discussed the elements of art, from a procedural definition, the products of AI's involvement in art creation are artworks. Within the framework of procedural definition, for something to be considered art, it needs to go through procedures recognized by authorities in the art world, such as museums or art galleries (Li 2022, 16-21). In practice, this often relies on human judgment to determine, but this approach has subjectivity and uncertainty. Different people may have different standards for judging similarity, which can easily lead to controversy. For example, for an AI-generated painting, some people may believe that its similarity in color and composition to a certain existing work is too high and constitutes plagiarism, while others may believe that these similarities are an inevitable result of AI's learning process and that the work has uniqueness in overall creativity and expression and should not be considered plagiarism. In order to scientifically and reasonably define the relationship between AI works and existing artistic works, it is necessary to comprehensively consider multiple factors, including the creative process of the work, the source of data, the proportion of similar parts within the work, and the impact on the overall artistic value of the work. At the same time, establishing a set of objective, fair, and operable criteria and methods is of great significance for resolving disputes over plagiarism in AI artistic creation and maintaining the fair order of artistic creation.

On Copyright and the Value of Artworks

AI artworks and human artworks and their respective values, and in this respect, AI art has also disrupted and posed questions about how we value artworks, whether AI-generated or human art. AI training data typically comes from a vast array of existing works on the internet, covering various art fields such as painting, music, literature, and more. When using this data for training, if authorization from copyright holders is not obtained, it can easily lead to serious copyright disputes. Who owns the copyright of AI-generated or enhanced artworks? For instance, some AI painting tools extensively use unauthorized works of artists as training data, which undoubtedly infringes on the copyright of these artists. Once discovered by copyright holders, AI users may face legal action and liability for damages. This challenges our understanding of the legality of moral construction and copyright infringement. Even with authorization, there may be issues with the misuse of data. For instance, during training, AI may become overly reliant on data from certain works, resulting in outputs that are excessively similar to these works, thereby harming the interests of copyright

owners. Additionally, the training data for AI might include some unethical or harmful content, such as violence, pornography, discrimination, etc. If AI absorbs this negative content during the learning process and reflects it in the work it generates, it can lead to serious ethical issues.

For example, some AI-generated texts might contain discriminatory statements, and some AI-generated images might include elements of violence or pornography. Once these works are disseminated, they can not only have a negative impact on social mores but also damage the overall image of AI artistic creation. Therefore, in AI artistic creation, it is essential to pay close attention to the legality and morality of training data, ensuring that the development of AI proceeds along a path that is in compliance with legal and ethical standards. Ethical and legal standards cannot be detached from social realities; they often coexist with strict supervision and legal systems. In societies where such standards are hardly observed, it is necessary to cultivate citizens' moral awareness. They can learn from some practices of developed countries, where the law explicitly stipulates corresponding infringement responsibilities for copyright infringement (Guozhong 2016, 32-33).

The efficiency and versatility of AI creation have had a significant impact on the traditional criteria for evaluating value in the art market. Traditional artistic creation processes often require artists to invest a great deal of time and effort, from capturing inspiration and accumulating materials to refining creative techniques, with each step embodying the artist's dedication. For instance, a composer creating an instrumental work might need several months or even years, during which they must continuously conceive, draft, and revise until the piece is complete. Michelangelo painted the Sistine Chapel ceiling over four years, from 1508 to 1512. The complexity and longevity of this process contribute to the unique scarcity of traditional artworks, which largely determines their value in the art market. However, AI creation has disrupted this traditional mode of creation. With powerful algorithms and computational power, AI can generate a large number of artworks in a short time. For example, an AI music composition program can produce multiple pieces of music in different styles within minutes, and AI painting tools can generate multiple paintings instantly based on user commands. This efficiency and mass production mean that AI works far exceed traditional artworks in quantity, thereby altering the supply and demand relationship in the art market.

