Part I
– AI and intellectual property rights: new developments, new challenges

If Legislation is a Hammer, Could AI Be a Nail?

The Possibility and Viability of AI Legislation in International and EU Copyright Law

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Abstract

This paper addresses the growing tensions between technological advancements in artificial intelligence (AI) and the traditional frameworks of copyright law. The paper highlights that throughout history, copyright law has adapted to various technological pressures. The paper asserts that generative AI poses unique challenges that necessitate a re-evaluation of existing legal standards. The paper assesses the current landscape of legislative efforts regarding these challenges and discusses potential legislative solutions, advocating for a balanced approach that preserves the foundational objectives of copyright while accommodating the innovations brought by AI. The paper ultimately seeks to determine the necessity and viability of legislative action at both EU and international levels to address the implications of AI on copyright protection and creativity.

Keywords: generative AI, copyright, legislation, originality, compensation, sui generis right

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> "Throughout its history, federal copyright law has flexed under the pressures of technological advancement. Developments in artificial intelligence will soon place even more tension on the scope and application of its traditional requirements."[1]
>
> (Timothy L. Butler, 1982)

1. Introduction

In 1982, Timothy L. Butler wrote a visionary article in the Journal of Communications and Entertainment Law,[2] in which he correctly stated that new technologies tend to impact copyright law in ways that put pressure on existing legislation. (We may add that this tendency can be observed not only in US federal copyright law but also globally, affecting international, EU, and national legislation.) Butler also stated that artificial intelligence (hereinafter: AI) would soon place an even greater strain on traditional legal requirements. While 'soon' is a relative term, it is beyond doubt that copyright law – both in practice and in legislation – is currently facing a global challenge, mainly due to the legal questions raised by a technology that has only recently become widely available; this technology is generative AI. This development, once again, confirms Butler's insights.

This said, the challenges posed by new technological advancements are neither unique nor new to copyright law.[3] We may recall times when video cassettes (home copying),[4] the rise of the internet,[5] peer-to-peer file sharing,[6] or the increasing availability of streaming services[7] led some –

1 Timothy L. Butler, 'Can a Computer be an Author – Copyright Aspects of Artificial Intelligence', *Journal of Communications and Entertainment Law,* Vol. 4, Issue 4, 1981–1982, p. 747.

2 Id.

3 Péter Gyertyánfy, 'A mesterséges intelligencia hatályos szerzői jogi törvényünk szerint', *Iparjogvédelmi és Szerzői Jogi Szemle,* Vol. 19, Issue 5, 2024, p. 34 (hereinafter: Gyertyánfy 2024a).

4 *See* Franca Klaver, 'The Legal Problems of Video-Cassettes and Audio-Visual Discs', *Bulletin of the Copyright Society of the U.S.A.,* Vol. 23, Issue 3, 1976, pp. 152–185.

5 *See* Lewis A. Kaplan, 'Copyright and the Internet', *Temple Environmental Law & Technology Journal,* Vol. 22, Issue 1, 2003, pp. 1–14.

6 *See* Péter Mezei, '*A fájlcsere dilemma – a perek lassúak, az internet gyors*', HVG-ORAC, Budapest, 2012.

7 *See* Martin Senftleben *et al.,* 'Ensuring the Visibility and Accessibility of European Creative Content on the World Market: The Need for Copyright Data Improvement in the Light of New Technologies and the Opportunity Arising from Article 17 of the CDSM Directive',

or even many – IP scholars to question the adequacy of existing legislative solutions, sometimes even the very foundations of this field of law. Legal and practical problems were raised, studied, researched, and revisited many times before ultimately being addressed through scholarly papers, judicial decisions, or legislative actions. Over the decades, copyright law has continuously adapted to these challenges, shaping and reshaping our legal regimes.

In this sense, AI does not pose a new or unique challenge for copyright law, nor should it be considered as such (although the impact of this novel technology may require new solutions). Since the first public release of ChatGPT,[8] generative AI-based solutions have begun to permeate many aspects of our lives. For example, more than 350 years after his passing, a new Rembrandt painting was generated in the style of the original artist.[9] As a result of this technology, we can now listen to a (generated) hit song featuring Drake and The Weeknd,[10] as well as a (generated) song about Harry Potter, the North Korean wizard.[11] Additionally, AI-generated background music services are available, offering royalty-free tunes to enhance the atmosphere in elevators or hotel lobbies.[12]

Without a doubt, these new technological solutions and services are having a significant impact on copyright law. In my view, generative AI – at its current stage of development – does not constitute true intelligence,[13] because without the building blocks provided by training data and the creative prompts of human users, it is incapable of producing original works in the

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Journal of Intellectual Property, Information Technology and Electronic Commerce Law, Vol. 13, Issue 1, 2022, pp. 67–86.

8 ChatGPT was first publicly available on 30 November 2022. Andrew Perlman, 'The Implications of ChatGPT for Legal Services and Society', *Michigan Technology Law Review,* Vol. 30, Issue 1, 2023, p. 2.

9 Kavya Rallabhandi, 'The Copyright Authorship Conundrum for Works Generated by Artificial Intelligence: A Proposal for Standardized International Guidelines in the WIPO Copyright Treaty', *George Washington International Law R*eview, Vol. 54, Issue 2, 2023, p. 312.

10 Fallon Jones, 'Tune in or Tune out: AI Developments Urges Federal Proposal for Voice Protection in Right of Publicity', *University of Denver Sports and Entertainment Law Journal,* No. 28, 2024, p. 40.

11 Harry Potter – North Korea Wizard (Official Music Video) is available at: https://youtu.be/_Vv21pKqxUs?si=XX3GKZwT0OUxPc6B.

12 *See e.g.* artlist.io or beatoven.ai.

13 Yudong Chen, 'The Legality of Artificial Intelligence's Unauthorized Use of Copyrighted Materials under China and U.S. Law', *IDEA: The Law Review of the Franklin Pierce Center for Intellectual Property,* Vol. 63, Issue 2, 2023, p. 250.

copyright sense.[14] Based on this, predictions about the end of human creativity and copyright legislation seem unfounded; the final days of copyright law are not upon us just yet. Nevertheless, the impact generative AI is having on copyright law may leave a mark comparable to that of digitization and the widespread availability of the internet.

This impact is not merely an academic concept or something that lies in the near or distant future – it is already happening.[15] There is tangible competition between works created by human authors and outputs generated by AI,[16] with authors and other rightsholders already losing ground. From a purely commercial perspective, some works appear to be replaceable in the consumer market by AI-generated content.[17] In terms of copyright law, this signals a noticeable shift in the balance[18] established by legislators. There is nothing more crucial to copyright law than this delicate, ever-shifting, and constantly evolving balance[19] – one that copyright legislators must hold closest to heart.

It must be noted that copyright law is in a much better position than it was two or three years ago, as some of the most important questions that emerged alongside generative AI services have now been answered – or at least a reliable consensus is beginning to form. For example, we now have a fairly clear stance on outputs solely generated by AI services, the relevant economic rights, the role of CDSM Directive's[20] text-and-data mining (hereinafter: TDM) exception, and the potential infringing nature of AI training. Therefore, the second section of this paper aims to summarize the most significant uncertainties surrounding generative AI and their current solutions.

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14 Some aptly refer to this process as the simple regurgitation of the training set: Stephen McJohn, 'Against Progress: Fundamental IP Values in Changing Technological Times', *New England Law Review,* Vol. 58, Issue 2, 2024, p. 203.

15 Anikó Grad-Gyenge, 'A mesterséges intelligencia által generált tartalmak értelmezésének lehetőségei a szerzői jog útján', *Magyar Jog,* Vol. 60, Issue 6, 2023, p. 337.

16 Faye F. Wang, 'Copyright Protection for AI-Generated Works: Solutions to Further Challenges from Generative AI', *Amicus Curiae,* Vol. 5, Issue 1, 2023, p. 93.

17 In principle, the replacement of works and other protected materials, from a competition perspective is not necessarily a problem. The displacement of the human author through unfair competitive advantage should be considered a relevant legal problem.

18 Christophe Geiger & Elena Izyumenko, 'Copyright on the Human Rights' Trial: Redefining the Boundaries of Exclusivity Through Freedom of Expression', *International Review of Intellectual Property and Competition Law,* Vol. 45, 2014, pp. 326–339.

19 Dávid Ujhelyi, 'The Long Road to Parody Exception in Hungarian Copyright Law – An Explorer's Log', *Iparjogvédelmi és Szerzői Jogi Szemle,* Vol. 17, Issue 2, 2022, p. 45.

20 Directive (EU) 2019/790 of the European Parliament and of the Council of 17 April 2019 on copyright and related rights in the Digital Single Market and amending Directives 96/9/EC and 2001/29/EC.

