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ISSUES OF AUTHENTICITY AND AUTHORSHIP IN VISUAL ARTS IN THE AGE OF ARTIFICIAL INTELLIGENCE

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This paper explores cases in which artists have successfully deceived both the public and experts by blurring the line between traditional photography and AI-assisted images. It also refers to historical examples of highly convincing painting forgeries that were long regarded as authentic. The discussion emphasizes that distinguishing originals from copies, forgeries, or AI-generated works has never been simple and will become increasingly challenging as AI technologies evolve. At the same time, the paper highlights the positive potential of AI in the restoration of old master artworks, where it can support conservation processes and offer new insights. In the context of appropriation art, it examines artistic practices that quote or reuse existing works as a creative strategy capable of producing new meanings and original outcomes. The paper concludes by advocating openness toward new technologies, arguing that AI can stimulate creativity, expand artistic possibilities, and inspire innovative ideas.

Keywords: *fine art; forgery; appropriation; creativity; cultural heritage*

Introduction

The article sheds light on some selected issues within the broader framework of art and the rapid technological advancement of AI, which offers a wide array of options for its use. However, these potential ap-

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plications are currently only indicated in a few isolated experiments and projects, where they appear to offer fascinating possibilities. It compares contemporary and historical situations that have contributed to the development of the field of art history and raises the following questions:

- Is AI a new trap that leads a creative individual into forgery?
- Is copying a homage to the original author or simply stealing their intellectual and creative work?
- Is appropriation morally and ethically questionable both in the past and present?
- Does the use of AI generators in visual art creation differ from the use of technical tools throughout history?
- Can AI help in finding new ideas and encouraging the user's creativity?

Forgery and unease

Is AI merely an excellent assistant for creating forgeries? AI reintroduces an old trap in the form of the possibility of emulating and copying with the intention of making a perfect forgery. This is exactly what happened in March 2023 at the *Sony World Photography Awards*. The work of the German photographer Boris Eldagsen was selected for the main prize in the category of creative photography. The winner turned down the award, explaining that the image was created with the help of the AI image generator DALL-E2 (Pashall, 2023) (Fig. 1). Since its founding in 2007, the *Sony World Photography Awards* has been one of the largest and most prestigious photographic competitions in the world. According to its website, the Awards champions inclusivity and access by being free to enter. The competition acts as an insight into photography today in all its diversity and spotlights photographers telling the stories of our time. With its unparalleled reach, it elevates the careers of photographers to the next level. (SWPA, 2024). Eldagsen entered the competition as a provocateur, as he wanted to test whether organizers and their juries had the knowledge to recognize and distinguish human-created photography from AI-generated images. It turned out they did not. This sparked a debate about when and whether photographs made with the help of AI can be considered art. When asked

whether it could have been figured out that his photograph was created by AI by just looking at it, he answered in the affirmative, saying that the characteristics of colors, the shape of fingers, palms and other details had been changed as a result of his prompting the generator. Anyone who works with AI generators would immediately spot the hints, and now that we are warned, we all see them. Eldagsen said that he had taken part in a test to recognize and distinguish authentic photographs from those generated with AI. He only made a mistake in one case. However, he pointed out that this applied to photographs created before mid-2023 and that he was convinced that by the end of the year AI would advance so much that we would no longer be able to tell the difference. In his opinion, this is not problematic as far as artistic photography is concerned, concerns arise when talking about photojournalism. In the very near future, it will be necessary to think about terminology and no longer call realistic AI art AI photography, because it is not. A suggestion has already been made in the community for a new term, i.e. *promptography*. It is broad enough to encompass that the result can look like a drawing, a painting or a photograph. The next step will be to consider the relationship between promptography and photography. Do they fall into the same category and can they be presented together in museums or galleries, at festivals and competitions? There is no going back, to the time of analogue photography. We will have to think about and find new classifications, said the author in an interview upon receiving the award (Parshall, 2023).

