Navigating the (Legal) Challenges of the Artificial Intelligence Era

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Navigating the (Legal) Challenges of the Artificial Intelligence Era

Intellectual Property, Competition Law and Corporate Law

Edited by

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Summary of Contents

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The book is part of the research, study and dissemination activities of Emanuela Arezzo's Jean Monnet Chair in EU Innovation Law and Policy for the Digital Age (co-founded by the European Commission, Project ID:101127894 – EUILAP).

Foreword

A.I. proposes us wonderful promises and terrible risks. This is not strange: benefits and costs always come together. What we need is, firstly, to identify correctly benefits and costs. Then, we need to maximize, to enhance, the benefits and to minimize, to reduce, possibly to set to zero, the costs. Simple to say, not so simple to do.

Our level of knowledge of this new world that A.I. is very low. Everybody, I suppose, has read the clamorous beginning of that wonderful tale that is 'One hundred years of solitude' (Cien años de soledad). Gabriel Garcia Marquez introduces in few amazing lines the main character, the place and the time of the novel: 'Many years after, in front of the execution platoon, the colonel Aureliano Buendia had to remember … '. Then he paints the place where the novel will develop: 'Macondo, then, was a village of twenty houses of mud and reeds … '. And, eventually, the time: 'the world was so young that many things had no names, and, to make mention of them, you had to point to them with your finger'. In Spanish: 'El mundo era tan reciente, que muchas cosas carecían de nombre, y para mencionarlas habia que señalarlas con el dedo'.

This is exactly our position now, in front of the world of A.I. It is a new world. A world so young that most of the new things (intangible things, of course) appearing in it have no names yet.

According to the Genesis, to give something a name means to have it under control. Without a name, there is no control. In fact, some – or, maybe, many – of these new things, created by us, are not known to us in all their characteristics, in their positive capacities and in their dangers.

The level of the control is the level of the law. Our task is to study how the existing rules can apply to the A.I. world, and to create new rules, if necessary.

Prof. Vincenzo Di Cataldo

Chapter 3

The AI Act/Copyright Interface: A Success Formula for Reconciling the Societal Interest in Culturally Diverse AI with Copyright Values?

Martin Senftleben

Outline

1 INTRODUCTION

With the adoption of the AI Act (AIA),[1] the EU has developed specific rules for the training of generative AI (GenAI) systems and, more specifically, an

1. Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence (Artificial Intelligence Act), OJ L 12.7.2024.

interface with copyright protection. The AIA clarifies that reproductions carried out for AI training purposes have copyright relevance and require the authorization of right holders unless a copyright exception, such as the specific text and data mining (TDM) rule for scientific research in Article 3 of the 2019 Directive on Copyright in the Digital Single Market (CDSMD),[2] exempts the AI training activity from the control of right holders. The AIA also confirms the rights reservation system following from Article 4(3) CDSMD with regard to forms of TDM falling outside the scope of the scientific TDM exemption and going beyond mere temporary copying: declaring an 'opt-out' in an appropriate – machine-readable – manner, copyright owners seeking to prevent the use of their works for AI training purposes can reserve their rights.

Remarkably, the AIA seeks to universalize this approach and achieve a 'Brussels effect'.[3] Regardless of whether the training has taken place in the EU or elsewhere, it imposes a market ban on AI systems that have not been trained in accordance with EU copyright policy, including the obligation to observe opt-outs declared under Article 4(3) CDSMD. To enable right holders to police AI training processes, the AIA also introduces a new transparency obligation. Developers of GenAI systems must submit sufficiently detailed information on work repertoires that have been used for training purposes.[4]

Before embarking on an analysis of these new rules, the following section 2 sheds light on the policy objective underlying this AIA package: the intention to ensure that authors are properly remunerated for the use of their works in AI training processes. The discussion contrasts this policy goal with the societal interest in AI innovation and culturally diverse, high-quality AI systems. Section 3 weighs the potential benefits to authors against the regulatory burdens the AIA imposes on AI trainers. More specifically, it will ask whether the new rules encourage not only rights clearance at industry level but also payments to individual authors. It explains the EU strategy to

