THE COPYRIGHT ELIGIBILITY OF THE OUTPUT OF TEXT-TO-IMAGE MODELS:

A new challenge to the originality requirement

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Pour mes parents, pour Manon et Louise,
Pour leur soutien indéfectible

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INTRODUCTION

From the self-driving car fantasy to the human-beating chess-playing computer, passing through the automatic language translator, Artificial Intelligence (hereinafter: AI) technologies are already widely spread. They are not yet omnipresent, but every day shaping a new reality. At a mind-altering pace, more and more areas of our daily lives are touched by the occurring digital shift.

Sundar Pichai, CEO of Google LLC, said that he believed the democratization of AI will revolutionize our world. He goes as far as being quoted at the 2018 Wold Economic Forum saying 'AI is one of the most profound things we're working on as humanity. It's more profound than fire or electricity"[1].

While still in their infancy, AI-driven technologies are already causing concerns in multiple domains. Sundar Pichai himself warned that it would be necessary for nations to ally in order not to get overwhelmed by the technological revolution AI represents[2]. In the same way the leaders of the world joined to try and tackle the issue that climate change represents, there would be a need for the creation of a global framework and ground rules, one of them being the demilitarization of AI.

If AI is the life-altering tool we now believe it to be, and if the changes it already made in our lives are barely a starting point, one can only wonder if what seemed a dystopian scenario merely a few decades ago could now be turned into a reality. The continuous drift in our approach to the human–computer relationships is changing society by translating into laws, and embedding AI technologies in our future. An easy way to notice the rise of AI is seeing it has been the subject of a significant amount of investment, both from companies and countries. In 2014, more than $300 million was invested in AI-related startups, which is a 300% increase, compared to 2013[3]. This

[1] Amol Rajan, 'Artificial intelligence will change our world more profoundly than fire' *The Telegraph* (11 July 2021) https://www.telegraph.co.uk/news/2021/07/11/artificial-intelligence-will-change-world-profoundly-fire/
[2] Alanna Petroff, 'Google CEO: AI is 'more profound than electricity or fire"*CNN business* (24 January 2018) https://money.cnn.com/2018/01/24/technology/sundar-pichai-google-ai-artificial-intelligence/index.html
[3] Jack Clark , 'I'll be back - The return of Artificial Intelligence ' *Bloomberg* (3 February 2015) https://www.bloomberg.com/news/articles/2015-02-03/i-ll-be-back-the-return-of-artificial-intelligence

translates into number the of changes seen in real life. The discovery of a new fire is of interest to a lot of people, and they want to be a part of it.

Within the incredible amount of domains AI can be applied to, artistic creation often goes under-looked. The conversations usually focus on the wildest futuristic, yet highly practical and pragmatic, dreams of robotic surgeons or self-driving cars. Art is only a minuscule part of a much wider scope of opportunities and possibilities. Nevertheless, it might be one of the most interesting doors opened by the democratization of the use of AI when it comes to the law, and more specifically when it comes to intellectual property law.

For this reason, the focus of this study will be AI-generated art, and how the production of literary and artistic work by and with AI could shake the field of intellectual property law. As will be covered in this paper later, the notions of creativity and originality are central to the attribution of copyright. To be determined copyright eligible, an artwork has to meet a certain amount of requirements. The question of the legal protection of the byproducts of Artificial Intelligence deserves a closer inspection.

It is important to note that not every human creation is deemed copyright eligible. While the criteria around the globe are usually fairly wide and on the more protectionist side, they still exist and restrict some works of art from being copyrighted. What matters is to determine whether the copyright laws currently in place can withstand the technological shift occurring.

To study the impact of AI in the domain of arts, one should consider admitting that the topic is not completely devoid of moral and ethical questioning. The capacity of creation is usually seen as intrinsically human. While furthering oneself from any kind of legal matter, and entering the realm of philosophy, this reasoning does impact how we approach the idea of AI-generated art. It fosters an interesting conversation about the concept of authorship and the interpretations of copyright laws. Forcing the search for the identity of the author, and the definition of a work of art means challenging copyright laws as we know them. While completely stripping moral and ethical questioning is barely possible, there is a legal conversation to be had.

In the essay *Life, Art and America*, the novelist Theodore Dreiser wrote: 'Art is the stored honey of the human soul'[4]. In this piece dating back to 1917, the author did not mean to relate to the digital revolution we are living in. His essay on censorship and the media in the United States, nonetheless, does reflect on the uneasiness felt by some when it comes to AI-generated art. Naturally, it does raise questions. The reasoning being it is that if art belongs to humanity, or even what makes us humans and what lifts us beyond mere animals, it means that this ability could not be taken away from us. Humanity has been 'gatekeeping' creative thinking, and the arrival of Artificial Intelligence, mimicking the human brain and its way of functioning, on the terrain of art, has more than one person worried.

Theodore Dreiser's quote continues as such; 'Art is the stored honey of the human soul, gathered on wings of misery and travail'[5]. The ideas of misery and travail being heavily linked to the creative process resonates throughout copyright law and the copyright eligibility criteria, as we will review them later. The rationale of copyright law rests on the idea that there is a fundamental need to protect the author and the use of their work, to encourage the creative process[6].

The main issue arising from AI-generated art in intellectual property law could seem at first glance to be the identification of the author (ie: does the algorithm itself get any kind of credit for the generation of the piece of art), and the ownership of the copyright. This would nonetheless be assuming that the artworks would be deemed copyright eligible in the first place. This is the question this paper seeks to answer. To be able to understand the place AI now takes in the domain of arts, we need to question the legal status of AI-generated literary and artistic works and examine their claim to any sort of copyright eligibility.

This paper will approach the topic mainly focusing on the European Union and the United States of America, and AI-generated artworks via text prompt. There are indeed a wide amount of manners to implement the use of AI in artistic matters, text-to-image models being the most recent example to date. With the text prompt written by the user, the AI generates an image. The creative

[4] RN Mookerjee, 'Dreiser's Views on Art and Fiction '[1979] 12(2) American Literary Realism, 1870 – 1910. p.339 http://www.jstor.org/stable/27745905
[5] RN Mookerjee, 'Dreiser's Views on Art and Fiction '[1979] 12(2) American Literary Realism, 1870 – 1910. p.339 http://www.jstor.org/stable/27745905
[6] C. A. Nard, M. J. Madison and M. P. McKenna, *The Law of Intellectual Property*, (5th edition, 2017). p.437

process behind this model is put into question as it sits on the edge of copyright eligibility. Could those creations pretend to have the same treatment as fully human-born artworks, or does the AI input, however big, has too much of an impact on the creative process?