We live in a very interesting era and occasionally we feel that we cannot keep up with the technological progress and that it has already left us behind. We can take some comfort from, and even smile at, the results of the AI category of the 1839 Awards. In April 2024, the Canadian photographer Miles Astray submitted a photograph that was not generated by AI (Fig. 2). He tried and succeeded in proving that the content created by man had not yet lost its relevance. The photograph, titled *Flamingone,* depicts a flamingo with its head tucked behind its body, standing on a sandy shore with the ocean in the background. The title, image and the whole story carry diverse and iconographically interesting meanings. The flamingo is a symbol of beauty, wealth, romance, harmony and balance, as it often stands on one leg. Although Astray photographed the bird standing stably on both legs, he managed

to capture the moment when its long neck and head were turned so that it seemed as if it did not have them at all. Maybe the photograph can be interpreted as a sarcastic remark on a headlong rush into using something, such as AI, that we cannot yet control. The jury probably enthusiastically embraced the photograph as a top achievement of AI, thus proving what Eldagsen had predicted: that we can no longer distinguish between AI-generated and human-made products. A possible explanation of how it is possible that the jury misidentified the photograph is that people are naturally inclined to see what we expect to see. Astray said that the fact that both the jury and the public selected him as the winner was not only his victory but a victory for many (ArtReview, 2024).

Let us take a closer look at the motifs of both works, Eldagsen's and Astray's. In the first case, the photographer presented a black and white photograph showing two women, the younger one in the foreground and older one in the background. The second woman affectionately embraces the first one from behind or holds her shoulders. The work is titled *Pseudomnesia: The Electrician*; the first part can be translated as *False Memory*. Eldagsen belongs to the generation born after World War II. His father became a German soldier at the age of sixteen. After the end of the war, families did not talk about the war. After his father's death, he found a family photograph from the 1940s, which inspired him to start collecting photographs from that period.

In both cases, the images are somewhat unusual and therefore perhaps uncomfortable. Eldagsen nostalgically presents a story that did not really happen but would have been possible. It shows a fictitious situation that could have taken place during wartime, filled with sadness, loss and fear. It also evokes séances with so-called exteriorized substance or ectoplasm, with which people comforted themselves and were common in Freud's time (Smolič, 2015, 145–161). Mourners, particularly wealthy ones, who could afford to pay for séances with "experts and scientists", often used this method to seek answers about the whereabouts of beloved family members who had disappeared during the war. Since the image of the older woman is somewhat unclear, especially her hands, we can perhaps see her as an ectoplasmic spirit.

Eldagsen's photographs were always the product of imagination and when AI appeared he embraced it with open arms. He was able to

use his broad photographic knowledge to prompt the generator, which takes quite some time, sometimes even several days, before a satisfactory product is achieved. The result was a promptograph, which he craftily submitted in the competition as an authorial work. It can be said both of his authorial work and of his AI-generated work that the best images are not those that are intended but those that happen in the process. Astray's *Flamingone,* on the other hand, evokes discomfort as the photographer managed to capture the moment when the head and neck are hidden behind the body. Thus, the natural anatomy of the bird lacks a key communicative part, and we only see a body on two legs. The image evokes environmental issues and consequences that are suffered by the most vulnerable, i.e. animals and the entire ecosystem, as a result of man's thoughtless tampering with nature. This and similar photographs are a constant in Astray's work, as he travels round the world, snapping away, sincerely depicting both attractive and disturbing motifs. He does not limit himself in any way, portraying landscapes, street scenes, boldly documenting urban culture and unusual encounters with animals. It was this last motif that prompted his provocative participation in the competition. The pun in the title *Flamingone* is also noteworthy because the photo was widely shared.

Both works, Eldagsen's promptograph and Astray's photograph, mislead human judgment because we see what we want to see. Or we can potentially understand the misjudgment of both juries and the public through Sigmund Freud's theory of uncanny or *das Unheimliche* (Freud, 1994). Discomfort is both terrible and attractive to man. While the familiarity of the motifs attracts, their artistic transformation makes them unfamiliar and therefore uncomfortable, sometimes frightening.

Authenticity and authorship

Eldagsen and Astray consciously decided to disobey the competition rules and despite the fact that they cheated, they are recognized as heroes. Such examples force the modern profession to give more thought to the authenticity of products and to use both the old and the new means to determine whether the products are authentic.