In this context, the traditional art market's criteria for value based on scarcity and difficulty of creation are challenged. The art market must re-examine the composition of value in artworks, with factors such as innovation, aesthetic value, and social impact becoming more important alongside traditional criteria. An AI-generated work with unique creative and aesthetic qualities, capable of resonating with and capturing the audience's attention, may receive high-value recognition in the art market even if its creation process is relatively swift. However, this also leads to a more diverse and ambiguous set of criteria for evaluating value in the art market, causing confusion and challenges for market participants.

The pricing and artistic value of AI-generated artworks in the market have sparked widespread debate. On the one hand, the creation cost of AI artworks tends to be relatively low, mainly focused on algorithm development and data training, unlike traditional artworks that require significant time and human effort from artists. This

suggests that AI artworks might be priced lower in the market. For instance, an AI-generated song might only take a few seconds to create, lacking the time cost associated with traditional music composition, and thus, its initial market pricing could be much lower than that of comparable traditional works. On the other hand, the artistic value of AI artworks is a contentious issue. Although AI can produce works with certain aesthetic appeal, it lacks the emotional depth and unique creative perspective that human artists possess. Some argue that AI artworks cannot compete with traditional art in terms of artistic value and, therefore, should not be priced too high. However, others believe that AI artworks bring unique innovation and a sense of technology to the art market, invigorating it with new vitality and aesthetic experiences, and their artistic value should not be overlooked. For example, some AI-generated artworks incorporate advanced technological elements and unique algorithmic creativity, attracting attention from collectors and art enthusiasts in art exhibitions and auction markets, with their prices rising accordingly.

According to the Global AI in Art Market report, the global AI art market size is expected to be worth around USD 40.4 Billion by 2033, from USD 3.2 Billion in 2023, growing at a CAGR of 28.9% during the forecast period from 2024 to 2033.[18] This significant transformation of the AI art market is driven by the convergence of technological innovation and creative expression; advancements in machine learning algorithms, which have enabled AI to create, critique, and curate art, generated this growth. AI provided the art market with the ability to facilitate innovative artistic processes. Moreover, artists can leverage AI algorithms and tools to explore new creative avenues, generate unique visual styles, and experiment with unconventional techniques. This integration of AI in the art creation process allows for the emergence of novel and boundary-pushing artworks that captivate audiences and challenge traditional notions of artistic expression (Market.us 2024).

Currently, there is no unified standard for pricing AI-generated artworks in the market. This depends not only on the artistic and innovative qualities of the works themselves but also on market supply and demand, the preferences of the audience, and the impact of AI technology development. In the future, as AI technology continues to advance and the art market's understanding of AI artworks deepens, the pricing and evaluation of the artistic value of AI-generated artworks will remain a significant topic of interest for both the art market and academia. Still, the value of genuinely human artworks is highly appreciated over AI-generated artworks. According to the study by Bellaiche et al. (2023, 19-20), people preferred (purportedly) human-created art over AI-created art because people tend to perceive art as reflecting a human-specific experience. Their study suggests that knowledge of human engagement in the artistic process contributes positively to appraisals of art.

CONCLUSION

From the foregoing discussions, we have shown how AI-generated art or AI art, although it can be considered as an imitation of reality, when it comes to art as an artistic expression of human experience, poses certain disruptions to our understanding and appreciation of art, especially human art. AI, as applied to art, struck a tension

between human or traditional artistic creation and AI-generated or assisted artistic creation. From the foregoing discussion, the following are conclusions that can be derived from this exploration of elements of human artistic creation and AI artistic creation or AI art.