CHAPTER 1: ARTIFICIAL INTELLIGENCE AND ARTISTIC CREATION

The difficulty to tackle the matter of copyright eligibility of AI-generated art can be blamed on the deep-seated misunderstanding of Artificial Intelligence itself. To be able to answer the question we are asking, it is important to understand, to the best of our ability, the functioning of the technology, before even trying to apply it to the concept of a work of art.

SECTION 1: ARTIFICIAL INTELLIGENCE EXPLAINED

Finding a working comprehensive definition of Artificial Intelligence outside of the computer science field is not an easy task. To begin with, there is no common and widely accepted definition of AI in the first place, which can be explained by the current state of novelty of the research, and the constant improvements and discoveries being made on the subject[7]. The European Commission has attempted to define AI, with the following: 'Artificial intelligence (AI) refers to systems that display intelligent behavior by analyzing their environment and taking actions – with some degree of autonomy – to achieve specific goals'[8]. Systems using AI can be working as software, or even be embedded in an electronic device.

Artificial Intelligence is, in simple terms, named as such to be the opposite of natural intelligence[9], meaning the human one. The overall goal is to mimic some sort of reasoning, that could have been human, with machines, via algorithms. This reasoning is pushed further with

[7] Pei Wang, 'On Defining Artificial Intelligence' [2019]10(2) Journal of Artificial General Intelligence https://sciendo.com/downloadpdf/journals/jagi/10/2/article-p1.pdf

[8] Communication from the Commission, 'Artificial Intelligence for Europe'[2018] COM/2018/237 final https://ec.europa.eu/transparency/documents-register/COM(2018)237

[9] Mackworth, A. Goebel, R. Poole, D. 1998. Computational Intelligence and Knowledge. In: *Computational Intelligence: A Logical Approach.* Oxford University Press, pp.1-2 https://www.cs.ubc.ca/~poole/ci/ch1.pdf

Artificial Neural Networks (hereinafter: ANNs), which aim to emulate loosely the human brain and the neuronal connections in order to produce machine learning. The computer affiliates data and information, to find patterns.

There are different kind of depth to the functioning of neural networks. In order to generate a work of art, this kind of AI system used involves a three-step process[10]. It begins with the coding phase, where a human writes an algorithm, continues with the input phase, where the AI is trained for its intended purpose, and finishes with the output, the result coming out of the AI system, the generated artwork. The depth of the training phase relishes on the amount of human interference in the process. This step can be simplified as feeding an extended amount of data to the algorithm. From there on, the specificity of an AI system using machine learning is that the developer of the algorithm allows the system to train itself through patterns, and to self-correct when needed[11].

More specifically, in the case of text-to-image models, the training phase associates images with specific words. It then allows the ANN to broaden its so called 'understanding' to similar looking images and produce an output as faithful as possible to the prompt designed by the user.

SECTION 2: CREATIVE USES OF AI-SYSTEMS

With the ever-increasing involvement of technology in our daily lives, it was only a matter of time until the sector of pictorial art was also shaken by it. Other artistic and literary domains have seen it occur in the past. 'Robojournalism', amongst others, comes to mind as a quite successful attempt at integrating an AI-system within a literary work[12]. It has until now mostly been used within fields heavily relying on data, with a repetitive topic and a reliable pattern, such as financial reports, as done by Bloomberg[13] or sports game results, as currently used by Associated

[10] Péter Mezei, ''You Ain't Seen Nothing Yet' – Arguments against the Protectability of AI-generated Outputs by Copyright Law', [2021] http://dx.doi.org/10.2139/ssrn.3890051
[11] Sara Brown, 'Machine learning, explained' (*MIT Sloan School - Ideas made to matter*, 21 April 2021) https://mitsloan.mit.edu/ideas-made-to-matter/machine-learning-explained
[12] Alina Trapova and Peter Mezei, 'Robojournalism – a copyright study on the use of artificial intelligence in the european news industry', [2022] 71(7) GRUR International. pp.589-602 https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4032020
[13] Jaclyn Peiser, 'The Rise of the Robot Reporter' *The New York Times* (5 February 2019) https://www.nytimes.com/2019/02/05/business/media/artificial-intelligence-journalism-robots.html

Press[14]. The music industry also has faced the arrival of the AI in its field, as seen with Sony CSL's Flow Machine AI, amongst many others, which allows AI-assisted composition of brand-new tunes, using a machine learning system. The same problematic rises from those tools as the one we are currently examining[15].

Indeed, saying the meddling of new emerging technologies and computer science in art is new could not be more wrong. When it comes specifically to the pictorial arts however, it might appear as such at first glance, due to the increase in media coverage, but there are well-documented successful attempts dating all the way back to the seventies.

In 1973, the artist and engineer Harold Cohen started working on AARON, the painting program robot[16]. AARON's computer being taught (or 'fed') new pieces of information about the notion of painting regularly, whilst still being a functioning painting robot, gave the impression it was evolving, the same way a child would be learning how to be a better artist. The increasing quality of the work of art could be interpreted by a bystander as proof of its consciousness and self-improving qualities and lead them to believe that AARON could not only learn by itself the way a growing human does, but also make stylistic choices. This was a voluntary outcome from Cohen, who justified the creation of AARON as a test aiming to analyze if a computerized intelligence would be able to display 'human art-making behavior'[17]. The reality was obviously that the AI leading the robotic arm had a different and evolving database, created by Harold Cohen himself, based on what he thought was better looking or a more interesting choice in terms of artistic style[18]. In a certain way, AARON's robotic arm was simply an overly sophisticated paintbrush to express

[14] Ben DeJarnette, '4 Examples of AI's Rise in Journalism (And What it Means for Journalists)' (*MediaShift*) http://mediashift.org/2016/09/4-examples-ais-rise-journalism-means-journalists/

[15] *See* Oleksandr Bulayenko and others, 'AI Music Outputs: Challenges to the Copyright Legal Framework – Part I' (*Kluwer Copyright Blog*, 22 April 2022) https://copyrightblog.kluweriplaw.com/2022/04/22/ai-music-outputs-challenges-to-the-copyright-legal-framework-part-i/

[16] Chris Garcia, 'Harold Cohen and AARON – a 40-year collaboration' (*Computer History Museum*, 23 August 2016) https://computerhistory.org/blog/harold-cohen-and-aaron-a-40-year-collaboration/

[17] Harold Cohen. 1973. Parallel to Perception: Some Notes on the Problem of Machine-Generated Art. In: *Computer Studies*. *https://www.semanticscholar.org/paper/Parallel-to-Perception%3A-Some-Notes-on-the-Problem-Cohen/959ebfdf2f91f2d12e07f87d4c9305b9ccb341a5*

[18] Chris Garcia, 'Harold Cohen and AARON – a 40-year collaboration' (*Computer History Museum*, 23 August 2016) https://computerhistory.org/blog/harold-cohen-and-aaron-a-40-year-collaboration/

the artist's vision. This case is only one of the many examples over the years. Painters, and artists in general, have been fascinated by the crossroad of their ancestral art form and the always-evolving technologies.