Both photographers created original works, one with the use of AI and the other without. However, they did not exploit or abuse the

authorship of any of the works of art that are freely available on the internet today. This is one of the greatest fears of modern artists and creatives who are still trying to establish themselves, including in the basic existential sense. The art market of the 21st century is predominantly online, so this is where artists must be present with their works. In doing this, they must or should be protected. They fear that AI will copy their works, their ideas, and use them on the market. Therefore, programs are already being created and used that allow authors to protect their works online. For example, the University of Chicago has developed two programs to disrupt AI in reading works of art, *Glaze* and *Nightshade* (Glaze, 2024). Both programs confuse AI readers, so that part of the image is, for example, unreadable or, better yet, the image reads completely differently. A very simplified explanation would be that it recognizes a dog as a cat. Works of art or photographs of them that artists or sales galleries upload to the internet will therefore not be freely available for AI to process, use and financially exploit. Such disruptors are currently the best protection, although not one hundred percent reliable and not permanent. The more pervasive AI becomes, the less protection these disruptors will provide. What is left to artists and their advocates is to be vocal in raising awareness of consumers, to bring lawsuits and to publicly call out large corporations such as Microsoft and OpenAI. Of course, it would be better if AI readers and generators were designed from the outset in such a way as to prevent abuse but that would make them less attractive to the user.

The 19th century painter Théodore Rousseau said: "We should all realize that we can only talk about the bad forgeries, the ones that have been detected; the good ones are still hanging on the walls" (Allnutt, 2020). This statement is still true today, including in the field of AI use. Although we wish it were otherwise, forgers usually have an advantage, also in the field of modern technology. Almost daily, there are reports about how experts have confirmed that a work by a great master is in fact a forgery, although it has been part of the permanent collection of a prestigious institution for many years, decades or even longer. At the time of writing this article, this news item was published:

> "Apparently, the doubts were justified. The painting attributed to Caspar David Friedrich is not really his work. At the Dresden State Art Collections, analyses were carried out during the preparation of a large Caspar David

> Friedrich exhibition, which showed that one of the paintings attributed to the painter was not actually his work. The painting in question was attributed to the artist's early period and had apparently 'always aroused doubt'. Infrared reflectography and pigment analysis revealed that the underdrawing has nothing to do with Friedrich's drawing style. The pigment analysis showed blue and yellow hues, which were not in use until 1810. The painting has been removed from the collection of Friedrich's works." (M. K., 2024)

It was forgers that have forced art professionals to conduct such detailed scientific research to prove the authorship of works of art. They have always skilfully imitated the styles and techniques of the great masters. A fundamental trait or ability of a forger is the lie. A forger is good when their forgery is identified as the copied master's original work and either selected and presented in public collections or permanent museum and gallery exhibitions or included in the *catalogue raisonné*.

The notorious case of a 20th century forger

A special place among 20th century forgers is occupied by the Dutch painter Han van Meegeren. He earned his fame by excellently imitating the masters of the Dutch Baroque, specializing particularly in Jan Vermeer. As a young man, he mastered the preparation of paints, preparing pigments and imitating the accuracy of compositions, shading and fine details characteristic of the great Vermeer under the watchful eye of his teacher Bartus Korteling. Van Meegeren was a technically exceptional painter. His love and respect for the old masters did not allow him to adapt to the spirit of the time in which he lived. In the beginning of the 20th century, aesthetic criteria were changing at a dizzying speed, art styles followed one another in rapid succession or even coincided, from Picasso's Cubism, Dalí's Surrealism, German Expressionism, Swiss Dadaism to Kandinsky's and Mondrian's abstraction. Van Meegeren, with his realistic technique and style, was not in line with these contemporary tendencies and was credited with every virtue except originality, which is why he had difficulty establishing himself. He presented himself to the public as an effective portraitist of the wealthy bourgeoisie, while secretly plotting revenge against the art world that disparaged his realistic style. He came up with the idea that he would create his own version of Vermeer. He did not copy the master's existing paintings but

rather his method, choosing a theme that Vermeer had been enthusiastic about in his early years. Upon his marriage Vermeer converted to Catholicism and painted some biblical motifs, which he later abandoned. In the late 19th and early 20th centuries, experts believed that the master had created more of them and van Meegeren exploited this assumption. Today, only two works on this theme are recognized in Vermeer's oeuvre (Tico Seifert, 2023).