This is important because challenges in copyright law arising from technological advancements should only be addressed by legislators once the issues at hand and copyright law's position have reached a sufficient level of clarity[21] to allow for well-founded responses and sustainable, consistent modifications.[22]

The third section of this paper aims to provide a comparative summary of current legislative efforts responding to generative AI's impact on copyright law and rightsholders, as well as the various alternative legislative solutions proposed by academics to address copyright issues in recent years. Furthermore, this paper seeks to assess the necessity and viability of international and EU-level legislation based on the legislative alternatives identified in my research, while the final section presents the conclusion.

2. The Current Landscape of Questions (and Their Possible Answers)

When the first generative AI services became publicly available in 2022, prompt-based image generation and large language models (LLMs) seemed, to most of us, like concepts straight out of a science fiction movie. While the topic had not been entirely overlooked by researchers,[23] it remained largely within the domain of academics with an interest in technology and the futuristic challenges of copyright law. Moreover, it is beyond question that international, EU, and national copyright legislations did not contain a single rule specifically addressing generative AI-related issues.[24] Nevertheless, the principle of technological neutrality[25] in copyright law enables us to provide answers to most – if not all – legal questions that have emerged since the advent of generative AI services. This section aims to summarize the most

21 András Jókúti, 'Mesterséges feltalálók és intelligens találmányok: az MI és a szabadalmi jog fejlődési irányai', *Iparjogvédelmi és Szerzői Jogi Szemle,* Vol. 19, Issue 5, 2024, p. 23.

22 Shr-Shian Chen, 'The Dawn of AI Generated Contents: Revisiting Compulsory Mediation and IP Disputes Resolution', *Contemporary Asia Arbitration Journal,* Vol. 16, Issue 2, 2023, p. 309.

23 *See e.g.* Butler 1982; Dan Rosen, 'A Common Law for the Ages of Intellectual Property,' *University of Miami Law Review,* Vol. 38, Issue 5, 1984, pp. 769–828; or Dániel Necz, 'A mesterséges intelligencia hatása a szerzői jogra', *Iparjogvédelmi és Szerzői Jogi Szemle,* Vol. 13, Issue 6, 2018, pp. 52–76.

24 Natalia Opolska & Anna Solomon, 'Intellectual Property Rights to Objects Created by Artificial Intelligence', *Law Review of Kyiv University of Law,* 2021/3, p. 207.

25 *See* Carys J. Craig, 'Technological Neutrality: Recalibrating Copyright in the Information Age,' *Theoretical Inquiries in Law,* Vol. 17, Issue 2, 2016, pp. 601–632.

pressing copyright-related questions concerning generative AI and to elucidate the legal interpretations that have emerged in recent years. The objective of this summary is to distinguish between issues that do not require legislative intervention and those that may necessitate regulatory action, either now or in the future.

2.1. Does Generative AI Enjoy Copyright Protection?

The first – and perhaps the easiest – question to address is whether generative AI service itself can be eligible for copyright protection. Fundamentally, AI services consist partly of software and partly of databases,[26] both of which are (or can be) unquestionably protected under copyright law. The author(s) of the software and the rightsholder(s) of the database are granted exclusive rights, allowing them to control the use of the service. At the international level, Article 10 of the TRIPS Agreement[27] provides protection for computer programs and compilations of data. At the EU level, the Software Directive[28] and the Database Directive[29] establish the specific legal framework governing their protection.

2.2. Is Generative AI the Author of Its Output?

A fundamental principle, a deeply rooted axiom in copyright law is that authorship can only be attributed to natural persons. While the Berne Convention[30] does not explicitly define *'author'*[31] or expressly state that the author must be a human being,[32] this omission does not imply that its drafters, our copyright forefathers envisioned granting authorship to generative AI.

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26 Grad-Gyenge 2023, p. 340.

27 Agreement on Trade-Related Aspects of Intellectual Property Rights, 1998, at https://wipolex.wipo.int/en/text/305907.

28 Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs.

29 Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases.

30 Berne Convention for the Protection of Literary and Artistic Works (Berne Convention), at https://wipolex.wipo.int/en/text/283698.

31 Victoria Ellen Amos, 'Man v Machine: How AI is Testing the Legal Notion of Copyright', *Southampton Student Law Review,* 2024/14, p. 145.

32 *Cf.* Agnes Augustian, 'Authorship of AI-Generated Works: An Analytical Study', *Indian Journal of Law and Legal Research,* Vol. 4, Issue 6, 2022–2023, p. 6.

Rather, the Bern Convention states that "the author shall enjoy the exclusive right of making a collection of his works mentioned in the preceding paragraphs." The phrase "his works" strongly suggests that, at the international level, the legal framework at least assumes,[33] but definitely requires[34] that the author is a natural person.

That being said, the positivist approach takes us only this far on the international level. A broader perspective requires considering the fundamental aims and purposes of copyright law. One of the main purposes of copyright law – at least, in civil law regimes[35] – is to provide incentives for authors, by granting them exclusive rights over their works, thereby fostering the expression of creativity. AI services lack both real, substantive, and genuine creativity and the ability to be incentivized for original expressions. The originality requirement is not merely a formal threshold in copyright regimes; originality embodies the recognition that a human being's personality[36] is imprinted on their work in a unique and irreplaceable manner.[37] The foundations of copyright law rest on this very principle – that the personal imprint of the author, the mark of personality, the original element of the work is invaluable, and warrants protection and support from the legislator.

The EU copyright *acquis* and the CJEU's decisions mirror this approach of originality. Article 1(3) of the Software Directive states that "[a] computer program shall be protected if it is original in the sense that it is the author's own intellectual creation". Recital (16) of the Database Directive states that "[…] no criterion other than originality in the sense of the author's intellectual creation should be applied to determine the eligibility of the database for copyright protection." Article 3(1) of the Database Directive adds that "databases which, by reason of the selection or arrangement of their contents, constitute the author's own intellectual creation shall be protected as

33 Victor Habib Lantyer, 'Granting Legal Personality to Artificial Intelligences in Brazil's Legal Context: A Possible Solution to the Copyright Limbo', *University of Miami International and Comparative Law Review,* Vol. 31, Issue 2, 2024, p. 315.

34 Haochen Sun, 'Redesigning Copyright Protection in the Era of Artificial Intelligence', *Iowa Law Review,* Vol. 107, Issue 3, 2022, p. 1226.

35 Zhe Dai & Banggui Jin, 'The Copyright Protection of AI-Generated Works under Chinese Law', *Juridical Tribune,* Vol. 13, Issue 2, 2023, p. 253.

36 Péter Gyertyánfy, 'A hollywoodi takácsok és a szerzői jog', *Iparjogvédelmi és Szerzői Jogi Szemle,* Vol. 19, Issue 5, 2024, p. 225 (hereinafter: Gyertyánfy 2024b).

37 Anett Pogácsás, 'A plágium új jelentésrétege? A "társszerzőség" útjai és megítélése a mesterséges intelligencia vonatkozásában', *Iparjogvédelmi és Szerzői Jogi Szemle,* Vol. 19, Issue 5, 2024, p. 139.

such by copyright." Finally, Article 6 of the Copyright Term Directive[38] states that "[p]hotographs which are original in the sense that they are the author's own intellectual creation shall be protected […]." All of the abovementioned directives acknowledge the very same, self-evident, anthropocentric approach on originality.[39]

The CJEU's decisions, to no surprise, follow this interpretation of originality. *Infopaq,* filling the blank spots the directives left in respect of originality, states that "[i]t is only through the choice, sequence and combination of those words that the author may express his creativity in an original manner and achieve a result which is an intellectual creation."[40] Based on this, the CJEU adds in *Painer* that "copyright is liable to apply only in relation to a subject-matter, such as a photograph, which is original in the sense that it is its author's own intellectual creation".[41] In *Football Dataco* the CJEU refers back again to *Infopaq,* stating that "criterion of originality is satisfied when, through the selection or arrangement of the data which it contains, its author expresses his creative ability in an original manner by making free and creative choices […]."[42] Finally, in *Cofemel,* the CJEU already and rightly refers to the question of originality as a matter that should be clear from the previous decisions: "[…] it follows from the Court's settled case-law that, if a subject matter is to be capable of being regarded as original, it is both necessary and sufficient that the subject matter reflects the personality of its author, as an expression of his free and creative choices."[43]

As seen above, the EU copyright framework provides a *harmonized approach* to the requirement of originality, which partially stems from and is consequently accepted by its Member States.[44] This unified position leaves little room for further interpretation: as a fundamental principle of copy-

38 Directive 2006/116/EC of the European Parliament and of the Council of 12 December 2006 on the term of protection of copyright and certain related rights.