A more recent example of this crossroad would be Stephen Thaler's, *A Recent Entrance to Paradise,* realized via the AI system Creative Machine, that he designed himself[19]. The series of images born from this AI are the result of an experimentation on a near-death simulation on the neural network, according to Thaler, allowing the realization of saturated images supposed to describe some kind of fantasy after-life[20]. Thaler's role in the output presented by Creative Machine was solely the creation of the AI system and its training, with the goal of computer decay in mind.

A Recent Entrance to Paradise,
S. Thaler via Creative Machine, 2012

The Next Rembrandt, 2016

A very famous example of use of an AI in the pictorial arts is also found in the project titled *The Next Rembrandt*. This project was the pinnacle of AI-assisted creation, as an AI system studied an incredible amount of data regarding the Dutch painter Rembrandt, from the thickness of the paint to the type of color used, passing by the type of characters represented[21]. The gathered data was used to create a new painting from scratch, that the golden age painter could have made, had he not died.

[19] Adi Robertson, 'The US Copyright Office says an AI can't copyright its art' *The Verge* (21 February 2022). https://www.theverge.com/2022/2/21/22944335/us-copyright-office-reject-ai-generated-art-recent-entrance-to-paradise

[20] Eric J. Leech, 'I am become Death, Creator of Worlds' *Urbasm* (20 May 2013). https://www.urbasm.com/2013/05/i-am-become-death-creator-of-worlds/

[21]The Next Rembrandt, 'The Next Rembrandt' 1'12 (5 April 2016). https://youtube.com/watch?v=IuygOYZ1Ngo&si=EnSIkaIECMiOmarE

SECTION 3: TEXT-TO-IMAGE MODELS

The newest and rapidly growing form of AI-generated art is what is called the 'image generator', or text-to-image model. AI-based tools such as DALL-E2, Midjourney, or Stable Diffusion, to name only a few, offer anyone the possibility of being an artist, by using a text prompt base and converting it into a brand-new image. The attractiveness of the method comes with how easy the act of creation becomes. This accessibility, and the very few skills required for a picture-perfect result to be born, began the widespread use of those new tools. Being fed an astronomical amount of data, those image generators produce a completely new and never-seen-before artwork.

The main difference between the cases previously introduced and the text-to-image models lies in the fact that the users and the people feeding the AI are not one and the same. The European Commission calls this phenomenon AIaaS: 'Artificial Intelligence as a Service'[22]. The person in charge of the input and training phases has usually a certain amount of control over the AI response. It is possible not to understand the output, and to be puzzled by the organization of the answer as it was not the expected outcome, but it is fully the result of the training phase. Separating the user of the tool from the ones creating it means that the causal link is more tenuous. The text prompt reflects the desire of the users, but as they were not in charge of the input or training phases, the output is that much more unpredictable. AIs such as the ones we are referring to are operating as machine learning based tools, meaning there is less human involvement in the training phase than within a traditional AI system.

Karen Cheng via DALL-E, 2022

Text-to-image models are already at play in some domains, and it already has been famously used as magazine cover for the first time by Cosmopolitan in June 2022[23], in their AI issue. The digital artist in charge of the cover, Karen X. Cheng, used Open AI's DALL-E in order to

[22] European Commission, *Trends and developments in artificial intelligence, challenges to the intellectual property rights framework* (25 November 2020). p35. https://data.europa.eu/doi/10.2759/683128
[23] Gloria Liu, 'The World's Smartest Artificial Intelligence Just Made Its First Magazine Cover', *Cosmopolitan* (21 June 2022). https://www.cosmopolitan.com/lifestyle/a40314356/dall-e-2-artificial-intelligence-cover/

achieve her result, and not only documented the process, but also shared the full prompt[24], which will allow us to analyze it in more detail in this paper.

The debate over AI-generated art also sparked a renewed interest in the late summer of 2022 when a work of art created with Midjourney won an art contest in Colorado[25]. Jason Allen, the winner of the Colorado state fair fine art competition, did not disguise the use of an image generator to produce his *Théâtre D'opéra Spatial* (translating to 'space opera theater'), and has been quite transparent about his process as well, while not sharing his full prompt.

Théâtre d'Opéra Spatial, Jason Allen via Midjourney, 2022

As image generators are becoming a new normal, artists fear the death of human creativity and the pictorial arts. While this might be, yet again, simply a new art form that, like many others before, causes panic, there is a real threat, which is not the disappearance of the fruits of human creativity, but the impact on the licensing of fully human artists' works. Image generators are obviously cheaper labor, if not completely free at times. When in search of a specific image, instead of paying someone to create it from scratch, the potential clients will turn to AI creators, with no remuneration ever going to human artists.

Copyright laws supposedly protect the author and the use of their work, but without remuneration and abilities to invest in their businesses, image generators could become a threat not to the act of creation itself but to the artistic professionals. Questioning whether the result of the text prompt is creative and original enough to be copyright eligible can make all the difference to artists and their craft. If it were to be determined that the result of an image generator was not copyright eligible, it could push a company to keep on hiring human authors to ensure the protectability of their desired output.

[24] karenxcheng, 'Created the First Ever AI cover for Cosmopolitan Magazine! #shorts' (22 June 2022). https://youtube.com/watch?v=8fthDHDshvg&si=EnSIkaIECMiOmarE

[25] Rachel Metz 'AI won an art contest and artists are furious', *CNN Business* (3 September 2022) https://www.cnn.com/2022/09/03/tech/ai-art-fair-winner-controversy/index.html

CHAPTER 2: COPYRIGHT ELIGIBILITY REQUIREMENTS

Not every production of the mind can pretend to be protected by intellectual property laws, as a set of criteria and requirements accompanies the right to be deemed copyright eligible. Those rules obviously differ from jurisdiction to jurisdiction. For the sake of our argument, this paper will dive deeper into the legal frameworks surrounding copyright eligibility in the European Union and the United States of America, as they offer a slightly different point of view on the matter.

SECTION 1: IN THE EUROPEAN UNION

To begin with, it is important to note that the Berne Convention[26], dating back to 1886, provides an international framework for the subject matter at hand. Often revisited and amended, it introduced the concept of the automatization of copyright protection. This meant that from there on, a work of art was protected as soon as it was 'fixed', meaning created and tangible. The Berne Convention also framed the domain of the production, as being from the literary, scientific, or artistic domain, in its article 2.1[27]. It is crucial data, since it allows us to understand what can be considered a work of art, especially in the context of AI-generated art. The Berne Convention also assumes that there is a flesh and blood author, a human intellectual effort. This rules out any claim for copyright ownership of AI-generated work by the AI itself under international law.