Though very clever, Van Meegeren's idea was anything but easy to implement. He needed to find old pigments, binders, canvas, wood, nails, i.e., all the materials that the master would have used approximately 300 years ago. The gathering of materials and preparation of the painting workshop took about four years. Van Meegeren was aware that he had to produce only one painting perfectly, without mistakes. When the leading experts of the day authenticated it as Vermeer's, the doors to every collection, national and private, would open to him. He succeeded. At least for a while. The first Vermeer forgery, *The Supper at Emmaus*, ended up in the permanent collection of the Amsterdam National Museum (Fig. 3). All subsequent forgeries that van Meegeren managed to put onto the art market were then compared with this painting, which became the key reference for identifying Vermeer's biblical motifs. Thus, the work *Christ with the Adulteress* found its way into the collection of the infamous Nazi Hermann Göring, the second man of the Third Reich. When a presumed Vermeer was discovered among his possessions after the war, the trail led to van Meegeren and soon he was put on trial for allegedly enabling a national treasure to fall into the hands of the enemy. He was imprisoned on charges of national treason. The court process dragged on and when an article headlined *The Man Who Swindled Goering* by the famous journalist and writer Wallace Irving was published in the American newspaper *Saturday Evening Post* in 1947, the news spread all over the world and the forger was lauded as a national hero.

Experts insisted for a long time that van Meegeren's forgeries were original Vermeers, so he and his lawyers had to try very hard to prove this was not the case. This included painting another Vermeer under strict supervision, *Jesus among the Doctors*, also called *Young Christ in the Temple*. The profession acknowledged its mistake, and van Meegeren went down in history for being an exceptional forger and for

forcing art historians, museum curators, restorers to make progress. His thirst for success brought him great financial wealth, but his main motivation for dishonest actions was his vain desire for accolades and recognition. However, he had only received these indirectly until he had to defend himself against charges of national treason under the threat of a death sentence. He found himself in a difficult position, as his forgeries were created in great secrecy. But he had some luck. The investigators took him at his word and tried to find evidence in several of his homes in Italy and the Netherlands. Thus, the story ended in a rather contradictory way. Even though he had cheated, in the eyes of the public and the judiciary he did a great patriotic act by deceiving Göring himself.[1]

The next Rembrandt – a paraphrase or a legitimate forgery? Can AI help in preserving and presenting cultural heritage?

> "Forgeries are an ever changing portrait of human desires. Each society, each generation fakes the things it covets most." (Jones, 1990)

In April 2016, the result of a two-year project *The Next Rembrandt*, intended to support and promote technological progress and new opportunities in preserving and popularizing national heritage, was presented in Amsterdam (Fig. 4). This time, the work of the Baroque master was "legitimately forged". Just as van Meegeren meticulously and clandestinely created a new Vermeer about eighty years ago, so experts from the fields of art and modern technology joined forces with advertisers and a bank and created the next Rembrandt (Microsoft, 2024), this time publicly. The project confirms the old fact that a forger must be a perfectionist. To succeed, they must be an art historian, restorer, chemist, graphologist, documentarian, and today an expert in the latest technology as well. Such a project cannot be undertaken lightly.

Using deep learning and facial recognition algorithms, the team examined 346 Rembrandt's paintings and 168,263 facial details. After reviewing about 400 faces, the data indicated that the best approach

[1] The actions of van Meegeren, which have been described several times, were recently placed in precise biographical and historical frameworks with a detailed review of extensive documentary material by Wynne (2006) and Lopez (2009). Based on the book by the latter, the director Dan Friedkin made the film *The Last Vermeer* in 2019.

would be to create an image of a man aged between 30 and 40, wearing black clothes and a hat, seen in right three-quarter profile. With the help of a 3D printer, the team recreated a portrait in thirteen layers, supposedly reflecting the characteristics of the great master of light, shading and emotions. They managed to make a painting that would not be out of place in a collection of Baroque masters. It may even be said that they managed to create not only the next Rembrandt but also the perfect Rembrandt, evocative of the emulations and imitations of the historical styles of the 19th century. However, new historicist creations differ from the old originals in spite of being stylistically perfect and precisely because of it. There is another similarity: just like the historical styles, the *The Next Rembrandt* project did not try to deceive but to recreate the aesthetics of the past. However, it is the small mistakes and imperfections made by the human hand that make a work of art a masterpiece. It would be interesting to know how Rembrandt would react. Would he sign *The Next Rembrandt* product with his name?

In the Baroque era, both in Italy and in Amsterdam, master painters signed every work that was created in their workshop. Such paintings were once considered authentic, but the emergence of the idea of the artist as a solitary genius or a lone creative force has irrevocably changed this view. In the 1920s, more than 700 works were attributed to Rembrandt, while today only 350 are considered "authentic" in the modern sense. Even the famous works *Polish Rider* and *The Man with the Golden Helmet* are no longer attributed to the master. However, does it really matter who the author is, Rembrandt or his pupil Willem Drost? It is the same painting. However, today Drost's *Polish Rider* from the Frick Collection in New York is valued at only ten percent of the amount at which the painting was valued when it was still attributed to his teacher (Vogel, 1997).