39 Catherine O'Callaghan, 'Can Output Produced Autonomously by AI Systems Enjoy Copyright Protection, and Should It? An Analysis of the Current Legal Position and the Search for the Way Forward', *Cornell International Law Journal,* Vol. 55, Issue 4, 2022, p. 325 and 327.

40 Judgment of 16 July 2009, *Case C-5/08, Infopaq,* ECLI:EU:C:2009:465, para. 45.

41 Judgment of 1 December 2011, *Case C-145/10, Painer,* ECLI:EU:C:2011:798, para. 87.

42 Judgment of 1 March 2012, *Case C-604/10, Football Dataco and Others,* ECLI:EU:C:2012:115, para. 38.

43 Judgment of 12 September 2019, *Case C-683/17, Cofemel,* ECLI:EU:C:2019:721, para. 30. *See also* Lilla Fanni Szakács, 'Átformálja-e a formatervezésiminta-oltalom világát a mesterséges intelligencia', *Iparjogvédelmi és Szerzői Jogi Szemle,* Vol. 19, Issue 5, 2024, p. 57.

44 Matt Blaszczyk, 'Impossibility of Emergent Works' Protection in U.S. and EU Copyright Law', *North Carolina Journal of Law & Technology,* Vol. 25, Issue 1, 2023, p. 32.

right law, authorship in the classical sense can only be granted to natural persons. Generative AI services, which currently fail to meet the criteria established in both international and EU copyright law, do not qualify as natural persons. It must be noted that even if generative AI services could be considered as persons (currently they cannot), they are still lacking in the aspect of creativity, being unable to make genuine creative decisions.[45] Consequently, AI cannot be recognized as the author of its generated outputs.[46]

2.3. Does AI-Assisted Output Enjoy Copyright Protection?

We have already clarified that generative AI service itself cannot be granted authorship. However, if the AI service does not meet the requirements to be considered an author, could any other party be eligible for this legal status? This preliminary question is of utmost importance, because without an author recognized by copyright law, there is no copyrightable work or copyright protection to speak of.

One potential candidate that comes to mind is the *developer* of the AI service, who makes substantial investments to ensure its operability. However, as previously discussed, authorship requires not only that the rightsholder be a natural person but also that the originality requirement be fulfilled. The developer of the AI service provides users with the means to utilize generative functions, but this has no direct – or even indirect – effect on the generating process, consequently, in this context it is not possible for the operator to expresses his creative ability in an original manner by making free and creative choices, to impact on the generating process in an original way. The AI service itself could only be interpreted – at this stage – as a tool, utilized by the user of the service,[47] and no more.[48] Therefore, seeking authorship for the developer would be somewhat analogous to claiming that this paper, written with the assistance of the text-editing software Microsoft Word, is at

45 Idan Zur, 'New Ownership Hierarchy for AI Creations', *IDEA: The Law Review of the Franklin Pierce Center for Intellectual Property,* Vol. 64, Issue 3, 2024, p. 655.

46 Blaszczyk 2023, p. 39.

47 Thomas F. Greene, 'Artificial Intelligence and Copyright: Why the United States Should Grant Full Copyright Protection to Works Produced Using Artificial Intelligence', *IDEA: The Law Review of the Franklin Pierce Center for Intellectual Property,* Vol. 64, Issue 3, 2024, p. 833.

48 Augustian 2022–2023, p. 8. *Cf.* Tzipi Zipper, 'Mind over Matter: Addressing Challenges of Computer-Generated Works under Copyright Law', *Wake Forest Journal of Business and Intellectual Property Law,* Vol. 22, Issue 2, 2022, p. 198.

least partially authored by Microsoft Corporation and subject to its exclusive rights. In my view, the developer of the AI service does not contribute to the generative process in an original manner and, as such, cannot be granted authorship under current international and EU copyright frameworks.

The other interested party is, of course, the *user*. From the perspective of copyright law, the user is in a much stronger position to claim copyright protection. *(i)* First, as a natural person,[49] the user possesses the ability to express their personality and the intellectual capacity to reflect it in the work through free and creative choices.[50] *(ii)* Second, on the input side of the service, the user has the opportunity to influence the generative process in a manner that may result in an original output. The primary means of exerting this influence is prompting. However, providing a prompt – essentially an instruction for the generative AI software to perform a task[51] – does not necessarily ensure that the output will be original and, therefore, eligible for copyright protection. In this regard, copyright law's longstanding thresholds are holding firm against every new technology that emerged so far. If a natural person can be identified and has exercised sufficient creative control over the generative process, such that the output reflects their personality, thereby fulfilling the originality requirement, copyright protection is available. Thus, the user has the potential to create works through generative AI and may, in certain cases, be recognized as the author of the work.[52]

While this sounds plain and simple, the spectrum of AI-generated outputs is remarkably broad, ranging from works created entirely by AI to those shaped by highly detailed and carefully crafted prompts. While the thumb rule of originality in copyright law is pretty straightforward, determining originality requires the assessment of each work and its creation process on a case-by-case basis.[53] In most cases, assessing the originality of traditional works is easy or even self-evident, in the case of AI generated outputs, outlining the amount and significance of the human contribution can be a complex task requiring both legal expertise in copyright law and technical knowledge of AI systems. Conducting a case-by-case analysis for every AI-generated work – or even a large number of them – could prove highly im-

49 Gergely Csősz, 'Áttekintés a generatív mesterséges intelligenciák szerzői jogi kérdéseiről', *Iparjogvédelmi és Szerzői Jogi Szemle,* Vol. 18, Issue 2, 2023, p. 64.

50 Wang 2023, p. 89.

51 Péter Somkutas, 'Kérdések és válaszok – A mesterséges intellgienciáról jogászoknak', *Iparjogvédelmi és Szerzői Jogi Szemle,* Vol. 19, Issue 5, 2024, p. 11.

52 Grad-Gyenge 2023, p. 343.

53 Péter Mezei, 'Szöveg- és adatbányászat és generatív mesterséges intelligencia', *Iparjogvédelmi és Szerzői Jogi Szemle,* Vol. 19, Issue 5, 2024, p. 103.

practical, placing an unreasonable burden on both users and the judiciary system.[54]

It is also important to note that the distinction between original works and unoriginal outputs has already led to divergent practices worldwide. For example, the US seems to follow a strict approach,[55] requiring a high level of, and direct human influence by the natural person on the generating process to be able to speak of originality. The U.S. Copyright Office's guidance states that "[i]f a work's traditional elements of authorship were produced by a machine, the work lacks human authorship and the Office will not register it." However, it also acknowledges that "[i]n other cases, [...] a work containing AI-generated material will also contain sufficient human authorship to support a copyright claim," further clarifying that "[i]n these cases, copyright will only protect the human-authored aspects of the work, which are 'independent of' and do 'not affect' the copyright status of the AI-generated material itself."[56] This approach has already been reflected in practice, as demonstrated in cases such as *A Recent Entrance to Paradise*[57] and *Théâtre d'Opéra Spatial*.[58] The *Zarya of the Dawn* registration process[59] is also a good example. None of the above mentioned cases resulted in copyright protection. In contrast, the People's Republic of China has adopted a more flexible approach,[60] interpreting the originality threshold more leniently and granting copyright protection to outputs that exhibit some identifiable level of human creative contribution. *Tencent*[61] and *Liu*[62] serve as

54 Gyertyánfy 2024b, p. 224.

55 Miriam Vogel *et al.,* 'Is Your Use of AI Violating the Law? An Overview of the Current Legal Landscape', *New York University Journal of Legislation and Public Policy,* Vol. 26, Issue 4, 2024, p. 1081.

56 U.S. Copyright Office, 'Copyright Registration Guidance: Works Containing Material Generated by Artificial Intelligence', *Federal Register,* Vol. 88, Issue 51, 2023, p. 16192–16193, at https://www.govinfo.gov/content/pkg/FR-2023-03-16/pdf/2023–05321.pdf.

57 *Thaler v Perlmutter,* Case 1:22-cv-01564-BAH (D.D.C., 18 August 2023). *See also* Ádám Miklós Sulyok, 'Utómunkák a generált tartalmakon', *Iparjogvédelmi és Szerzői Jogi Szemle,* Vol. 19, Issue 5, 2024, p. 132, and Blaszczyk 2023, p. 50.

58 *Jason Allen v Perlmutter,* Case 1:24-cv-02665-SKC-KAS (26 September 2024). *See also* Csősz 2023, p. 65.

59 Zarya of the Dawn (Registration # VAu001480196) (2023), at https://www.copyright.gov/docs/zarya-of-the-dawn.pdf. *See also* Sulyok 2024, p. 134.

60 Dai & Jin, 2023, p. 253.

61 *Tencent Company v Yingxun Company,* Case No. Y0305MC No. 14010 (December 21, 2019). *See also* Dai & Jin 2023, p. 248, Rallabhandi 2023, p. 335, and Greene 2024, p. 836.