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2. 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, OJ L 130, 17.5.2019, 92. For an overview of relevant copyright exceptions in EU copyright law, *see* Martin R.F. Senftleben, *Study on EU Copyright and Related Rights and Access to and Reuse of Data*, European Commission, Directorate-General for Research and Innovation (DG RTD), Brussels: Publications Office of the European Union 2022, 27-28 (temporary copying) and 36-37 (provisions for (scientific) TDM), available at: https://data.europa.eu/doi/10.2777/78973 (last visited on 24 February 2024).
3. Cf. Anu Bradford, *The Brussels Effect: How the European Union Rules the World* (Oxford University Press 2020). For a discussion of recent EU online platform regulation that may have repercussions in other regions, including the U.S., *see* Martin Husovec and Jennifer Urban, *Will the DSA Have the Brussels Effect?*, Verfassungsblog, 21 February 2024, available at: https://verfassungsblog.de/will-the-dsa-have-the-brussels-effect/ (last visited on 24 February 2024).
4. Article 53(1)(d) AIA.

extend opt-outs on EU territory to other regions and discusses the new transparency obligations which the EU legislator deems necessary to enforce copyright in AI training contexts. The analysis leads to the insight that the EU approach seeking to ensure the payment of remuneration upfront – as a prerequisite for lawful AI training – is likely to impede, if not thwart, AI innovation. Against this background, section 4 explores alternative solutions. It shows that, instead of imposing heavy burdens on AI development, lawmakers can use the offer and commercialization of fully trained AI systems as a reference point for remuneration systems. Following this alternative avenue, the remuneration obligation concerns the final stage when GenAI products and services are brought to the market. In contrast to the upfront payment approach in the AIA, this alternative approach refrains from encumbering the AI training process with obligations to observe opt-outs, establish lists of training resources and pay remuneration. Arguably, it offers considerable flexibility to reconcile copyright values, such as the aim to ensure author remuneration, with the broader societal interest in AI innovation (concluding section 5).

2 COMPETING POLICY OBJECTIVES

The discussion on the impact of GenAI on the literary and artistic field has brought to light a rich spectrum of policy arguments that support the introduction of copyright rules that ensure the payment of remuneration for the use of human literary and artistic works for AI training purposes (2.1.). At the same time, it is clear that GenAI has a remarkable potential to contribute to economic growth by enabling new products and services. It can also be said that GenAI enhances freedom of expression by democratizing the process of creating literary and artistic content and, thus, broadening access to the literary and artistic discourse (2.2.). Ideally, policymakers develop a regulatory approach that strikes a proper balance between the interest in copyright protection and author remuneration on the one hand, and the broader societal interest in AI innovation and culturally diverse, high-quality AI systems on the other (2.3.).

2.1 Six Arguments for Author Remuneration

The discussion on GenAI and author remuneration has produced various arguments seeking to support remuneration claims of authors and right holders in the creative industry. These arguments range from the parasitic use of human literary and artistic works and central societal functions of human

literary and artistic productions to broader socio-political objectives and considerations relating to AI improvement.[5]

First, it can be said that authors should be compensated for the parasitic usurpation of the market for human creative labour. The machine is only capable of mimicking human literary and artistic works after it has had the opportunity to derive patterns for its own literary and artistic productions from myriad human creations that served as resources for training purposes.[6] On the basis of existing literary and artistic creations that serve as input data, machine-learning algorithms are able to recognize patterns and similarities. Following this deductive method, a GenAI system learns how to produce novel literary and artistic output by imitating the style of human works.[7] The machine-learning algorithm enables the GenAI system to generate literary and artistic content on its own – based on the computational analysis of human works that served as training material.[8] Considering this dependency of the machine on human training material, remuneration claims by authors and right holders in the creative industry do not come as a surprise: GenAI systems are not true creators. They can only imitate human literary and artistic expression because they have had the chance of analysing human creations. From this perspective, it is only fair that human authors – providing the source material for AI ingenuity – receive a remuneration when AI productions finally kill the demand for the same human creativity that empowered the AI system to become a competitor in the first place.[9]