The World Trade Organization also created a framework for intellectual property law in order to create a basic standard in international trade. The Agreement on Trade-Related Aspects of Intellectual Property Rights, otherwise known as the TRIPS agreement, integrate the Berne Convention into its copyright law chapter and follows the same guidelines when it comes to the copyright eligibility criteria[28].

[26] Berne convention for the protection of literary and artistic works (signed 9 September 1886) 828 U.N.T.S. 221
[27] Berne convention for the protection of literary and artistic works, Art2.1: 'The expression "literary and artistic works" shall include every production in the literary, scientific and artistic domain, whatever may be the mode or form of its expression'.
[28] Agreement on Trade-Related Aspects of Intellectual Property Rights (15 April 1994) 1869 U.N.T.S. 299, 33 I.L.M. 1197. II1Art9: 'Members shall comply with Articles 1 through 21 of the Berne Convention'.

In the same spirit as the World Trade Organization, the European Union partly harmonized the legal framework relating to copyright law and mainly aims at regulating the internal market and coordinating policies between Member States[29]. National laws are still in full effect but are operating under several EU directives coupled with a substantive amount of case law from the CJEU allowing for a better interpretation of those directives. The relevant legislation is the alliance of international treaties and European and national regulations.

The most important criteria of copyright eligibility in European Union Law which is originality. Contrary to patent law, there is no specific notion of uniqueness or inventivity, and the main focus is that the work has to qualify as a work of art under the Berne Convention, be fixed, and original. The Court of Justice helped defined the concept of originality in numerous decisions to ensure a pan-European understanding of the word. A work of art must be the author's own intellectual creation, the result of their creative choices, with no sense of aesthetic merit, but also a personal sense of the author[30].

The *Painer* case, in the European Union, also encapsulates this idea. It states that the artwork has to reflect the 'free and creative choices' of the artist[31], and 'reflect their personality'[32]. The case regarded a school photograph that was used in a newspaper without the consent of the photographer, the newspaper arguing that there was no copyright being held by the artist over the photograph based on the very low creative choices being expressed through such a standardized medium. Indeed, a school photograph has a pre-established backdrop, a traditional kind of pose, and throughout the years, they are made to look alike and even embody the school's spirit. Nonetheless, the court ruled that there was some room for creativity from the photographer, and that was considered enough to be creating intellectual property rights over the photograph.

This case reiterated a fairly low threshold for creativity, that was already established by the Court of Justice of the European Union in previous cases, such as *Infopaq International*[33] or even

[29] European Commission, 'Green Paper on Copyright and Related Rights in the Information Society' (19 July 1995) COM(95) 382 final - Not published in the Official Journal.
https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:51995DC0382&from=EN
[30] Case C-683/17 *Cofemel – Sociedade de Vestuário SA v G-Star Raw CV*, CJEU (2019) §30.
[31] Case C-145/10 Eva-Maria Painer v Standard VerlagsGmbH and Others, CJEU (2011) §89.
[32] Case C-145/10 Eva-Maria Painer v Standard VerlagsGmbH and Others, CJEU (2011) §92.
[33] Case C-5/08 Infopaq International A/S v Danske Dagblades Forening CJEU (2009) §45.

Bezpečnostní softwarová asociace[34]. The *Infopaq International* case stated earlier in time that a work needs to be original in the sense that it is the author's own intellectual creation'[35], and by doing so, harmonized the European Union standards of originality. What was solely true in the case of a database and other specific areas of work was extended to every work of art covered under article 2.1 of the Berne convention. This decision could be criticized for going further than a simple interpretation of the directive and its law-making impact, nonetheless it allowed a wider and smoother understanding of the criterium of originality across the European Union.

SECTION 2: IN THE UNITED STATES OF AMERICA

Much similarly to its European counterpart, the American legal system has a set of requirements for a work of art to be eligible to copyright protection. Copyright is constitutionally protected, and aims to protect the production of the human mind. The US constitution contains a clause, often called the 'Copyright Clause', which gives Congress the power to 'promote the progress of science and useful arts by securing for times to authors and inventors the exclusive right to their respective writing and discoveries'[36]. This provision works along the Copyright Act, which creates the legal framework and goes into further detail on the application of the law, instead of focusing on the goal. The Copyright Act dates all the way back to 1790, nonetheless, copyright law is currently operating under the 1976 Act, which is a revision. The 1976 Act expresses the three concepts at the heart of copyright eligibility in American law. It grants protection for 'original work of authorship fixed in any tangible medium of expression'[37]. The core notions of originality, work of authorship, tangibility, and expression, all-together create copyright eligibility and protect the literary or artistic work under American law.

In the context of AI-generated art, the matters of tangibility is not the most pressing or the most controversial. Indeed, the medium used and its permanence are not impacted much by the fact that there is an algorithm involved. Whether the work is deemed as fixed for a sufficiently long

[34] Case C-393/09 Bezpečnostní softwarová asociace - Svaz softwarové ochrany v Ministerstvo kultury CJEU (2010) §50
[35] Case C-5/08 Infopaq International A/S v Danske Dagblades Forening CJEU (2009) §45
[36] U.S CONST., Art. I, §8, cl.8
[37] 17 U.S.C §102(a) (1982) Copyright Revision Act of 1976

time to be considered a tangible work of art is not fully relevant in light of the questioning brought by AI-generated art. The concept of expression is slightly more complicated to grasp but revolves around the fact that the creative idea, or the facts it is based on, are not protected, only the expression of said creative idea and fact. This can prove particularly important while studying AI-generated art works, as we will analyze later on.

The notion of originality is evidently central to copyright law in general, in American law and European Union law. Originality in a work of authorship can be assumed to be the independent act of creation by the author. The Supreme Court does set the threshold at a 'modicum of creativity' requirement, which sets a low bar for copyrightability[38]. The issue lies in the amount of human creative input in AI-generated art, and it is necessary to test if the work of art fulfills the originality criteria to get an answer.

The *Painer* case would find its American equivalent in the Supreme Court case *Burrow-Giles Lithographic*, dating back to 1884[39]. The facts are relatively similar, as the issue also stems from a photographic portrait and its use against the will of the photographer. Napoleon Sarony captured a portrait of the famous author Oscar Wilde, learning in an armchair. The company Burrow-Giles Lithographic sold a reproduction of the photograph, expressing that under the legal system of the time, there was no protection granted for such a piece. They indeed argued that photography could not fall under the category of works of authorship since it was 'a reproduction on paper of the exact features of some natural object or of some person'[40]. The Supreme Court nonetheless decided that, while at the time portrait photographies were mostly falling under the public domain, the amount of creative input and choices made by Napoleon Sarony were enough to consider his rendering of Oscar Wilde in *Oscar Wilde n°18* was in fact 'an original work of art'[41].