62 *Li v Liu,* 2023 Jing 0491 Min Chu No. 11279 (27 November 2023). *See also* Gergely Csősz, 'A prompt szerepe az alkotásban', *Iparjogvédelmi és Szerzői Jogi Szemle,* Vol. 19, Issue 5, 2024, p. 117.

notable examples, both concluding that, in the specific circumstances of each case, AI-assisted generation met the requirements for copyright protection.

In my view, it is very clear that under international and EU copyright law, generative AI services' outputs could only qualify for protection when the user's contribution mirrors the author's personality. In this sense, the current copyright paradigm is capable of providing an Abstract, yet dogmatically consistent answer to the question of copyright protection. While the CJEU's stance on AI-assisted works remains to be seen, it seems reasonable – both from a practical and a competitiveness perspective – that the US' unusually high standard should not be followed, and the originality threshold should be kept on a low level (as is traditional in copyright law).[63] That being said, the existing, traditional originality requirement should be preserved, as there is no compelling argument or identifiable interest that would justify abandoning this fundamental criterion.

2.4. What Happens to Outputs Without an Author?

If the generation process is realized without any human contribution, or if the human contribution is inadequate to satisfy the requirement of originality, the output is considered to be a part of the public domain.[64] In such cases, neither the AI itself, nor the developer or the user could be recognized as the author. Since outputs without an author do not qualify as 'works' under the current copyright regimes, the only legally viable classification for such outputs is their placement in the public domain.[65]

For the sake of completeness, it should be noted that, following the United Kingdom's legal approach,[66] some jurisdictions (*e.g.,* New Zealand, India, Hong Kong, Ireland and South Africa) have a protection for computer-

63 Allison Dang, 'How International Precedence Can Inform Future U.S. Copyright Law Applications to Generative AI', *Notre Dame Journal on Emerging Technologies,* Vol. 5, Issue 2, 2024, p. 213.

64 Andrew Ahrenstein, 'AI Generated Art and the Gap in Copyright Law', *American University Intellectual Property Brief,* Vol. 15, Issue 2, 2024, p. 26, and Gyertyánfy 2024a, p. 45.

65 Isaac Sachdev Pereira, 'Exploring How Domestic Law Might Evolve to Deal with Copyright concerning Creative Works That Are Generated by an Artificial Intelligence Computer Program', *City Law Review,* 2020/2, p. 75, and Zur 2024, p. 656.

66 Section 9(3) of the UK's Copyright, Designs and Patents Act of 1988. *See also* O'Callaghan 2022, p. 331, and Liubov Maidanyk, 'Artificial Intelligence and Sui Generis Right: A Perspective for Copyright in Ukraine?', *Access to Justice in Eastern Europe,* 2021/3, p. 150.

generated works (CGWs), which allows for a special form of protection, even in absence of originality, but this legal instrument holds limited significance in the context of international and EU copyright law.[67]

2.5. Does AI Training Without a License Constitute Copyright Infringement?

Without delving into unnecessary technological details, we can confidently say that the neural networks of generative AI services are trained with the use of a significant amount of training data. These datasets may include works that are under copyright protection, particularly if they are acquired through internet scraping algorithms.[68] The training process itself requires the dataset to be reproduced on local storage, as the system needs to repeatedly access the data to establish and reinforce the correct – or at least expected – logical connections. As a result, the training of AI services inherently affects at least one of the author's economic rights – namely, the exclusive right of reproduction.[69]

It is evident that the use of a work requires a license from the author (or other rightsholder). As a general rule, this license may be acquired for a fee, except in cases where established exceptions apply (*e.g.,* the work is in the public domain) or limitations are in place (*e.g.,* codified cases of free use). Therefore, the first part of the answer must establish that the exploitation of a work for AI training purposes constitutes use, specifically in the form of reproduction. If such use occurs without a license and does not fall within the scope of currently regulated exceptions or limitations, it constitutes an infringement of the rightsholder's exclusive rights.[70]

Our next step is to determine whether any available exceptions for free use could apply to the reproduction that occurs during AI training. Interna-

67 Wang 2023, p. 93, and Marta Duque Lizarralde & Christofer Meinecke, 'Authorless AI-Assisted Productions: Recent Developments Impacting Their Protection in the European Union', *Journal of Intellectual Property, Information Technology and Electronic Commerce Law,* Vol. 14, Issue 1, 2023, p. 91.

68 Dennis Crouch, 'Using Intellectual Property to Regulate Artificial Intelligence', *Missouri Law Review,* Vol. 89, Issue 3, 2024, p. 821.

69 Csősz 2023, p. 76, and Mihály Ficsor, 'A WIPO válaszára várva – Mesterséges intelligencia és a nemzetközi szerzői jog', *Iparjogvédelmi és Szerzői Jogi Szemle,* Vol. 19, Issue 5, 2024, p. 203.

70 Gary Myers, 'Artificial Intelligence and Transformative Use after Warhol', *Washington and Lee Law Review Online,* Vol. 81, Issue 1, 2023, p. 26.

tional and EU copyright law sources provide several possible cases of free use, though few of them are relevant in this context. The Infosoc Directive's[71] exception for temporary acts of reproduction, as regulated in Article 5(1), appears to be a possible option. However, this exception applies only if the use has no independent economic significance – a condition that AI training does not meet. Furthermore, even if this exception were interpreted to encompass the training of generative AI systems, it would almost certainly fail to satisfy the conditions set forth in Article 5(5) of the Infosoc Directive,[72] known as the three-step test.[73] According to this provision, every exception should only be considered lawful, if it is "only [to] be applied in certain special cases which do not conflict with a normal exploitation of the work or other subject-matter and do not unreasonably prejudice the legitimate interests of the rightsholder." It would be highly challenging to substantiate a claim that training AI systems on a large volume of protected works without rightsholders' consent constitutes a "special case," does not interfere with normal exploitation, and does not unreasonably harm the legitimate interests of the rightsholder.[74]

Another potential candidate is the TDM exception under the CDSM Directive. Technically, Article 3 and 4 of the CDSM Directive regulate two distinct exceptions, both addressing a specific form of use but with different scopes. Article 3 of the CDSM Directive provides for a broader limitation on the author's exclusive rights, as it allows for the storage of mined data and does not allow rightsholders to opt out of this form of free use.[75] However, this broader exception is available only when the mining is conducted for scientific research purposes by research organizations or cultural heritage

71 Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society.

72 The test is regulated on the international level, see Article 9(2) of the Bern Convention, Article 13 of the TRIPS Agreement, Article 10(1) of the WIPO Copyright Treaty and Article 16(2) of the WIPO Performances and Phonograms Treaty. Article 6(3) of the Software Directive and the Database Directive also regulate this legal instrument, along with 10(3) of Directive 2006/115/EC of the European Parliament and of the Council of 12 December 2006 on rental right and lending right and on certain rights related to copyright in the field of intellectual property.

73 *See more* Richard Arnold & Eleonora Rosati, 'Are national courts the addressees of the InfoSoc three-step test?', *Journal of Intellectual Property Law & Practice,* Vol. 10, Issue 10, 2015, pp. 741–749.

74 Mezei 2024, p. 104, and Ficsor 2024, p. 204.

75 Serena Chu Lightstone, 'Train or Restrain? Using International Perspectives to Inform the American Fair Use Analysis of Copyright in Generative Artificial Intelligence Training', *Northwestern Journal of International Law & Business,* Vol. 44, Issue 3, 2024, p. 477.

institutions. By contrast, Article 4 of the CDSM Directive establishes a narrower limitation (as it is does not allow for storing data, and the rights-holders may opt out from the exception), but its scope is broader in terms of applicability, as it permits free use for any purpose and is available to a wider range of entities, not just research organizations and cultural heritage institutions.[76]

This, latter form of the TDM exception does cover uses for AI training purposes. Although neither the DSM Proposal of 2016,[77] nor the CDSM Directive of 2019 explicitly mention artificial intelligence or generative AI training – and it is certain that the legislative process did not originally contemplate such uses under this exception –,[78] the AI Act[79] has effectively repurposed Article 4 of the CDSM Directive for this context. Recital (105) of the AI Act states as follows:

> "[…] The development and training of such models require access to vast amounts of text, images, videos and other data. Text and data mining techniques may be used extensively in this context for the retrieval and analysis of such content, which may be protected by copyright and related rights. Any use of copyright protected content requires the authorisation of the rightsholder concerned unless relevant copyright exceptions and limitations apply. Directive (EU) 2019/790 introduced exceptions and limitations allowing reproductions and extractions of works or other subject matter, for the purpose of text and data mining, under certain conditions. Under these rules, rightsholders may choose to reserve their rights over their works or other subject matter to prevent text and data mining, unless this is done for the purposes of scientific research. Where the rights to opt out has been expressly reserved in an appropriate manner, providers of general-purpose AI models need to obtain an authorisation from rightsholders if they want to carry out text and data mining over such works."