The development of art and artistic creation has been driven by the advancement in technology, particularly in the field of artificial intelligence. AI art creation started with theoretical exploration and simple program experiments in the mid-20th century, and after decades of development, especially in recent years, it has experienced explosive growth with breakthroughs in deep learning, neural networks, and other technologies. This process clearly reflects the continuous penetration and reshaping of the field of artistic creation through the progress of computer technology, from being able to draw simple geometric shapes to generating highly realistic, complex, and diverse artworks. NVIDIA's StyleGAN generates realistic human face images, OpenAI's DALL·E creates high-quality images based on text, and other AI programs indicate that technological iteration has brought unprecedented expansion to the field of artistic creation. These strongly impact human or traditional artistic creation concepts and the market. With its efficiency, versatility, and unique data processing and creation models, AI art creation has greatly impacted many core concepts and value systems that traditional artistic creation relies on. Traditional or human artistic creation emphasizes human experience and emotions, creativity, unique aesthetic judgment, and the integration of skills accumulated over time in the works, while AI creation is more based on algorithms and data-driven, disrupting the way we understand and appreciate traditional artistic creation, especially in terms of creativity, authorship, originality, copyright, and the identification of the value of artworks. It also changes the traditional model of the art market based on scarcity and difficulty of creation to evaluate value, leaving market participants facing new value judgment confusion. AI art creation has caused a disorder or a disruption to the deep foundations and values of traditional or human artistic creation ethics, thus raising ethical questions and issues.

1. The emotions and creativity of humans in traditional artistic creation are the soul of the work. Whether it is Beethoven's "Symphony of Fate" composed in adversity or the Chinese artist's creation of "High Mountains and Flowing Water," they demonstrate the characteristic of how humans, through emotional expression and unique creativity, give artworks powerful appeal and vitality. Moreover, the unique ways of thinking and aesthetic judgments in the human artistic creation process, such as the use of associative and imaginative thinking and the aesthetic pursuits of different styles and schools, make artistic creation present a rich and colorful face, showcasing the unique value of art as an expression of human spiritual culture. While AI can mimic human emotions and creativity, it can never replace them.

2. The originality of the author has always been the cornerstone of humanistic significance development in traditional art creation and remains at the core. It is not only related to the artist's individual style and creativity but also, as time progresses, incorporates more cultural and social factors, becoming an important identifier for the uniqueness of the work and the artist's expression. Originality, as the ethical cornerstone of artistic creation, drives art's continuous innovation and development. Its determination involves considerations from various aspects, including the source

of inspiration, creative techniques, and aesthetic and ideological connotations, highlighting the significant value of originality to the art world. AI can create something new and innovate, but such innovations can only be through an imitation of human work. The artificial neural network of AI can never replace the human mind, which is, in fact, the very architect of such an artificial neural network.

3. Intellectual property rights, authorship, and copyright have formed a complete protection system in the field of traditional artistic creation. Intellectual property rights provide economic security for artists and encourage innovation; authorship reflects the author's responsibility for the work and establishes trust between the work and the audience, while copyright clarifies the scope of protection for the work and infringement liability. Strict legal mechanisms ensure fairness and order in the field of artistic creation, jointly maintaining the healthy and orderly development of the art ecosystem, allowing artists to create with peace of mind, and artistic works to be disseminated and inherited in a legal and reasonable environment.

4. AI empowerment in art creation leads to a dilemma of blurred boundaries between the author and the creative subject: Can AI be considered an "artist"? This controversy highlights the conflict between traditional artistic concepts and the application of emerging technologies. AI lacks human emotions, subjective consciousness, and intrinsic creative impulses; its creative process is mechanical computation, fundamentally different from traditional artists. When discussing the true creator of a work, the roles and responsibilities of developers and users in the creative process are difficult to define clearly. Whether the ownership of the work belongs to the developer, the user, or the algorithm itself, there are issues of reasonableness and limitations. This raises practical contradictions regarding authorship and copyright revenue distribution, posing significant challenges for formulating laws and regulations as the existing legal framework struggles to adapt to this complex new situation fully. While AI can be labeled as an "artist" in the procedural sense, the genuine artist is still the human artist who may employ AI technology to enhance his artwork.