[38] Feist Publications v. Rural Telephone Service Company, Inc., 499 U.S. 340 (1991)
[39] Burrow-Giles Lithographic Co. v. Sarony, 111 U.S. 53 (1884)
[40] Burrow-Giles Lithographic Co. v. Sarony, 111 U.S. 53 (1884). p56.
[41] Burrow-Giles Lithographic Co. v. Sarony, 111 U.S. 53 (1884). p.60.

While earlier in time than its European counterpart, the *Burrow-Giles Lithographic* case teaches us something about the constant modernization of the arts and the need for adaptation of the legal system around it. The artist interfered with the mechanical action of the camera and created a work of art by not only showing Oscar Wilde plainly and simply but by offering an original and creative image using props and poses. For that reason, it is a copyright infringement to use the image for profit, and sell it on lithographs, even if Oscar Wilde is a well-known face of the time. Photography was quite a new invention at the time, making this case all the more comparable and relatable to the issues raised by image generators.

CHAPTER 3: COPYRIGHT ELIGIBILITY AND TEXT-TO-IMAGE MODELS

In order to assess whether the users of image generators could pretend to any kind of legal protection under copyright law for the embodiment of their text prompt, the process will be examined through a four-pronged test. This test is derived from the four-pronged test used to determine whether an AI-production qualifies as a work by the European Commission[42], and João Quintais and Brent Hugenholtz in their paper questioning a similar matter[43].

SECTION 1: THE NEED FOR HUMAN INTERVENTION

Image generators are now the pinnacle of AI-generated art. Robojournalism might have seemed less threatening, maybe because less visual, and less accessible to the public. Moreover, the general consensus on robojournalism is that there is too little human input to even consider copyright protection, and while Péter Mezei and Alina Trapova do argue in their extensive study

[42] European Commission, *Trends and developments in artificial intelligence, challenges to the intellectual property rights framework* (25 November 2020). pp77-78. https://data.europa.eu/doi/10.2759/683128
[43] Hugenholtz, P.B., Quintais, J.P. Copyright and Artificial Creation: Does EU Copyright Law Protect AI-Assisted Output?. IIC 52 (2021). https://doi.org/10.1007/s40319-021-01115-0

of the matter that there is some room for originality, they also conclude that there is a lack of free and creative choices[44].

It is actually one of the easiest arguments against the protectability of AI-generated works is the human criteria, which can be explained as the requirement for the work in question to be the product of a human mind, made and thought of by a human, to be able to claim protection under the copyright laws. One could say that it is, at first glance, a very sound argument. It was nonetheless famously contested in the American case *Naruto v. Slater*[45], where PETA, the NGO aiming to defend animal rights, filed a suit on behalf of a monkey against, David J. Slater, a wildlife photographer, accusing him of infringing Naruto's intellectual property, by publishing in his book a selfie the monkey took without the photographer's help or direction, while the camera was left unattended.

The potential copyright eligibility of a selfie, even if taken by a human, is already a debate in itself, as it can be argued that a simple portrait lacks even the low threshold of originality required by American law. The lack of creative forethought going into a selfie could be enough to claim that it cannot pretend to be any kind of protection. The case brought in front of the 9th circuit court focused however on the lack of statutory standing of the monkey and concluded that the Act of 1976 did not authorize animals to file a lawsuit since they were not human[46].

Nonhuman entities are therefore excluded from any copyright infringement claims, which leads to question the status of AI-generated art and the status of authorship of the human behind the machine. The judge in the *Naruto v. Slater* case referred to the Compendium of the U.S Copyright office[47], which clearly states that only human work of authorship shall be considered for

[44] Alina Trapova and Peter Mezei, 'Robojournalism – a copyright study on the use of artificial intelligence in the european news industry', [2022] 71(7) GRUR International. pp.589-602 https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4032020

[45] Naruto, et al., Plaintiffs, v. David John Slater, et al., Defendants, Case No. 15-cv-04324-WHO, (N.D. Cal. Jan. 28, 2016)

[46] Naruto, et al., Plaintiffs, v. David John Slater, et al., Defendants, Case No. 15-cv-04324-WHO, (N.D. Cal. Jan. 28, 2016). p5.

[47] Naruto, et al., Plaintiffs, v. David John Slater, et al., Defendants, Case No. 15-cv-04324-WHO, (N.D. Cal. Jan. 28, 2016). p6.

copyright eligibility, and no claim can be brought if the work of art is not the result of a human mind[48].

The case brought up by PETA being dismissed helps us understand better the question of authorship for AI-generated art, but the question of copyright eligibility itself remains. David Slater still argued long after the end of the trial that he was the rightful owner of the photographs[49]. The parties involved in the case settled when PETA once again saw its claim dismissed after appealing the first decision, leaving us without an answer to the question of the rightful ownership of the selfies. The final output of the famous selfies does not result from any direct action of the photographer; however, he had arranged all the camera settings and placed the tripod in a specific way, which could be argued as creative. Whether the photographs are to be considered belonging to the public domain or eligible for copyright protection due to the creative process engaged by David Slater relates to the same debate as AI-generated art. This case allows us to draw a parallel between the money taking a selfie with a preset camera by the photographer, and the AI submitting a result after a text prompt written by a human. Changing the camera setting or writing a list of words seems a minimal creative effort requiring a fairly low amount of skills, especially when compared to more traditional art.

The CJEU *Painer* case mentioned previously in this paper relates to this case in a way that a camera was involved, making the courts question the true belonging of the photographs. However, *Painer* succeeded in proving that there was always a human behind the machine being operated. A self-sufficient machine learning from the phase of conception to the output phase without human intervention does not currently exist.

However, claims of copyright ownership can be denied on the based that the human element is missing. In the United States, the US Copyright Office refused to overlook a century of legal precedent in copyright law to offer protection to a work of art realized solely by an AI[50]. They

[48] U.S. Copyright Office, Compendium of U.S. Copyright Office Practices (ed.2021). §§ 306, 313.2.
[49] Andres Guardamuz 'Can the monkey selfie case teach us anything about copyright law?' (*WIPO magazine*, February 2018). https://www.wipo.int/wipo_magazine/en/2018/01/article_0007.html
[50] United States Copyright Office - Copyright Review Board, Answer to 'Second Request for Reconsideration for Refusal to Register A Recent Entrance to Paradise' (14 February 2022). p5.
https://www.copyright.gov/rulings-filings/review-board/docs/a-recent-entrance-to-paradise.pdf

decided not to grant the AI-created image copyright as it did not include any element of 'human authorship'[51]. which is a necessary standard for legal protection according to the board of the Copyright Office. In their review of Steven Thaler's proposal, they justify their refusal of the artwork *A Recent Entrance to Paradise,* by the AI system Creative Machine[52], by saying that 'the courts have been consistent in finding that non-human expression is ineligible for copyright protection'[53]. Ultimately, the issue did not stem from the use of AI itself, but from the lack of a human creative mind intervening during the process.