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76 Mohd Syaufiq Abdul Latif *et al.,* 'Proposal for Copyright Compensation for Artificial Intelligence (AI) Data Training for Malaysia', *IIUM Law Journal,* Vol. 32, Issue 2, 2024, p. 180.

77 Proposal for a Directive of the European Parliament and of the Council on copyright in the Digital Single Market, COM/2016/0593 final – 2016/0280 (COD).

78 Ficsor 2024, p. 209.

79 Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence and amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828.

Although the applicability of the TDM exception was not explicitly addressed in the legislative text – an omission that would have enhanced legal certainty – the AI Act, already referred to as the "mother of all AI laws,"[80] has effectively broadened the scope of this limitation through the recital quoted above. It is important to note that my earlier reservations regarding the mass use of protected works and their compliance with the three-step test remain highly relevant to the TDM exception as well. Nevertheless, the question of whether the TDM exception applies to generative AI training appears to have been settled by the EU legislator.

If the TDM exception is applicable, the opt out mechanism in Article 4(3) of the CDSM Directive must also be considered. In this context, Recital (106) of the AI Act states that "[…] providers of general-purpose AI models should put in place a policy to comply with Union law on copyright and related rights, in particular to identify and comply with the reservation of rights expressed by rightsholders pursuant to Article 4(3) of Directive (EU) 2019/790." This recital, along with the transparency requirements set out in Recital (107) of the AI Act, constitutes the primary legislative support that the EU has provided to rightsholders thus far. However, despite the transposition deadline for the CDSM Directive having long lapsed, the concrete methodology for implementing the opt-out mechanism in practice remains unclear. There are, of course, some practical solutions for the machine readable opt outs, but many questions remain yet to be answered.

A key question concerns the temporal effect of the opt-out mechanism and whether it applies only *ex nunc.* This is most likely the case, as *ex tunc* opt-outs would be difficult for AI service providers to manage. Consequently, the opt-out mechanism does not extend to uses that occurred before the transposition deadline of the CDSM Directive.[81] Another point of uncertainty is whether the opt-out must apply to all works of a rightsholder or whether selective opt outs for specific works are permissible. Since there is no explicit regulation requiring the opt out to cover all works, it follows that rightsholders should be able to opt out only for selected works if they so choose. Similarly, the legal framework does not prohibit collective management organizations (hereinafter: CMOs) from declaring opt-outs on behalf of their rightsholders, suggesting that such a mechanism could be im-

80 Dorian Chang, 'AI Regulation for the AI Revolution', *Singapore Comparative Law Review,* 2023, p. 135.

81 Gábor Faludi, 'A generatív mesterséges intelligencia (MI) és a szerzői jog, kitekintéssel egyes nemzetközi és uniós közös jogkezelő ernyőszervezetek álláspontjára', *Iparjogvédelmi és Szerzői Jogi Szemle,* Vol. 19, Issue 5, 2024, p. 94.

plemented within the existing legal structure.[82] The only barrier here is Article 12(2) of the CDSM Directive, which states that collective licensing with an extended effect could only be applied by Member States

> "[…] within well-defined areas of use, where obtaining authorizations from rightholders on an individual basis is typically onerous and impractical to a degree that makes the required licensing transaction unlikely, due to the nature of the use or of the types of works or other subject matter concerned, and shall ensure that such licensing mechanism safeguards the legitimate interests of rightholders."

In my view, it is beyond doubt that the use for generative AI training fits this criterion. The technical implementation of the machine-readable requirement also remains unresolved. In principle, any method that allows a machine to process the opt-out should be legally valid. Current practices include robots.txt files, server protocols, and Hypertext Transfer Protocol (HTTP) response status codes,[83] but a standardized approach or further guidance from the European Commission would be highly beneficial in ensuring legal certainty and uniform application. Beyond these technical and procedural considerations, a fundamental issue arises concerning the ability of rightsholders to substantiate infringement claims and whether infringement can be effectively proven. While, in theory, the transparency obligations set forth in the AI Act should provide a degree of oversight, in my view, there are valid grounds for skepticism regarding their practical enforceability. The broader question of whether this new, expanded form of the TDM exception aligns with the three-step test remains a potential subject for legal debate. Although the EU legislator has clearly endorsed its validity, in my view, as discussed above, concerns persist about its conformity.[84] As the ECJ has not yet provided a definitive interpretation of these issues under EU law, their resolution remains an open question for future judicial review.

To summarize, the second part of my analysis should establish that under the current EU legal framework, the TDM exception applies to generative AI training.[85] Consequently, if the rightsholder has not exercised the opt-out mechanism in a manner that meets the "machine readable" requirement before the training occurs, and if the service provider complies with the

82 Gyertyánfy 2024a, p. 41, and Faludi 2024, p. 93.
83 Mezei 2024, p. 108.
84 Gyertyánfy 2024a, p. 42.
85 Dang 2024, p. 209.

transparency obligations set out in the AI Act,[86] no infringement may be found.

Again, for the sake of completeness, it is important to note that US copyright law has not yet established a definitive judicial position on whether the fair use doctrine extends to generative AI training. While some of the academic literature reviewed in this research advocates for recognizing AI training as falling within the scope of fair use,[87] I maintain that the large-scale use of protected works, combined with the tendency of AI-generated outputs to substitute certain types of works in the market, strongly suggests that AI training should not be considered fair use.[88]

2.6. Could the Output Be Considered a Reproduction of the Work?

Ideally, a generative AI service, once trained, does not store any part of the original work, nor should it reproduce the work in whole or in part. However, if the AI system does generate an output that reproduces the work or any original element of it, such use would constitute unlawful reproduction in the absence of rightsholder authorization or a relevant limitation or exception.[89]

In such cases, certain copyright exceptions may be applicable. Among them, the quotation, criticism, review, parody,[90] and pastiche exceptions hold particular significance, especially following the adoption of the CDSM Directive, which mandates the implementation of these exceptions across EU Member States. Quotation, criticism, and review are well established in national legal frameworks and will therefore not be examined in detail in this paper. Since *Deckmyn,* the conditions for invoking the parody exception – requiring both an evocation of an existing work and humor or mockery to

86 Article 50 of the AI Act.

87 David Silverman, 'Burying the Black Box: AI Image Generation Platforms as Artists' Tools in the Age of Google v. Oracle', *Federal Communications Law Journal,* Vol. 76, Issue 1, 2023, p. 118, Myers 2023, p. 2, Ahrenstein 2024, p. 33, Lightstone 2024, pp. 482–500, and Chen 2023, p. 261.

88 Nicoletta Gasparis, 'Drake or Droid?: A.I.-Generated Music and the Legal Challenges in Safeguarding Artist Rights', *Hofstra Law Review,* Vol. 52, Issue 4, 2024, p. 985.

89 Ficsor 2024, p. 205.

90 *See more* Ujhelyi 2022 and Dávid Ujhelyi, *A paródiakivétel szükségessége és lehetséges keretrendszere a hazai szerzői jogban,* Ludovika Egyetemi Kiadó, Budapest, 2021. *See also* Lindsey Joost, 'The Place for Illusions: Deepfake Technology and the Challenges of Regulating Unreality', *University of Florida Journal of Law and Public Policy,* Vol. 33, Issue 2, 2023, p. 321, and 325.

be expressed[91] – have been clearly defined. By contrast, the scope of the pastiche exception remains uncertain, as the CJEU has yet to provide a definitive interpretation of its precise conditions in the pending *Pelham* case.[92] A key concern regarding the pastiche exception is the risk of an overly broad interpretation by the CJEU. The requirement that a pastiche express 'respect' for the original work, a condition often associated with this exception,[93] is inherently ambiguous and open to varying interpretations. If interpreted too broadly, this could lead to a disproportionately expansive limitation on the exclusive rights of rightsholders, potentially undermining the fundamental balance of copyright protection.[94] There are already voices stating AI generation could basically be considered as pastiche of the training dataset.[95]

Another aspect of this analysis, though minor in practical terms but significant from a doctrinal perspective, concerns the topic of style, specifically the imitation of an author's artistic style. This issue is particularly intriguing, as an author's style is generally not protected under copyright law, with national legal frameworks often imposing limitations in this regard.[96] However, certain original elements of an author's style may still qualify for copyright protection, and if such distinctive elements are reproduced in AI-generated outputs, the right of reproduction could become relevant.[97] A prominent example of this phenomenon is the widespread use of ChatGPT to generate images that emulate the distinctive artistic style of Hayao Miyazaki (Studio Ghibli).[98]

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91 Judgment of 3 September 2014, *Case C-201/13, Deckmyn and Vrijheidsfonds,* ECLI:EU:C:2014:2132, para. 36.