It is interesting how quickly the opinion on the beauty and quality of the work changed with the change of attribution and the reduction of the price. We face the same dilemma today, when, while enthusiastically viewing a work of art, we realize that it was created by AI. Let us summarize what the Oxford mathematician Marcus du Sautoy, the author of the 2019 book *The Creativity Code*, said about the Rembrandt case. He claims that we are prejudiced towards something that has been created by a machine and we feel deceived. Namely, we create

art partly because of an inner need. It is very difficult to enter into and feel the world of another human being. We do not know if the inner consciousness and emotional world of others are similar to our own. We name pain with the same word, but is someone else's pain really like ours? Creating art is a coding-up of the emotional world and this is considered part of the point of artistic creativity. A computer does not have a mind, so we feel cheated. However, it seems there will be many exciting developments in this field. AI is starting to develop a complexity and richness that will require us to understand a bit more about what is happening inside a machine. An interesting example of visual images produced by a machine is DeepDream. Such creations are the most interesting AI art as they tell us what visual recognition systems have learned about what they see in the world (du Sautoy, 2019).

To sum up: *The Next Rembrandt* project garnered a lot of media attention, received 60 top awards, cost a lot of money and created high profits. The main sponsor was ING Group, a Dutch multinational banking and financial services corporation, headquartered in Amsterdam. What all the examples described above have in common is money, profit and fame. Both masters, Vermeer and Rembrandt, worked in the 17th century, at a time when society was intensively engaged in achieving political and economic dominance. On the one hand, the Catholic Church countered the Reformation and showcased its power through art and its promotion, and on the other hand, there were colonial tendencies of all the European great powers at the time, including the Church, which strengthened and consolidated their status by exploiting the wealth of other continents. Apart from receiving payment from the orders of wealthy clients, artists themselves did not benefit much. The modern provocations of Eldagsen and Astray were not intended for financial gain, but as a warning and an appeal for greater caution, reflection and evaluation when using new technological possibilities. The story of van Meegeren, on the other hand, is a story of a forger in the true sense of the word, who in order to maintain the credibility of his lies had to sell forged works at a high price, otherwise no one would believe that they were "originals".

> "Creativity does not only mean painting beautiful pictures or writing novels, it is the ability to discover and master new possibilities and ways of perceiving the world. AI may represent a tool that will help us see more and be more

> creative than people. We often get caught in a loop and don't know how to move forward. We act automatedly, all the time the same, we spin in the same pattern. AI can help us 'break the ice' and remind us or redirect us to another path." (du Sautoy, 2019)

In 2019, the Rijskmuseum in Amsterdam conducted *Operation Night Watch* (*Operatie Nachtwacht*). Technology taught the computer how to paint like Rembrandt. The project is considered the largest and most comprehensive research and conservation endeavor of Rembrandt's *oeuvre* in history. The goal was to create an approximation of the entire original with the reconstruction of the existing masterpiece and its lost parts. Such a technique could be used in the future for other important historical monuments that have not been spared by the ravages of time. Rembrandt painted his most famous work, the monumental *Night Watch*, in 1642 for the *Kloveniersdoelen* banquet hall, the meeting place of the Amsterdam Riflemen's Guild. In 1715, the painting was moved to the Town Hall. Since the selected wall did not fit the dimensions of the painting, the work was trimmed, which was a common practice at the time. The cropped parts including three figures were lost, but a copy of the whole painting by a lesser-known artist, created shortly after the completion of the original, remained. This copy and Rembrandt's large *oeuvre* were the sources for the reconstruction. With the help of AI, the computer could be taught how to replace the missing parts (Fig. 5) (Night Watch, 2019).

A copy, a study, an appropriation

> "Throughout history, the creation of copies has been one of the most common forms and ways of studying old techniques, materials and manufacturing processes, in fine arts as well as arts and crafts. In the process of studying and emulating old masters (or contemporaries), originals often grow into an iconographic model and inspiration, while copies with numerous modified details demonstrate new (and sometimes hidden) meanings and the copyist's mastery." (Pflaum, 2018)

Copying, imitating, emulating or studying as a way of learning is also an expression of tribute. *The Next Rembrandt* is a kind of paraphrase that primarily satisfies the modern consumer's enthusiasm about the possibilities of new technologies, even if the final result requires a lot of effort and financial resources. It is not yet known whether the

experiment will be repeated or perhaps applied to another great master. Imitating old methods in order to emulate and master art techniques, in the form of apprenticeship, has created the opportunity for many artists to progress in their own creativity, but only as a mode of learning that helped them realize their original ideas. Aristotle already knew that imitation is natural to man and associated with pleasure that imitating work evokes. Such imitations bring new insights and mastery. They are particularly suitable for art and must therefore be distinguished from other human activities. Artists themselves use their learned skill to summarize, adapt the shapes of natural things in their own ways and breathe them into their work.