SECTION 2: AI OUTPUT AS AN ARTISTIC WORK

In copyright law, a "work" refers to any original creative expression that is fixed in a tangible form, such as a book, song, film, or photograph. This means that the work must be able to be perceived, reproduced, or otherwise communicated.

The concept of work of authorship in European Union is not harmonized but resonates throughout the multiple directives. The Term Directive, in its first article[54], refers to the second article of the Berne Convention, which translated into several CJEU rulings using it to define a work. The Berne Convention roots its criteria for a work in the domain in falls under, namely 'literary, scientific or artistic'. Following this general direction, the CJEU rendered judgements denying copyright eligibility for a sporting event, for example, as it did not fall under any of the previous categories[55]. The case *Levola Hengelo*, regarding the copyright eligibility of a spreadable cheese, suffered the same fate, as the court declared that the taste of a food item was not protected

[51] United States Copyright Office - Copyright Review Board, Answer to 'Second Request for Reconsideration for Refusal to Register A Recent Entrance to Paradise' (14 February 2022). p3. https://www.copyright.gov/rulings-filings/review-board/docs/a-recent-entrance-to-paradise.pdf
[52] Ivy Estoesta, 'An End to a Trip in Paradise: The U.S. Copyright Office's Position on AI-Generated Art' (*Sterne Kessler*, March 2022). https://www.sternekessler.com/news-insights/publications/end-trip-paradise-us-copyright-offices-position-ai-generated-art
[53] United States Copyright Office - Copyright Review Board, Answer to 'Second Request for Reconsideration for Refusal to Register A Recent Entrance to Paradise' (14 February 2022). p5. https://www.copyright.gov/rulings-filings/review-board/docs/a-recent-entrance-to-paradise.pdf
[54] Directive 2006/116/EC on the term of protection of copyright and certain related rights, or Term Directive, establishes in its article 1 'a literary or artistic work within the meaning of Art.2 of the Berne Convention'
[55] Case -C403/08 *Football association Premier league ltd and others v QC leasure and others*, CJEU (2011) §98

under copyright law, as it could not claim to be in the range of the second article of the Berne Convention[56].

There are no doubts that AI are currently more than able to dabble in the domains under the realm of the Berne Convention, and text-to-image models are a good representation of the pictorial arts. The outputs are tangible, fixed, and no more fleeting than fully man-made digital art. They fall under the second article of the Berne Convention, regardless of the way they came to life. This obviously does not mean that every output falling under that article is copyright eligible, but that there are no barriers for products of text-to-image models to be considered as an artistic work. The consideration of 'work of authorship' however, present in American law, could be slightly more difficult to tackle, as the definition of authorship, author, and the question of copyright ownership of AI outputs is a completely different matter that would deserve its own paper. However, we can safely assume that if a sufficient human input is deemed present, the author would be the creator of the text prompt.

SECTION 3: THE IDEA/EXPRESSION DICHOTOMY

The idea-expression dichotomy is a principle in copyright law that separates the protected expression of an idea from the idea itself. This means that while an author may have the exclusive right to the particular expression of an idea, the idea itself cannot be protected by copyright.

The idea-expression dichotomy exists in various forms. One way is through the "merger doctrine," which holds that when an idea can only be expressed in a limited number of ways, the idea and expression will be considered to have merged and will not be separately protectable. The CJEU is quoted during the *BSA* case describing it as what happens when 'the different methods of implementing an idea are so limited that the idea and expression become indissociable'[57]. Because only the expression of the idea is protected, and not the idea or the concept itself, if there is no

[56] Case C-310/17 *Levola Hengelo BV v Smilde Foods BV*, CJEU (2018). §40.
[57]Case C-393/09 *Bezpečnostní softwarová asociace - Svaz softwarové ochrany v Ministerstvo kultury*, CJEU (2010). §§39-40. See also Case C-833/18 *SI and Brompton Bicycle Ltd v Chedech / Get2Get* CJEU (2020). §27.

room for creativity, and that the unprotected idea can be expressed only one way, then it cannot be copyrighted, as it would ban others from using that same idea.

This leads to question the creative link between the prompt and the output, and the intentionality of the results. Indeed, the criterion of expression present in the copyright eligibility requirements is design in such a way that the author's creative mind or freedom has to translate into the expression of the work. In its case *Levola Hengelo*, the CJEU it stated that the author's choices have to be 'sufficiently clearly expressed'[58]. Working with an image generator, the issue of the causal link between the vision of the user and the output exists. If there are too much details left for the AI to decide, it would no be possible to imagine a copyright protection, as the act of creation would not be a result of the creative freedom of the user.

The creation of the cover of the *Cosmopolitan* magazine is a good example of demonstration of the causal link between the idea and the expression of the idea. The digital artist in charge of the cover had a vision, a concept, some kind of specific result she wanted to achieve, and modified the text prompt and tweaked it repeatedly until she could find the image that corresponded the best to her desire[59]. In that sense, there seem to be an undeniable causal link between the inspiration, the freedom of choice of the artist, and the result. However, this would not be the case for every single use of those platform, as a very simplistic text prompt would be so vague for an AI trained on billion of images that it would have to fill in the missing parts, and the user would lose this tenuous link as their exercise of their creative freedom would not translate into the output. There needs to be a direct influence of the text prompt over the result, in order to argue copyright protection over the artwork. If the algorithm at work shows great independence in the process of creation, with little to no human influence, even with the interference via prompt, it would be difficult, if not impossible, to consider the output as the fruit of one's mind.

[58] Case C-310/17 *Levola Hengelo BV v Smilde Foods BV*, CJEU (2018). §40.
[59] karenxcheng, 'Created the First Ever AI cover for Cosmopolitan Magazine! #shorts' (22 June 2022). https://youtube.com/watch?v=8fthDHDshvg&si=EnSIkaIECMiOmarE

SECTION 4: THE CHALLENGE TO THE ORIGINALITY REQUIREMENTS

With tools such as DALL-E or Midjourney accessible to everyone on the Internet, and their production impossible to distinguish from human-made pieces, creators are growing increasingly alarmed, and are alerting on a new form of danger to their art form. Setting aside the social media outrage that followed Jason Allen's win at the Colorado art fair, and the global debate that grew in the aftermath of the announcement of the winner, it is interesting to note here Jason Allen's process to produce his gold-winning work of art. He claims that he put eighty hours of work into the piece, creating over nine hundred different possibilities as he was modifying and fine tuning the prompt before settling on an image, which he then modified over photoshop. His efforts are even recognized by the third place winner, who drew herself the picture she submitted, which took her only fifteen hours[60]. This leads to wondering if efforts, labor, and skills are at all necessary to create some sort of protection over the work of art and if so, it could be the way for Jason Allen, and all user of text-to-image models, to not only protect his work but also be its legal owner.