92 *Case C-590/23, Pelham,* pending.

93 Yatin Arora, 'Music Sampling and Copyright: Are the Courts Hung up on Restricting Creativity?', *Trinity College Law Review,* Vol. 25, 2022, p. 185.

94 Péter Mezei, 'Új általános szerzői jogi kivétel a láthatáron? Pastiche az Európai Bíróság előtt', *Iparjogvédelmi és Szerzői Jogi Szemle,* Vol. 19, Issue 3, 2024, pp. 69–99.

95 Derek E. Bambauer & Mihai Surdeanu, 'Authorbots', *Journal of Free Speech Law,* Vol. 3, Issue 2, 2023, p. 380.

96 Gasparis 2024, p. 987.

97 Grad-Gyenge 2023, p. 345.

98 Studio Ghibli Memes: 42 Memes Ghiblified by ChatGPT, Thunder Gundeon, 30 March 2025, at https://thunderdungeon.com/2025/03/28/studio-ghibli-memes-ghiblify-memes/.

Illustration 1. The 'Disaster Girl' meme (left) and the 'Ghibli-fied' version (right) (Source: nytimes.com; thunderdungeon.com)

The so-called 'Ghibli-fication' of images has gained immense popularity on the internet, despite Miyazaki himself having previously condemned AI-generated animation as "disgusting" and "an insult to life itself."[99] While the question of whether imitating Miyazaki's style constitutes copyright infringement based on economic rights – particularly reproduction – remains open to debate, an equally compelling issue arises concerning the potential infringement of moral rights, particularly the right of integrity. If an AI-generated work mimics an artist's style in a manner that distorts, misrepresents, or otherwise compromises the artistic vision of the original creator, it could arguably infringe upon the author's moral rights.[100]

3. The Necessity and Viability of Legislation

The previous section summarized the current state, the *status quo* of copyright law, the main legal questions, and their potential answers regarding generative AI services. This section aims to present the legislative alternatives that have emerged concerning AI systems, with the ambition to assess their necessity and viability. While this paper primarily focuses on proposals suggesting amendments to the international or EU legal framework,[101]

99 Greg Evans, 'Hayao Miyazaki's 'disgusted' thoughts on AI resurface following Studio Ghibli trend', Independent, 28 March 2025, at https://www.independent.co.uk/arts-entertainment/films/news/hayao-miyazaki-studio-ghibli-ai-trend-b2723358.html.

100 Anikó Grad-Gyenge, 'A (mesterséges) intelligencia és a stílus a szerzői jogban', *Iparjogvédelmi és Szerzői Jogi Szemle,* Vol. 19, Issue 5, 2024, p. 168.

101 Naturally, not all alternatives could be summarized here. For further proposed solutions, *see* Mauritz Kop, 'Public Property from the Machine', in Péter Mezei *et al.* (eds.), *Harmonizing Intellectual Property Law for a Trans-Atlantic Knowledge Economy,* Brill–

recommendations for national legislation or soft law instruments will also be provided when relevant or deemed particularly useful.

3.1. Changing the Threshold of Originality

The originality requirement has been discussed in detail in this paper. Some scholars are not satisfied with the current interpretation of this threshold, and calling for changes in this regard. Moldawer for example advocates for a 'spectral model of originality', based on the premise of the Turing test, thereby granting direct authorship to the AI service.[102] Lee essentially proposes further lowering the level of creativity required to meet the originality requirement, referring to this as the 'bare minimum approach'.[103] Rallabhandi suggests a similar idea, recommending the adaptation of Chinese court rulings on originality as a WCT Guidance, thereby establishing the flexible approach to originality as a best practice. Zipper's proposal aims to abandon the originality threshold altogether replacing it with an 'intelligence requirement,' wherein outputs that demonstrate 'only a modicum of intelligence' would qualify for copyright protection,[104] ultimately resulting in joint authorship between humans and AIs. At the same time, Gyertyánfy proposes raising the originality threshold to safeguard human creativity.[105] In my view, any significant modification to the current threshold appears practically unfeasible, as it would necessitate revisions not only at the national level but also at the EU and international levels of the copyright legislative system, besides the decades of established judicial practice. Simply put, such a change "would contradict not only the current prevalent opinion in the academic community, but also the contemporary conception of copy-

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Nijhoff, Leiden–Boston, 2024, pp. 264–288 (Res Publicae ex Machina), or CISAC, 'Study on the economic impact of Generative AI in the Music and Audiovisual industries', November 2024, at https://www.cisac.org/services/reports-and-research/cisacpmp-strategy-ai-study, and Artisjus, 'Mesterséges intelligencia a zeneiparban – díjazzuk?', *Dalszerző,* 19 November 2024, at https://dalszerzo.hu/2024/11/19/mesterseges-intelligencia-a-zeneiparban-dijazzuk/.

102 Mira Moldawer, 'The Shadow of the Law versus a Law with No Shadow: Pride and Prejudice in Exchange for Generative AI Authorship', *Seattle Journal of Technology, Environmental & Innovation Law,* Vol. 14, Issue 2, 2024, p. 45.

103 Edward Lee, 'Prompting Progress: Authorship in the Age of AI', *Florida Law Review,* Vol. 76, Issue 5, 2024, pp. 1505, and 1578–1579.

104 Zipper 2022, pp. 231–232.

105 Gyertyánfy 2024b, pp. 224–225.

right in the EU."[106] That said, minor changes – whether increasing or decreasing the originality requirement – are not inconceivable. The CJEU or even national courts would be suitable forums for such adjustments. As discussed above, I believe that maintaining the expectation of originality at the lowest feasible level is the most appropriate approach to address the challenges posed by generative AI systems.

It should be noted that in connection with the realignment of the originality threshold, there are also voices supporting the reestablishment of the registration requirement for protected works, but since the prohibition of formality is deeply embedded in international copyright law, this alternative has low viability.[107]

3.2. Adapting the Work-for-Hire Doctrine

Some scholars have proposed applying the work-for-hire doctrine to AI-generated outputs.[108] Under this approach, following amendments to national regulations,[109] AI-generated works would be considered the property of the AI service.[110] However, since these works are produced on behalf of the developer (the 'employer'),[111] the associated economic rights would be automatically transferred. While EU law does not harmonize work-for-hire rules, many Member States recognize this legal instrument in some form.[112] The primary issue with this alternative is that transferring rights to the employer would first require granting authorship to generative AI services – an option that, as previously discussed, is not feasible.[113] As early as 1982, Butler had already deemed this alternative unviable.[114] Simply put, this proposal is nothing more than a reformulation of the argument advocating for AI services to be granted authorship.

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106 Lizarralde & Meinecke 2023, p. 92.
107 Gyertyánfy 2024b, p. 225.
108 Laetitia Coguic, 'Forward Thinking or Right on Time?: A Proposal to Recognize Authorship and Inventorship to Artificial Intelligence', *Indonesian Journal of International & Comparative Law*, Vol. 8, Issue 3, 2021, p. 236.
109 Moldawer 2024, p. 7.
110 Sun 2022, p. 1233.
111 Augustian 2022–2023, p. 8.
112 *See* Article 30 of Act LXXVI of 1999 on Copyright Law (Hungarian Copyright Act).
113 Augustian 2022–2023, p. 9.
114 Butler 1981–1982, p. 740.

3.3. Generative AI Services as Legal Persons, Joint Authorship

Some scholars suggest that granting legal, 'electronic'[115] personhood to generative AI systems could be an innovative approach to addressing the legal challenges they present. This, they argue, "would provide legal security, creating a clearer and more predictable legal environment for determining rights and duties associated with Al creations."[116] According to this perspective, an AI system could fulfill the requirements of legal personhood[117] and, consequently, be eligible for some form of intellectual property protection over outputs generated solely by itself. If the generation of the output had a meaningful human contribution, AI systems and human authors could be granted joint authorship on the work.[118] However, this proposal is not only controversial,[119] but also seemingly unnecessary.[120] If some form of intellectual property protection – other than copyright – were deemed beneficial, it could instead be granted to existing legal persons, such as the entities behind the development of AI services. Establishing legal personhood for AI systems would constitute a significant departure from the current legal framework, and implementing such a fundamental shift solely to extend copyright protection – another major deviation from the *status quo* – appears premature and unsubstantiated. Regarding joint authorship, demarcating the line between the contribution of AI and the natural person would be also impossible, while the distribution of the exercise of exclusive rights also seems unclear.