An excellent example is Pablo Picasso, one of the most important painters and artists of the 20th century. He revolutionized the art world and changed the aesthetic criteria of art and culture. He progressed extremely quickly in art as a child, which is excellently illustrated by his often-quoted statement that it took him five years to paint like Rafael, but a lifetime to paint like a child. The paintings he created when he was twelve or thirteen are comparable to the creations of the great masters of the Spanish Baroque. Therefore, it is not surprising that he never completed his academic studies, as there was not much that he could learn from his teachers. At the same time, he paid great tribute to various artists throughout his life by imitating their works of art. The motif always remained clearly recognizable. Let us just mention the example of the series of 58 paintings he created in 1957 based on *Las Meninas* created in 1656 by Diego Velázquez. The entire series is now housed in the Picasso Museum in Barcelona. Emulating or paraphrasing meant both studying and adapting or modifying his own style. Velázquez's painting *Las Meninas* eventually, with great changes, became Picasso's canvas *Las Meninas* and as such perhaps detestable for a traditional painter, as the author himself put it.

Picasso's expression of affection and recognition of the artistic qualities of older painters and his contemporaries are paraphrases, but they can also be fashionably termed 'appropriation'. Picasso began engaging in appropriation at the beginning of the 20th century, when he and the French painter Georges Braque created a new art movement, Cubism, introducing the method of appropriation to the art world. Collage or gluing and assembling into new compositions gave everyday

usable or already used materials, objects and newspaper clippings a different, artistic aspect while presenting them for what they were. Over the following years, appropriation as a provocation became an artistic expression adopted by the Surrealists, particularly Salvador Dalí and the Dadaists, Marcel Duchamp and his *readymades*. In the 1950s, pop artists such as Robert Rauschenberg and Jasper Jones appropriated objects from consumer culture. In the 1980s, a more direct form of appropriation in art emerged in the works of American *Neo-Geo* (*Neo Geometric Conceptualism*) artists. When the postmodernists appropriated another artist's work, they created a new situation, and thus a new meaning or meanings. For example, Sherrie Levine reproduced the paintings of Claude Monet or Kazimir Malevich as her own works, and Jeff Koons exhibited everyday useful objects of consumer society in the style of Dada and Pop Art. Even at the height of its popularity, appropriation art raised questions about originality, authenticity, authorship and ethics, which places it in the long modernist tradition of questioning the nature or definition of art itself.

Despite the exciting possibilities and comparisons between AI and artistic creativity, it is interesting that AI's presence in modern art creation is still relatively limited. This was evident at the 2024 Venice Biennale, where only two projects incorporated AI. Observers and art critics are wondering why AI has been so slow to penetrate the field of contemporary art. In the Maltese pavilion at the Venice Biennale, Matthew Attard presented the project *I Will Follow the Ship*, in which he explored the connection between cultural heritage, drawing and AI. Using an eye-tracking device and AI technology, the project addressed the issue of authorship in our increasingly digitized world by drawing on ancient maritime symbols. These humble signs, symbols of hope, are taking on new meaning in people's consciousness at a time of climate change and its consequences (Galea & Rizzo, 2024). Pierre Huyghe, on the other hand, transformed the Punta della Dogana gallery into a dynamic, sensitive, perpetually evolving, milieu. The exhibition was a transitory state, inhabited by human and non-human creatures, and became the site of formation of subjectivities that were constantly learning, changing and hybridizing. It will be interesting to see if and how AI is represented in artistic productions at the next Biennale in 2026 (Stenne & Feldmann, 2024).

Does the use of AI in art differ from the use of technical aids in history, such as *camera obscura* and photography?