The 'sweat of the brow' doctrine, theorized in American intellectual property law, established the effort put into the process of creation as more important than any other criteria that could be considered for copyright eligibility. This principle meant that copyright was a reward for the efforts of the author and that the hard work that went into the act of creation deserved protection for the sole reason of the difficulty of the process. A doctrine dictating that the creation of rights on literary and artistic works was intertwined with the concepts of pain and efforts could exclude Artificial Intelligence assisted creation entirely, as very few learned skills go into using them and creating with them. Then again, the concept of effort lacks a clear and precise definition, and this is where the challenge rises. It raises the question of how much effort is enough to allow the resulting work to be protected under copyright laws.

The sweat of the brow doctrine was later rejected in the *Feist v. Rural*[61] case. This case relates a conflict between two phone book companies, the first accusing the second of having stolen

[60] Drew Harwell, 'He used AI to win a fine-arts competition. Was it cheating?' *The Washington Post* (2 September 2022). https://www.washingtonpost.com/technology/2022/09/02/midjourney-artificial-intelligence-state-fair-colorado/

[61] *Feist Publications v. Rural Telephone Service Company, Inc.*, 499 U.S. 340 (1991)

their data and using them for their own phone book. The case encapsulates the debate over databases and the compilation of facts as copyright eligible or not. The first company argued that since it had taken more effort, it had been more difficult for them, to compile the data, they should be entitled to some kind of protection over it. The court ruled that raw data, facts, can not be claimed as intellectual property without any original creativity, throwing out of the window the idea that the effort put into the collection of said data could create copyright eligibility under the sweat of the brow doctrine. The 1991 case sets a precedent that was not to this day overturned, which puts creativity at the center of the notion of originality. The Supreme Court held that 'the requisite level of creativity is extremely low; even a slight amount will suffice'[62], not only rejecting the former doctrine but establishing a new standard for the consideration of creativity.

The question of labor and skills still is prevalent in our legal culture, as the same debate arose in the court of justice of the European Union with the *Football Dataco* case in 2012[63]. In the same fashion as the telephone book issue encountered in *Feist v. Rural,* the case handled by the CJEU relates to allegedly stolen data. Football Dataco had produced a 'fixture list', meaning a list of games, players, player substitution, and scores of football matches they organized in England and Scotland. The search engine YAHOO! used this list for their own databases, which triggered a claim for copyright infringement from Football Dataco, under articles 3 and 7 of the European Union Database Directive[64]. Article 3 held that a database can be protected if it is organized in a creative way[65]. Article 7 referred to *sui generis* rights and established that a substantive amount of investment in the creation of the database, whether the database was deemed copyright eligible or not, was enough to create rights[66]. In a similar fashion, the CJEU decided that 'the mere intellectual effort and skill of creating military status reports are not relevant in that regard'[67].

[62] *Feist Publications v. Rural Telephone Service Company, Inc.*, 499 U.S. 340 (1991). p344.
[63] Case C-604/10 *Football Dataco Ltd and Others v Yahoo! UK Ltd and Others*, CJEU (2012).
[64] Council Directive 96/9/EC, 1996.
[65] Council Directive 96/9/EC, art3(1): 'databases which, by reason of the selection or arrangement of their contents, constitute the author's own intellectual creation shall be protected as such by copyright.'
[66] Council Directive 96/9/EC, art7(1) requires member states to provide some kind of protection to databases 'which shows that there has been qualitatively and/or quantitatively a substantial investment in either the obtaining, verification or presentation of the contents to prevent extraction and/or re-utilization of the whole or a substantial part, evaluated qualitatively and/or quantitatively, of the contents of that database.'
[67] Case C-469/17 *Funke Medien NRW GmbH v Bundesrepublik Deutschland*, CJEU (2019). §23.

The court of appeal rejected the claim to the infringement under article 7, as previously established in the CJEU jurisprudence in similar cases[68], but accepted that the fixture list was indeed creative enough to be protected under the third article of the database directive. YAHOO! appealed the decision, and the final judgment established that, indeed, the database created by Football Dataco was not to be considered creative under article 3 of the directive and could not pretend to copyright eligibility, but the court also said that labor and skills were irrelevant and will not suffice to create copyright protection[69].

Both in the United States and the European Union the concept of efforts was denied to reinforce the notion of creativity, showing a trend and evolution of the matter of copyright law. It would be a complex task to argue that the work of art resulting from an image generator via a text prompt did require skills or labor from the user. One could try and argue that the length of a prompt and time spent on writing it should be rewarded, but it however is no longer an acceptable consideration for copyright eligibility.

Jason Allen, the man behind *Théâtre D'opéra Spatial* could not pretend to be the rightful owner of the result of his text prompt solely based on the time spent obtaining the result, and the hardships encountered during the process. He would need to demonstrate that the creativity shown in the construction of his text prompt reflects in the image offered by Midjourney.

The notion of originality has been discussed at length in copyright eligibility cases. When it comes to image generators, however, we are faced with a crossroads between human creativity and machine learning. Indeed, we could imagine an AI program without a text prompt, where the result is a simple randomization of the different inputs created by the programmer. In that case, the result might be beautiful and seem worthy of some of the best artists, but the lack of creativity and low human involvement in the process of creation would not allow for the result to be protected, as previously discussed by the US Copyright Office[70], among others. The existence of a text prompt

[68] See Case C-203/02 *The British Horseracing Board Ltd and Others v William Hill Organization Ltd.* CJEU (2004)
[69]Case C-604/10 *Football Dataco Ltd and Others v Yahoo! UK Ltd and Others*, CJEU (2012). §42.
[70]United States Copyright Office - Copyright Review Board, Answer to 'Second Request for Reconsideration for Refusal to Register A Recent Entrance to Paradise' (14 February 2022).
https://www.copyright.gov/rulings-filings/review-board/docs/a-recent-entrance-to-paradise.pdf

written by a human is what sets image generators apart, as there might be there just enough human involvement and creativity to enjoy some sort of protection by the law.