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5. Martin R.F. Senftleben, *Generative AI and Author Remuneration*, IIC 54, 1535 (1538-1542) (2023) https://doi.org/10.1007/s40319-023-01399-4.
6. *See* Daniel J. Gervais, *The Machine as Author*, Iowa L. Rev. 105 2053 (2055-2059) (2020); Jane C. Ginsburg and Luke A. Budiardjo, *Authors and Machines*, BTLJ 34, 343 (401-402) (2019); Jean-Marc Deltorn, *Disentangling Deep Learning and Copyright*, Tijdschrift voor auteurs-, media- en informatirecht 172 (173-174) (2018).
7. *See* Aaron Mok and Jacob Zinkula, *ChatGPT May Be Coming for Our Jobs. Here Are the 10 Roles That AI Is Most Likely to Replace*, Business Insider, 4 June 2023; João Pedro Quintais and Nike Diakopoulos, *A Primer and FAQ on Copyright Law and Generative AI for News Media*, *Generative AI Newsroom*, 26 April 2023, available at: https://generative-ai-newsroom.com/a-primer-and-faq-on-copyright-law-and-generative-ai-for-news-media-f1349f514883; Charlie Beckett, *New Powers, New Responsibilities: A Global Survey of Journalism and Artificial Intelligence*, 24-25 (London School of Economics 2019); Katharine Trendacosta and Cory Doctorow, *AI Art Generators and the Online Image Market*, Electronic Frontier Foundation Blog, 3 April 2023, available at: https://www.eff.org/deeplinks/2023/04/ai-art-generators-and-online-image-market; Deltorn, *supra* n. 6, 173-174.
8. Stuart J. Russell and Peter Norvig, *Artificial Intelligence: A Modern Approach*, 693 (693-717) (Upper Saddle River: Pearson Education 2010).
9. *See* Initiative Urheberrecht, *Joint Statement: Authors and Performers Call for Safeguards Around Generative AI in the European AI Act*, 19 April 2023, available at: https://urheber.info/diskurs/call-for-safeguards-around-generative-ai; European Composer and Songwriter Alliance/European Writers' Council et al., *Joint Statement from Authors' and Performers' Organisations on Artificial Intelligence and the AI Act: True Culture Needs Originals – Transparency and Consent are Key to the Ethical Use of AI*, 2023, available

Second, it has been demonstrated in the cultural sciences that human literary and artistic creations have particular value to society as a whole.[10] Artworks made by authors of flesh and blood provide important impulses for social and political changes by modelling experimental practices that open up new horizons for the development of society.[11] Human literary and artistic expression can mirror shortcomings of present society, unmask defects of existing social and political conditions, and prepare society for the transition to a better community.[12] Arguably, AI-generated productions in the literary and artistic field are incapable of providing comparable impulses for the improvement of societal conditions. GenAI may manage to mimic human creativity and generate comparable literary and artistic output.[13] However, an AI system does not have the capacity to permeate the surface of a human artwork, go beyond its mere form of appearance, and assess critically its message and meaning in the light of current societal conditions. AI systems do not perceive and experience social and political conditions as humans do. They are not affected by societal conditions in the same way as humans.[14] Unable to experience and suffer contemporary societal conditions like a human, GenAI will inevitably fail to evoke visions of a new consensus on ethical norms that correspond with people's current desires.[15]

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at: https://screendirectors.eu/joint-statement-from-authors-and-performers-organisations-on-artificial-intelligence-and-the-ai-act/; European Guild for Artificial Intelligence Regulation, *Manifesto for AI Companies Regulation in Europe*, 2023, available at: https://www.egair.eu/#manifesto. Cf. High Court of Justice of England and Wales, 1 December 2023, case IL-2023-000007, [2023] EWHC 3090 (Ch), Getty Images/Stability AI, para. 8. *See* Pamela Samuelson, *Fair Use Defenses in Disruptive Technology Cases*, UCLA L. Rev. 71, 1484 (1560-1562) (2024).

10. Cf. Martin R.F. Senftleben, *The Copyright/Trademark Interface: How the Expansion of Trademark Protection Is Stifling Cultural Creativity*, 54-64 (Kluwer Law International 2020).
11. Peter Osborne, *Anywhere or Not at All: Philosophy of Contemporary Art*, 208-211 (Verso 2013); Barton Beebe, *Bleistein, the Problem of Aesthetic Progress, and the Making of American Copyright Law*, Colum. L. Rev. 117, 319 (346-347) (2017).
12. Friedrich Schiller, *Über die ästhetische Erziehung des Menschen*, edited by K.L. Berghahn, Reclam 2000 (originally published 1794-1795), 35-36 (Letter 9), 92 (Letter 23) and 120-121 (Letter 27); Theodor W. Adorno (1970), *Ästhetische Theorie*, edited by G. Adorno and R. Tiedemann, Frankfurt am Main: Suhrkamp 1970, 9-10, 19, 25-26, 55-56, 127 and 199.
13. For a description of the functioning of 'creative' AI systems, *see* Martin R.F. Senftleben and Laurens Buijtelaar, *Robot Creativity: An Incentive-Based Neighbouring Rights Approach*, EIPR 42, 797 (802-804) (2020).
14. *See* Martin R.F. Senftleben, *Works of Authorship and the Single Equitable Remuneration for AI Substitutes*, *in Gestaltung der Informationsrechtsordnung: Festschrift für Thomas Dreier zum 65 Geburtstag* 111 (122-124) (V. Fischer et al. eds, C.H. Beck 2022); Martin R.F. Senftleben, *A Tax on Machines for the Purpose of Giving a Bounty to the Dethroned Human Author: Towards an AI Levy for the Substitution of Human Literary and Artistic Works*, available at: https://ssrn.com/abstract=4123309, 10-11.
15. As to this contribution of artworks to the improvement of societal conditions, *see* Schiller, *supra* n. 12, 120-121 (Letter 27).