3.4. Common Rights Management and Compensation for Use in AI Training

As discussed above, the use of protected works could be carried out under the TDM exception, but the legal use of works with opt-outs still requires a

115 Coguic 2021, p. 237.
116 Victor Habib Lantyer, 'Granting Legal Personality to Artificial Intelligences in Brazil's Legal Context: A Possible Solution to the Copyright Limbo', *University of Miami International and Comparative Law Review,* Vol. 31, Issue 2, 2024, p. 326.
117 Wong Pui Yuen, 'Rights for AIS: A Possible Solution to Accountability for Autonomous Artificial Intelligence Systems', *Hong Kong Journal of Legal Studies,* Vol. 17, 2023, p. 119.
118 Zur 2024, p. 655, Zipper 2022, p. 232, and Immidisetty Navya Raga Sravani & Kurella Venkat, 'AI-Produced Works and the Subject of Copyright – Its Legal Position', *Indian Journal of Law and Legal Research,* Vol. 5, Issue 2, 2023, p. 8.
119 O'Callaghan 2022, p. 341.
120 Wang 2023, p. 91.

license from the rightsholder. Regardless, the use of works and other protected material for AI training occurs on a mass scale and the resulting outputs directly compete with authored works.[121] This situation is further exacerbated by the fact that the AI Act's transparency requirements are not fully met in practice, and the TDM exception's machine-readable opt-outs are not uniform, and there is also a real risk that AI developers may not comply with them in any way whatsoever, while infringements are exceedingly difficult to prove in court. It should be noted that Spain already drafted legislation[122] in December 2024 that reflects this very proposal. Under this framework, certified CMOs would be authorized to issue non-exclusive licenses for the reproduction of copyrighted works needed for AI training.[123]

Consequently, scholars propose that economic rights – at least for the most vulnerable and exposed types of works and authors – should be centralized within CMOs to ensure that opt-outs are clear for AI developers and IPR enforcement is guaranteed.[124] For works remaining under the TDM exception, scholars suggest the establishment of a new compensation regime[125] to counterbalance the mass and uncontrollable use caused by AI training. This compensation system could be modeled on the private reproduction levy system[126] outlined in the Infosoc Directive.[127]

In my view, both proposals are well-founded. CMOs have traditionally and effectively been involved in cases where individual licensing is deemed ineffectual, while collective authorization ensures a stronger bargaining position for licensing fees, providing a competitive advantage for rightsholders and a more effective mechanism for enforcement. Since AI training is unsustainable when developers treat protected works as a renewable resource, and 90% of authors feel that they should be compensated for the use of their works in AI training,[128] the establishment of a new compensation regime

121 Gary Myers, 'The Future Is Now: Copyright Protection for Works Created by Artificial Intelligence', *Texas Law Review Online,* Vol. 102, 2023, p. 26.

122 The draft text is available at https://www.cultura.gob.es/en/servicios-al-ciudadano/informacion-publica/audiencia-informacion-publica/cerrados/2024/concesion-licencias-colectivas.html.

123 Dávid Ujhelyi, 'Spain's Proposal for Extended Collective Licensing in AI Development', *Central European Lawyers Initiative,* 24 January 2025, at https://ceuli.com/spains-proposal-for-extended-collective-licensing-in-ai-development/.

124 Ficsor 2024, pp. 211–212., Wang 2023, p. 98.

125 Latif *et al.* 2024, pp. 171–172.

126 Id. p. 173.

127 Faludi 2024, p. 90. *See* Article 4(2)(b) of the Infosoc Directive.

128 Frank Pasquale & Haochen Sun, 'Consent and Compensation: Resolving Generative AI's Copyright Crisis', *Virginia Law Review Online,* Vol. 110, 2024, pp. 220 and 230.

appears justified. Furthermore, the EU copyright framework is not unfamiliar with compensation systems for free uses, as Member States already have implemented operable methods for imposing, collecting and distributing license fees. The introduction of a new compensation scheme for AI training would not impose a dogmatic strain on the existing copyright framework, but could, in fact, enhance the competitiveness of works on the market.

It should be noted that during its Presidency of the Council of the EU in 2024, Hungary issued a questionnaire[129] to Member States addressing various AI-related issues. The summary of this questionnaire (hereinafter: Summary) indicated that some Member States believed "it would be better to consider introducing extended or mandatory collective licensing mechanisms," while a significant number of Member States expressed the view that "a remuneration scheme should be guaranteed for generative AI activities."[130] Based on these findings, the proposals outlined here align with the existing copyright regime and could garner support from Member States.

3.5. Introduction of a New Sui Generis Right for AI Generated Outputs

As discussed above, granting AI services legal personhood or authorship does not appear viable in light of the existing legal framework, and introducing changes in this regard would also be unfounded. At the same time, copyright law does provide some form of protection even for non-original subject matter. One example is the previously mentioned protection for computer-generated works established in the UK.[131] This legal instrument will not be analyzed in detail in this paper, as there is no clear consensus on

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129 Council of the European Union, '*Policy questionnaire on the relationship between generative Artificial Intelligence and copyright and related rights*', 11575/24, 27 June 2024, at https://data.consilium.europa.eu/doc/document/ST-11575-2024-INIT/en/pdf.

130 Council of the European Union, '*Policy questionnaire on the relationship between generative Artificial Intelligence and copyright and related rights – Revised Presidency summary of the Member States contributions*', 16710/1/24 REV 1, 20 December 2024, pp. 13 and 23, at https://data.consilium.europa.eu/doc/document/ST-16710-2024-REV-1/en/pdf.

131 *See* Antonije D. Zivkovic, 'Computer Programs Legal Protection Framework with Special Reference to Artificial Intelligence ChatGPT', *Strani Pravni Zivot,* 2024/3, pp. 317–388, and Sakshi Mittal, 'Digital Copyright and Trademark Issues in the Era of Artificial Intelligence', *International Journal of Law Management & Humanities,* Vol. 6, Issue 2, 2023, p. 3251.

its applicability to AI services. Another example is the *sui generis* protection of databases established by the Database Directive in the EU.[132]

Since *sui generis* protection is a recognized and accepted form of related rights in copyright law, and since this kind of protection is suitable for subject matters that do not fulfill the requirement of originality, scholars have identified the possibility of establishing a new *sui generis* right for AI-generated outputs.[133] These rights usually emphasize economic interests over artistic considerations,[134] which aligns well with the non-original nature of purely AI-generated outputs. The protection of databases was introduced to safeguard the investment of time, effort, financial resources, labor, and other skills necessary to create a database.[135] A similar situation arises in the context of AI-generated outputs, as AI developers are not eligible to be considered authors under the current copyright regime, yet they invest labor, resources, and capital – much like the rightsholders of a database. This could serve as a foundation for a related-rights form of protection.

That said, many details remain to be determined should the EU legislator decide to establish a new *sui generis* right. In this regard, Sun proposes that only AI developers should be deemed owners of such a right, with reproduction and distribution rights granted to the developer, while moral rights would be deemed unnecessary. The proposed term of protection is ten years, and the *sui generis* right should apply only to the verbatim copying of AI-generated works. Additionally, a verification obligation should be introduced, requiring AI system developers or users to disclose when their works have been generated by such systems.[136] At present, however, a comprehensive legal framework for this right has yet to be clearly formulated.[137]

Critics of this proposed related right argue that the economic impact of *sui generis* rights for databases remains unproven and that such rights have, in fact, led to significant legal uncertainty.[138] Furthermore, based on the

132 Sun 2022, p. 1236.

133 Ficsor 2024, p. 205, Yuen 2023, pp. 119 and 131, Augustian 2022–2023, p. 10, Zivkovic 2024, p. 336.

134 Michalina Kowala, 'Collective Work as an Inspiration for Legal Qualification of Computer-Generated Works – Comparative Analysis of the Institution from Polish and French Copyright Law Perspective', *Review of European and Comparative Law,* Vol. 45, Issue 2, 2021, p. 53.

135 Zur 2024, p. 668.

136 Sun 2022, p. 1237–1247.

137 Anna Shtefan, 'Creations of Artificial Intelligence: In Search of the Legal Protection Regime', *Journal of Intellectual Property, Information Technology and Electronic Commerce Law,* Vol. 14, Issue 1, 2023, pp. 104–107.

138 O'Callaghan 2022, p. 349.

Summary, the majority of EU Member States currently do not support the introduction of a new *sui generis* right,[139] and some scholars have deemed the proposal at least controversial.[140]

Nevertheless, a *sui generis* right for AI-generated outputs is not merely a theoretical construct. Ukraine proposed such a system in 2021,[141] and its Law No. 2811-IX on Copyright and Related Rights came into force on 1 December 2022.[142] Article 33 of this law regulates the alienable *sui generis* right for non-original objects generated by a computer program. This provision applies to non-original outputs, excludes moral rights, and grants protection for 25 years from the moment of generation.[143]

In my view, the development and effects of this new form of protection should be carefully monitored, as its adoption could serve as an incentive for innovation and may contribute to legal certainty. Nonetheless, it remains uncertain whether the EU legislator and Member States are prepared to take such a significant step at this time. Regardless, the European Commission should explore available options and closely follow the positions of Member States on this matter.