The beginnings of technical aids that help painters and at the same time threaten painting date back to ancient times. They are said to have been known to the Chinese as early as the 5th century BC. The *camera obscura* was created through the experiments of ancient, Arab and Italian Renaissance philosophers, opticians, mathematicians and artists, such as Aristotle, Euclid, Leonardo and many others. The term was coined by Kepler after the Latin for dark room. He used it in his experiments to draw the landscape faithfully. The *camera obscura* consists of a well-sealed box or room and is the forerunner of all later photographic and film cameras, which mimic the mechanism of the human eye. On one side, it has a hole with a lens through which light is projected onto the opposite side, together with an inverted image of whatever is placed in front of it. It completely preserves perspective and color. If the box is smaller, the back side is transparent, so that the image is visible also from outside. As early as 1558, the Italian polymath Giovanni Battista della Porta pointed out the possibilities of its use for painters in his book *Natural Magic*. They could trace the shapes of the projected image, 'the best summary of the world' – and then simply paint it. Despite the doubts of some that it was cheating, the new device was used extensively in the 17th and 18th centuries by the best Dutch and English artists, including Vermeer. The famous astronomer, physicist and mathematician Christiaan Huygens even stated the following:

> "It is not possible to describe for you the beauty of it in words: all painting is dead in comparison, for here is life itself, or something more noble, if only it did not lack words. Figure, contour, and movement come together naturally therein, in a way that is altogether pleasing." (Alpers, 2016, 50)

His Dutch colleague, Cornelis Drebbel, further developed the possibilities of mechanical recording and staging. Based on the *camera obscura*, he constructed a magic lantern (*lanterna magica*).

> "I take my stand in a room and obviously no one is with me. First I change the appearance of my clothing in the eyes of all who see me. I am clad at first in black velvet, and in a second, as fast as a man can think, I am clad in green velvet, in red velvet, changing myself into all the colors of the world. And this is not all, for I can change my clothing so I appear to be clad in satin of all colors, then in cloths of all colors, now cloth of gold and now cloth of silver, and I pres-

> ent myself as a king, adorned in diamonds and all sort of precious stones, and then in a moment become a beggar, all my clothing in rags." (Alpers, 2016, 52)

These optical inventions paved the way for photography. All that was needed was a surface of glass or paper that had been chemically treated, on which the image projected through the lens could be fixed, enabling the image to be preserved and reproduced. Paul Delaroche is alleged to have stated in 1839 that from the day the first daguerreotype appeared, painting was dead. Even if these words were actually not his, most of the successful and fashionable realist painters at the time shared this view. The invention of photography, which does not lie or flatter, influenced the decline of the previous styles and the emergence of modernist -isms. Photography then developed further in line with technical innovations. Walter Benjamin gave this a lot of thought:

> "The nineteenth-century dispute as to the artistic value of painting versus photography today seems devious and confused. This does not diminish its importance, however; if anything, it underlines it. The dispute was in fact the symptom of a historical transformation the universal impact of which was not realized by either of the rivals. When the age of mechanical reproduction separated art from its basis in cult, the semblance of its autonomy disappeared forever. […] Earlier much futile thought had been devoted to the question of whether photography is an art. The primary question – whether the very invention of photography had not transformed the entire nature of art – was not raised." (Benjamin, 1998, 158)

Soon Muybridge's recordings of animal and human movements contributed to the development of film, which added movement and sound to visual images. With the introduction of digital processes, human practices in this field are increasingly merging with the ever-widening field of AI.

Conclusion

The initial questions in the main body of the article served to highlight some key examples from artistic activities, both historical and contemporary, and from the field of education. The descriptions, introduced for comparison and reflection, provide opportunities for confronting the latest technological achievements of AI. Copying is one of the oldest forms of emulating and spreading art, particularly its stylistic features. Therefore, the question of whether AI is merely a new form

of the old trap that leads the creative individual into forgery is almost irrelevant. Modern technology today is simply another tool that makes finding the source of inspiration and emulating easier and faster. Creating a work of art has always been considered a lengthy process that inherently requires education. Thus, art academies educate future artists during the study process in terms of emulating and copying old and modern masters, which is primarily understood as a tribute. However, the issue of appropriation, acquisition, or possession is once again at the forefront today, as artists point out the 'theft' of intellectual and creative property facilitated by quicker access to their work and the equally rapid transformation enabled by AI generators. This also strongly highlights the moral and ethical questions posed to the modern society. In the past, technological discoveries such as the *camera obscura* and photography were quickly labelled as deceptions, yet today we cannot imagine the development of art without these two tools. They are not merely tools for the creation of works of art but also motivators for the development of art disciplines that have not made use of their potential. History and the fears surrounding the invention of technical aids may reassure us that AI generators will one day be viewed in a similar way. AI can stimulate the creativity of its users and assist them in finding new ideas. Curiosity leads us to excellence. Perhaps AI is a means by which we can contribute to social progress in the field of art as well.