Third, support for human authors is a good investment in new, innovative directions in literature, art and music. While human authors can initiate avant-garde movements that lead to new forms of expression, AI systems cannot free themselves from the data input fuelling their algorithm. They have difficulty refusing rule obedience, negate historical work templates and autonomously create something that falls outside existing aesthetical categories – something that brings chaos in the established order to shed light on tensions and conflicts in society and propose changes.[16] AI avant-garde experiments striving for societal relevance are doomed to fail. AI output cannot transcend the horizon of expectation that has evolved from known societal conditions.[17] To preserve the central societal function of new, unexpected directions in the literary and artistic realm, it is thus advisable to ensure that human creativity survives the dethroning of the human author by GenAI. The introduction of a remuneration system that channels money to human art projects makes sense from this perspective. It prevents the loss of avant-garde movements and the loss of important impulses for the improvement of social and political conditions that can follow from the critical impetus of new, surprising directions in the literary and artistic field. Leaving literary and artistic productions to AI systems, society deprives itself of human impulses for future creativity and weakens its ability to evaluate and renew itself. With the introduction of an AI remuneration system, society can halt this trend.[18]

Fourth, there is a broader socio-political dimension. Inevitably, the replacement of the human author and the disruption of the market for literary and artistic productions require adequate countermeasures and investment. Authors who lose their job will need financial support. Literary and artistic projects with a focus on human contributions can provide new job opportunities. Investment in training activities can enable authors to change course and obtain new skills and credentials. In this situation, the introduction of a remuneration system that provides money for new projects and training is an important and desirable step. In comparison with the preceding second and third arguments, this broader socio-political rationale has a more universal field of application. AI productions may win prizes and make their way into literary journals, concert halls, museums and galleries.[19] Nonetheless, it seems unlikely (at least at this point in time) that AI output will replace human creations in the fine arts segment altogether. Creators of avant-garde artworks with the above-described potential to provide impetus for social and political changes may be exposed to substitution effects to a lesser extent

16. As to this characteristic of human artworks, *see* Adorno, *supra* n. 12, 27-28, 32-34, 41, 197-198 and 337-338.
17. As to this requirement for societal relevance of literary and artistic productions, *see* Osborne, *supra* n. 11, 203-211.
18. Senftleben, *supra* n. 14, 10-11.
19. Senftleben and Buijtelaar, *supra* n. 13, 797-798.

than authors of literary and artistic everyday products and works of applied art. It is likely that the impact of AI will be felt more strongly in areas such as news articles, illustrations and decorations, background music for bars and restaurants, and so on.[20] In the latter segments, the mirror-of-society rationale may have less power of persuasion. Considering the substantially higher risk of substitution, however, the general socio-political objective to soften replacement effects gains more importance. Admittedly, general tax money could be used to enable humans in affected creative sectors to adapt to the challenges of GenAI systems. In comparison to a tax-based model, however, the copyright framework offers crucial advantages. With collecting societies and their remuneration and repartitioning schemes, the copyright system offers a well-established infrastructure for the appropriate distribution of collected money.[21] Moreover, a copyright-based solution seems much more stable than a general tax measure that could be undone in the next financial crisis or when the tax system is reformed.