5. In AI art creation, there is also the complexity of defining the originality of AI art vis-à-vis plagiarism and copyright. The determination of originality for AI-generated works cannot be judged solely by their surface form. Although they can generate seemingly novel and unique works, they are essentially learning and imitating existing data, lacking true innovation from nothing. Moreover, it is easy for them to show traces of imitation. When defining their relationship with existing artworks, plagiarism disputes frequently arise due to the lack of a unified standard and the subjective and uncertain nature of human judgment. At the same time, the copyright and ethical issues of AI training data cannot be ignored. Unauthorized use of data can lead to copyright disputes, and even if authorized, improper use of data or data containing inappropriate content can bring serious moral risks, damaging the healthy environment and overall image of artistic creation. Plagiarism and unauthorized copying or copying without acknowledgment of the original creator or author are serious issues raised because of AI technology's rapid advancement. These issues challenge every stakeholder in art – the artists, scientists, philosophers, legal experts, and even programmers to formulate moral ethics and professional ethics that would include the legality of AI art.

6. The valuation of AI artworks also leads to ambiguity in the definition of the value of art, especially in terms of market value. The efficiency and versatility of AI creations have changed the supply and demand relationship in the art market, making the traditional value judgment criteria based on scarcity and difficulty of creation no longer applicable. The valuation of works has become more diversified and ambiguous. Regarding pricing, AI works have a different cost structure than traditional works, and their relatively low-cost leads to controversy over pricing. At the same time, the controversy over their artistic value further affects pricing. Whether to value their innovative technological sense or to lower their artistic value judgment due to the lack of human emotional depth, there is no conclusion yet. Art market participants face many uncertainties in value judgment and transaction decisions regarding AI artworks. Essentially, the value of human art cannot be dismissed despite the growing market value of AI art, simply because human art is a product of human labor.

We can say that the application of AI technology in art creation is a double-edged sword. On the one hand, it opens up new boundaries and possibilities for art creation, promoting the development of art creation towards more efficient and diverse directions; on the other hand, it also raises a series of complex and urgent ethical questions and issues, causing a disruption of the way we understand and appreciate art. These issues involve key aspects such as the identification of the subject of creation, the characteristics of the works themselves, and the judgment of the value of the artwork, posing a critical challenge to the ethical norms of human or traditional art creation. Addressing these issues requires the collaborative cooperation of the art, academia, legal, and technology communities. It is necessary to study AI art creation's technical principles and models better to understand its differences and connections with traditional and human art creation. At the same time, building a comprehensive and appropriate ethical code, legal framework, and value judgment standards is essential, clarifying the rights and responsibilities of all parties in AI art creation. Moreover, it is necessary to strengthen the management and supervision of AI training data to ensure the legality and morality of data use. Artificial intelligence is still a tool used by humans to enhance their skills. AI cannot replace the immanent capacities of human beings, like aesthetic judgment and emotions. At best, it can mimic, albeit at a higher level of efficiency of human immanent capacities, but it cannot replace human creativity and originality. However, understanding artificial intelligence can lead to an ethical application of this technology. In this way, AI art creation can fully leverage its innovative advantages while coexisting harmoniously with traditional and human art creation, jointly maintaining a healthy, orderly, and vibrant development in the art field.

NOTES

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13. The Arts embody a wide range of creative expressions. *The Visual Arts*: 1. Painting: oil, acrylic, watercolor, and mixed media; 2. Sculpture: three-dimensional art forms, such as carving, modeling, and casting; 3. Photography: capturing images using cameras and digital technology; 4. Printmaking: creating artworks using printing techniques, such as etching, lithography, and screen printing. *The Performing Arts* 1. Theater: live performances, including plays, musicals, and dance; 2. Music: various genres, such as classical, jazz, rock, pop, and folk; 3. Dance: traditional and contemporary styles, including ballet, modern, and hip-hop; 4. Film: motion pictures, including movies, documentaries, and short films. *The Literary Arts* 1. Poetry: written works that use language in a creative and imaginative way; 2. Fiction: novels, short stories, and other forms of imaginative writing; 3. Nonfiction: factual writing,

including essays, biographies, and memoirs; 4. Playwriting: writing scripts for theatrical performances. *The Other Art Forms* 1. Graphic Design: visual communication and design, including logos, typography, and branding; 2. Fashion Design: creating clothing, accessories, and textiles; 3. Architecture: designing buildings, spaces, and environments; 4. Digital Arts: creating artworks using digital technologies, such as computer graphics, animation, and video games.

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