Stephen Hawking warned that AI would take off on its own and re-design itself, which would mean the end of the human race. We can only hope that his prophecy does not come true and the opposite will happen – AI will re-design itself, self-destroy and thus spare the world. This is what Aidan, a thirteen-year-old cyborg, says in a farewell letter to his human twin sister Ashleigh in the book *Catch Me If I Fall* by Barry Jonsberg. Aidan realizes that he has spread to all devices and therefore no longer needs a physical body (Jonsberg, 2021).

As a society, we still lack the skills to recognize, avoid and solve the traps of the world wide web and online social networks. Should we then take on the demanding task of AI? Are our fears superfluous or meaningful? It is by no means out of place to consider education and familiarization, or even to make comparisons with various revolutionary discoveries and actions in history. Quite the opposite. We often hear and read about the potential dangers of AI and comparisons with technological develop-

ments in history can offer some consolation and hope that AI can also be beneficial. Chess is a good example: AI has been beating the best players for some time now. Yet we have not stopped playing it because of that. In fact, we have learned a lot from AI and our chess skills have improved as a result. Perhaps this is reason enough to strive for the development of AI?

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PITANJA AUTENTIČNOSTI I AUTORSTVA U VIZUALNIM UMJETNOSTIMA U DOBA UMJETNE INTELIGENCIJE

Nataša Smolič

Ovaj rad istražuje slučajeve u kojima su umjetnici uspješno obmanuli i javnost i stručnjake zamagljujući granicu između tradicionalne fotografije i slika potpomognutih umjetnom inteligencijom. Također se osvrće na povijesne primjere vrlo uvjerljivih krivotvorina slika koje su se dugo smatrale autentičnima. Rasprava naglašava da razlikovanje originala od kopija, krivotvorina ili djela generiranih umjetnom inteligencijom nikada nije bilo jednostavno i postajat će sve izazovnije kako se tehnologije umjetne inteligencije budu razvijale. Istovremeno, rad ističe pozitivan potencijal umjetne inteligencije u restauraciji umjetničkih djela starih majstora, gdje može podržati procese konzervacije i ponuditi nove uvide. U kontekstu aproprijacijske umjetnosti, ispituje se umjetnička praksa koja citira ili ponovno koristi postojeća djela kao kreativna strategija sposobna za stvaranje novih značenja i originalnih rezultata. Rad završava zagovaranjem otvorenosti prema novim tehnologijama, tvrdeći da umjetna inteligencija može potaknuti kreativnost, proširiti umjetničke mogućnosti i inspirirati inovativne ideje.

Ključne riječi: likovna umjetnost; krivotvorenje; prisvajanje; kreativnost; kulturna baština

Antescript. List of image appendices

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1) Boris Eldagsen, Pseudomnesia: The Electrician, 2022 (Source: Wikimedia Commons).
2) Miles Astray, Flamingone, 2024 (with the author's permission).
3) Han van Meegeren, Christ in Emmaus, 1936–1937 (Collection Museum Boijmans Van Beuningen, Rotterdam. Loan Stichting Museum Boijmans Van / Photography: Studio Tromp).
4) Next Rembrandt, re-creation of the master's work with AI, 2024 (VML Amsterdam / Photography: Robert Harrison).
5) Operation Night Watch, reconstruction of Rembrandt's cropped painting with the help of AI, 2019 (Rijksmuseum Amsterdam / Photography: Henk Wildschut).

Fig. 1: Boris Eldagsen, Pseudomnesia: The Electrician, 2022 (Source: Wikimedia Commons).

Fig. 2: Miles Astray, Flamingone, 2024 (with author's permission).

Fig. 3: Han van Meegeren, Christ in Emmaus, 1936–1937 (Collection Museum Boijmans Van Beuningen, Rotterdam. Loan Stichting Museum Boijmans Van / Photography: Studio Tromp).

Fig. 4: Next Rembrandt, re-creation of the master's work with AI, 2024 (VML Amsterdam / Photography: Robert Harrison).

Fig 5: Operation Night Watch, reconstruction of Rembrandt's cropped painting with the help of AI, 2019 (Rijksmuseum Amsterdam / Photography: Henk Wildschut).