3.6. Amending Current Free Uses

As previously noted, the EU legislator has already repurposed the TDM exception, and the applicability of the existing fair use test is currently under consideration in the US.[144] While guidance from the European Commission on the TDM exception's opt-out mechanism and its connection to the AI Act's transparency obligations[145] would be welcome, I believe that no further amendments are necessary concerning AI. The CJEU's position on the conditions of the pastiche exception should also be closely monitored.

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139 Summary 2024, p. 18.

140 Lizarralde & Meinecke 2023, p. 93, Shtefan 2023, p. 105.

141 Maidanyk 2021, pp. 150–151.

142 Law No. 2811-IX on Copyright and Related Rights, Ukraine, available in English at https://www.wipo.int/wipolex/en/legislation/details/21708.

143 Anca Parmena Olimid *et al.,* 'Legal Analysis of EU Artificial Intelligence Act: Insights from Personal Data Governance and Health Policy', *Access to Justice in Eastern Europe,* 2024/4, pp. 133–134.

144 Vaughn Gendron, 'A New Frontier: The Music Industry's Struggle against Generative AI', *University of Miami Business Law Review,* Vol. 33, Issue 1, 2024, p. 177.

145 *See* Kitti Mezei, 'A mesterséges intelligencia jogi szabályozásának aktuális kérdései az Európai Unióban', *In Medias Res,* 2023/1, p. 60.

It must be noted that some Asian countries, such as Japan[146] and Singapore adopted TDM exceptions that are far broader than their EU counterpart,[147] but these alternatives seem to limit the exclusive rights in a manner that may not comply with the three-step test.

3.7. Level of Legislation

Selecting the appropriate level of legislation is, without a doubt, of utmost importance. While the WIPO is actively engaged in ongoing discussions within the Standing Committee on Copyright and Related Rights,[148] no legislative process is currently underway. Based on previous legislative dossiers, it is highly unlikely that an international legislative framework[149] could be successfully established in the foreseeable future. This leaves the EU and national levels to be the primary avenues for legislative action.[150]

As previously cited in the Summary, Member States are generally supportive of international discussions, emphasizing that the EU's unified stance should be reflected in such debates. However, they consider legislation feasible only if pursued through a harmonized EU-level approach.[151] That said, there is currently no legislative proposal before the Council, making EU-level legislation unlikely in the near future.

While I support the principle that any legislation concerning AI should ideally be implemented at the EU level, there are already examples of national legislative initiatives within the EU. The Spanish model of extended collective licensing has been previously mentioned. In Italy, a proposed amendment to the Italian Copyright Act seeks to clarify that AI-generated works can be protected only if a demonstrable, creative, and substantial human intervention is present. Another proposed amendment would reinforce the principle that, except for scientific research purposes, copyright holders can

146 David Linke, 'AI Training Data: Between Holy Grail and Forbidden Fruit', *in* Mezei *et al.* (eds.) 2024, pp. 300–301.

147 Lightstone 2024, p. 479.

148 Kathleen Wills, 'AI around the World: Intellectual Property Law Considerations and beyond', *Journal of the Patent and Trademark Office Society,* Vol. 102, Issue 2, 2022, pp. 199–200.

149 *See more* Anett Pogácsás, 'One Hundred Years of International Copyright', *Hungarian Yearbook on International Law and European Law,* Vol. 10, 2022, pp. 246–259.

150 Ficsor 2024, p. 218, and Rallabhandi 2023, pp. 312–328.

151 Summary 2024, pp. 5 and 9.

opt out of having their content used for text-and-data mining for commercial purposes.[152]

In France, a legislative proposal introduced in 2023 aimed, among other objectives, to establish a collective management of rights generated by AI and to regulate the remuneration collected by collecting societies in this context.[153] Following the failure of this bill, another French proposal was introduced, seeking to prescribe the identification of AI-generated images published on social networks to combat disinformation and manipulation.[154]

In principle, as long as the EU legislator does not adopt relevant legislation and the issue remains unharmonized, national legislators retain some discretion to propose and adapt copyright rules concerning generative AI. In my view, it is foreseeable that, before an EU-level legislative proposal materializes, some Member States will experiment with different regulatory approaches.

4. Conclusion

What do stakeholders expect from good legislation? Good legislation, for example, should be flexible yet predictable, readily available and responsive while also well-founded and transparent, balanced and fair, comprehensible to all yet clear and precise, reciprocal, accountable, incentivizing, and responsible. It should be neither premature nor delayed and positioned at the appropriate regulatory level. Numerous expectations of this nature have been cited by scholars in discussions on generative AI legislation.[155] But what does this truly entail? Citing the fundamental criteria of sound legislation is akin to stating that cakes should generally be made of flour, butter,

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152 Gianluca Campus, 'Artificial Intelligence and copyright: the Italian AI Law Proposal', *Kluwer Copyright Blog*, 28 May 2024.

153 Alain Duflot, 'Artificial Intelligence in the French Law of 2024', *Legal Issues in the Digital Age,* Vol. 5, Issue 1, 2024, pp. 52–53. Kevin Bercimuelle-Chamot, 'French Copyright framework for artificial intelligence: a half-hearted attempt', *The IPKat,* 16 October 2023, at https://ipkitten.blogspot.com/2023/10/french-copyright-framework-for.html.

154 Kevin Bercimuelle-Chamot, 'New French draft law on AI: Generated or not generated, that is the question', *The IPKat,* 13 December 2024, at https://ipkitten.blogspot.com/2024/12/new-french-draft-law-on-ai-generated-or.html.

155 Moldawer 2024, p. 6, Chang 2023, p. 135, Yuen 2023, p. 117. Mohammad Belayet Hossain *et al.,* 'From Legality to Responsibility: Charting the Course for AI Regulation in Malaysia', *IIUM Law Journal,* Vol. 32, Issue 1, 2024, p. 406.

and eggs, or that medical professionals are expected to exercise care when treating patients. While these principles are meaningful, they merely establish the foundational aspects of legislative efforts and offer little guidance on how generative AI should be regulated – if at all.

In my view, the alternatives and examples identified during my research indicate only a few viable directions. First, shifting the current legal paradigm is no closer to reality today than it was when the internet became widely accessible. This suggests that the foundational principles of copyright law remain intact and resilient in the tide of generative AI.[156] The traditionally low originality requirement and the principle of human authorship do not necessitate any substantive revision.[157] Similarly, the recognition of joint authorship with AI or granting legal personhood to AI systems appears to be a dead end at this stage.

That said, the widespread and unlawful use of protected works should not be tolerated, necessitating legislative intervention. In this regard, uses covered by the TDM exception should be subject to compensation, and licensing for opt-out uses should be centralized under collective rights management. However, I see no compelling reason for expanding other free-use exceptions, and the CJEU should proceed with caution when establishing harmonized conditions for the pastiche exception.

The introduction of a new *sui generis* right for generative AI outputs is an intriguing concept. However, EU legislators must thoroughly assess its potential and actual implications for creative industries and innovation before submitting any legislative proposals in this domain. It must also be emphasized that, ideally, any regulatory framework should be adopted at the EU level. Nevertheless, until such measures are enacted, national legislators retain the authority to regulate generative AI under domestic law (as far as the EU copyright *acquis* allows this).

There is no doubt that generative AI, as a novel technology, has placed significant strain on the copyright regime – more so than usual. However, this does not warrant an entirely different regulatory approach; rather, it calls for a more decisive response.[158] As is always the case in copyright law,

156 Anushka Dwivedi, 'Convergence of Artificial Intelligence with IP Laws', *Jus Corpus Law Journal,* Vol. 3, Issue 2, 2022, p. 789.

157 Dylan Jignesh Patel, 'Authored by Artificial Intelligence: An Analysis of AI Use in Copyright', *American Journal of Trial Advocacy,* Vol. 47, Issue 2, 2024, p. 423.

158 Marcia Narine Weldon *et al.,* 'Establishing a Future-Proof Framework for AI Regulation: Balancing Ethics, Transparency, and Innovation', *Transactions: The Tennessee Journal of Business Law,* Vol. 25, Issue 2, 2024, p. 345.

the proposed adjustments seek to recalibrate the balance that has shifted with the widespread adoption of generative AI. The protection and incentivization of human creativity, as well as the recognition of the inherent personal imprint in original works have always been, and should remain, the central objectives of copyright legislation.