Fifth, it can be added that human literary and artistic work has societal value in and of itself. As Barton Beebe has argued on the basis of pragmatist aesthetics,[22] it is particularly important to the everyday individual to be involved in aesthetic practice and aesthetic play.[23] The active assimilation, appropriation, and creative recombination of aesthetic expression in the aesthetic play has intrinsic value. It constitutes a source of pleasure, of moral and political cultivation, of imaginative freedom and self-actualization.[24] To the extent to which the aesthetic play is left to machines, humans in society lose opportunities for experiencing well-being, moral and political cultivation, imaginative freedom and self-actualization. When the machine displaces the human author from the literary and artistic field, it also deprives society of role models for human aesthetic engagement. Admittedly, GenAI systems provide tools for human users to experiment with different styles and motifs for art production. The act of developing and entering a prompt for an AI system, however, must not be confused with aesthetic play. The act of creation – the central element of aesthetic engagement – is not carried out by the human user. Instead, it becomes the task of the AI system. This has worrisome societal repercussions. Once literary and artistic production is primarily seen as the domain of the machine, people may no longer have any reason to develop an aesthetic practice and play with different forms of expression themselves. The active assimilation, appropriation and creative recombination of literary and artistic works becomes the machine's area of

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20. *See* Mok and Zinkula, *supra* n. 7.
21. *See* Adolf Dietz, *A Modern Concept for the Right of the Community of Authors (Domaine public payant)*, Copyright Bull. 24, 13 (15-16) (1990).
22. Beebe, *supra* n. 11, 346-347, 373-374 and 384-385. *See* John Dewey, *Art as Experience*, 4-10 (Perigee 1934); Richard Shusterman, *Pragmatist Aesthetics: Living Beauty, Rethinking Art*,143 and 208 (2nd ed., Rowman and Littlefield 2000).
23. Beebe, *supra* n. 11, 347.
24. *Ibid*., 346-347.

expertise. As a result, the potential of this practice to promote imaginative freedom and contribute to the cultivation and self-actualization of the individual in modern society is lost.[25] From this perspective, it is not decisive that GenAI systems are capable of imitating human literary and artistic works. This is only the final result of human creativity. The decisive factor is the creative process: the aesthetic play. Giving instructions and pressing the button is not enough. The crucial element is the creative remix and reuse of literary and artistic sources of inspiration.[26] AI systems mimicking human works degrade the remix and reuse of literary and artistic source material to an automated process that can be left to machines. Establishing a remuneration system that provides human creators with financial means to survive in the field of aesthetic engagement, society can give an important signal that aesthetic practice is and remains an important human activity with particular value. Enabling human authors to stay in the literary and artistic field, this regulatory measure ensures that the role model of the human creator does not sink into oblivion and can inspire others to embark on aesthetic practice.

Sixth, the promotion of human literary and artistic productions is good for the AI industry itself. It is an important and wise investment in the continuous improvement of GenAI systems. By financially supporting the continuous flow of new human creations, the AI industry can ensure that a rich spectrum of fresh human training material for GenAI systems is constantly available. A continuously enriched reservoir of human source material appears as an important complement to known literary and artistic expressions of the past. Based on the analysis of historical human source materials, GenAI may be capable of producing endless recombinations of expressions that we have already seen. Adding the output of other AI systems to the training material, an AI system may also manage to recombine the recombinations of other machines. Ultimately, however, the GenAI process remains in a permanent loop. If the source repertoire for AI training is not constantly refreshed and enriched, the AI output can hardly be expected to go beyond monochrome variations of known forms and styles. Fresh human literary and artistic productions, thus, have particular value for the AI industry itself. To break out of the spiral of endless repetition of 'the same old thing', it makes sense to invest in human creativity. From this point of view, the payment of remuneration for the purpose of supporting and fostering human literary and artistic projects constitutes a legitimate policy goal that is in the AI industry's own interest.

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25. As to the political dimension of this educational effect of art, *see* Beebe, *supra* n. 11, 336-337, who describes the belief of 'early-republic Americans' that the progress of the fine arts promises to promote the 'overall progress of civic virtue and good government'.
26. Beebe, *supra* n. 11, 390-391.

2.2 Counterarguments Emphasizing Benefits for Society

As the discussion in the preceding section has shown, there are several good reasons for the introduction of legal mechanisms that ensure a fair remuneration for authors. However, it must not be overlooked that GenAI also offers substantial economic and socio-cultural benefits. When tracing the conceptual contours of appropriate regulatory solutions, these countervailing values must be taken into account to arrive at a balanced approach.