The criterium of creativity is the central topic of a large amount of case law. While it is impossible to settle the matter at hand for every AI-generated work of art, understanding how creative a text prompt has to be in order to be granted legal protection can be discussed using jurisprudence. The previous example of the *Théâtre D'opéra Spatial*, by Jason Allen via Midjourney, is a good one to start from, as we have a good understanding of the process followed by the creator in order to achieve the result that made him famous. While we already ruled out that the eighty hours of work in themselves could not be an argument in favor of the protection of the piece, the complexity and creativity of the prompt could in the contrary ensure Jason Allen that it would not be used against his will by anyone else.

The question never focused on the artistic merit of the current AI-generated artworks, but on understanding the role of the AI in the process, and how predictable the result is for the human writing the prompt. The creativity and precision shown in the construction of the text prompt should mean that there is no space left for chance and interpretation from the AI system. Continuing with the same example of *Théâtre D'opéra Spatial* and Midjourney, Jason Allen refuses to disclose his text prompt, as it could be the key to reproducing his award-winning image, and he announces the future publication of a related project containing images revolving around the theme[71]. A legal battle could engage at that moment, as he might start selling the image for a profit. He declared to the press he used the finished product and polished it using a graphic editor, adding, among other details, a head and flowing hair to his central character[72]. The more creative choices are made by a human the more impact it has on the result. The combination of his extensive text prompt and editing could be considered by a court as creative enough to be protected under the American and European Union standards.

[71] Rachel Metz 'AI won an art contest and artists are furious', *CNN Business* (3 September 2022) https://www.cnn.com/2022/09/03/tech/ai-art-fair-winner-controversy/index.html

[72] Drew Harwell, 'He used AI to win a fine-arts competition. Was it cheating?' *The Washington Post* (2 September 2022). https://www.washingtonpost.com/technology/2022/09/02/midjourney-artificial-intelligence-state-fair-colorado/

However, two schools of thought are emerging on that matter. The "AI-Negative", firmly believes that the mass production of creative works using AI will drown out human artists, and the 'AI-Positive', thinking it could lead to an enhancement of human creativity[73]. To encapsulate the reasoning of the people embracing the AI-negative side, there seem to be no rhyme nor reason to try and adapt the copyright regime already in place to accommodate an art work that was not fully created by a human. Péter Mezei argues against the protectability of AI-generated art, quoting Tim Dornis and his argument that creativity could be seen as the result or the process[74]. Péter Mezei is of the opinion that AI-generated artwork 'defenders' and AI-positivists are looking at the creative result, instead of the process, purposefully to protect the AI-born output. While this argumentation is sound, it does not seem to apply to the topic of image generators, as the process of creation of the text prompt, and the modification of said prompt, is the part of the creative process needed to be observed in order to understand that there seem to be somewhere, some originality. Text prompt to image is a new system that is on the edge of originality and plays with its limits. Thoroughly discussed by many, it does not escape legal scrutiny, but due to its newness, this topic is not yet the object of enough case law to be impactful. No legal action relevant enough has been brought up yet, to be the ground of a major shift in our current legal paradigm.

CONCLUSION

The famous French poet Charles Baudelaire is known to have, in 1859, called photography 'art's most mortal enemy'[75]. His rejection and hatred for a new form of art can be compared to the debate and turmoil around images generators and AI-generated art in general[76]. One could make a case for the inherent rejection of novelty when it comes to art being at fault, more than the nature of the novelty itself. The questions around the notions of ownership and authorship are crystallizing around this new technology, at its potential threat for human creativity.

[73] Péter Mezei, 'From Leonardo to the Next Rembrandt – The Need for AI-Pessimism in the Age of Algorithms' [2020] UFITA. p. 393. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3592187
[74] Péter Mezei, 'You ain't seen nothing yet – arguments against the protectability of AI-generated outcomes by copyright law' [2021] https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3890051 .
[75] Radio France, 'Baudelaire et la photographie' (19 August 2014) https://www.radiofrance.fr/franceinter/podcasts/un-ete-avec-baudelaire/baudelaire-et-la-photographie-8827883
[76] Kevin Rose 'An A.I.-Generated Picture Won an Art Prize. Artists Aren't Happy', *The New York Time* (2 September 2022). https://www.nytimes.com/2022/09/02/technology/ai-artificial-intelligence-artists.html

Indeed, some conclusions can be drawn after the study of the current legal frameworks and the tendencies when facing a new kinds of technologies. Obviously, not all AI-assisted production is eligible for copyright protection. The matter of image generators, the latest addition to the family of computer art, is the center of our study and seems to have a heavier human component. While some AI systems are built to create by themselves, so to say, image generators are built to assist creation. Likening themselves to a pencil or a brush, or the settings of a camera, their extensive database is put to the service of the users, if they are creative enough to be precise in their demands. The user is creating in the dark, unaware of the bank of images behind every word typed into the text prompt and their influence over it. However, a sufficiently creative, intentional, and precise prompt can be original and the fruits of the human mind. Copyright protection may arise if the human interacting with the machine engaged in creative choices. The creativity threshold that will have to be met shall be left to the discretion and interpretations of the courts when the first case will soon enough arise.

If copyright law does not seem quite ready yet to welcome this new addition into its field, there are indicators that the future will go in the favor of AI-generated art. In American law, copyright eligibility has a rationale, constitutionally, which makes it easier to foresee the fate of text-to-image art. The copyright provision in the U.S Constitution aims to protect and promotion of 'the progress of science and the useful art'[77]. The next step in science and art might very well be AI-generated art, and its protection is all the more important. The European Union does not define a goal *per se* for copyright protection, not in the constitutional fashion made by American law. However, the recent directive of modernization of the subject matter does allow one to think that the member states are attempting to be more forward-looking.

The next natural question when it comes to copyright protection is one of the owners of the work. Demonstrating that there was a possibility for the output to not only be a work of art but a protected one was the first step. Some will question the status of the rightful owner of the work. Could the existence of a co-authorship between the AI and the user be argued? The question falls into the philosophy of law, as there would need to be a rationale for giving rights to a computer

[77] U.S CONST., Art. I, §8, cl.8

system, and the lack of practicality would exclude the possibility. Copyright incentivizes human creation; however, it can be argued that while human creativity did influence the output, the role played by the AI is big enough not to be omitted.

To this day, AI cannot work alone, there must be, in some part of the process, a human involved. Until there is a machine able to create an AI, themselves creating an AI, and go on, until the human creators are so far removed that their impact is only minimal on the process, human authorship could not be put into question. The lack of creativity exists, but it cannot be mixed with the absence of human authorship. Our current legal system assumes the existence of a human creator, and while one could see in the future a better and easier recognition for works created with the assistance of an AI, the concept of authorship should not bulge anytime soon.

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