First, the implementation of GenAI systems offers a remarkable potential for improving products and services – and contributing to economic growth – in various sectors, including the media sector and the creative industries more broadly.[27] As other disruptive technologies that impacted copyright in the past,[28] GenAI is not only a threat to the routines of incumbent firms but also a technological tool that offers opportunities to develop new products and services.[29] The enhanced functionality which GenAI systems make available to human authors in creative industry sectors can reduce production costs and broaden the spectrum of literary and artistic content that can be brought to the market. As *Zarya of the Dawn* has shown, an author can employ GenAI to add dimensions to a human production. While Kris Kashtanova wrote the story underlying the comic book, Midjourney's AI engine provided the illustrations.[30]

Second, GenAI paves the way for the further democratization of content production. It broadens access to the literary and artistic discourse. With the opportunity to upload photos, films, music and texts to user-generated content platforms, formerly passive users have already become active contributors to content portals, wikis, online marketplaces, discussion and news fora, social networking sites, virtual worlds and academic paper repositories.[31] GenAI appears as a further step in this democratization process. It enables users to improve and refine their contributions. As

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27. Cf. Mark A. Lemley and Bryan Casey, *Fair Learning*, Texas L. Rev. 99, 743 (744-745) (2021).
28. For an overview of more detailed discussion, *see* Samuelson, *supra* n. 9, 1556-1567.
29. Not surprisingly, law and policymakers around the globe seek to devise a legal framework that is attractive to AI high-tech industries. *See* Martin R.F. 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*, JIPITEC 13, 67 (72-73) (2022).
30. *See* https://en.wikipedia.org/wiki/Zarya_of_the_Dawn (last visited on 24 June 2024). *See* Christophe Geiger and Vincenzo Iaia, *The Forgotten Creator: Towards a Statutory Remuneration Right for Machine Learning of Generative AI*, Comput. Law Secur. Rev. 52, no. 105925, 5-6 (2024) https://doi.org/10.1016/j.clsr.2023.105925, who point out that generative AI systems can serve as tools for human creativity and expression.
31. *See* OECD, 12 April 2007, *Participative Web: User-Created Content*, Doc. DSTI/ICCP/IE(2006)7/Final, available at https://www.oecd.org/sti/38393115.pdf; Martin R.F. Senftleben, *User-Generated Content: Towards a New Use Privilege in EU Copyright Law*, in *Research Handbook on IP and Digital Technologies*, 136 (136-139) (Tanya Aplin ed., Edward Elgar 2020).

Victoria Kraetzig has pointed out, GenAI unleashes creativity on an unprecedented scale: 'anyone can make art, anyone can be an artist'.[32] This democratization argument adds an important nuance to the criticism in the preceding section. As explained, GenAI systems are likely to corrode human aesthetic practice. The act of developing and entering a prompt must not be confused with aesthetic play. The act of creation – the central element of aesthetic engagement – is not carried out by the human user. It becomes the task of the AI system (fifth argument above). As already conceded in the preceding section, however, the fact remains that GenAI provides tools for human users to experiment with different styles and motifs for art production. Even users without any literary or artistic skills can produce results that appear as valid contributions to the literary and artistic discourse. Hence, GenAI gives everybody access to the societal subsystem of literary and artistic production.[33] Kraetzig's statement focuses on this enabling function. While AI will predominantly produce endless combinations and recombinations of known ideas, concepts and styles, these variations of known cultural expressions can serve as entrance tickets to the literary and artistic discourse. As long as GenAI productions do not attract copyright protection, they also provide public domain material that may serve as a starting point for literary and artistic follow-on innovation. Next to economic arguments, it is thus important to consider the potential of GenAI systems to offer users access to the field of literary and artistic production and enrich the digital public domain.[34]

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32. Viktoria Kraetzig, *KI-Kunst als schöpferische Zerstörung*, Neue Juristische Wochenschrift, 697 (697) (2024). *See* Samuelson, *supra* n. 9, 1570-1572; Martin R.F. Senftleben, *Win-win: How to Remove Copyright Obstacles to AI Training While Ensuring Author Remuneration (and Why the AI Act Fails to Do the Magic)*, Chi.-Kent L. Rev. 100, 7 (17-19) (2025).
33. As to the different fields and subsystems of society and the role of the field of literary and artistic production, *see* Martin R.F. Senftleben, *The Copyright/Trademark Interface: How the Expansion of Trademark Protection Is Stifling Cultural Creativity*, 54-64 (Kluwer Law International 2020); Niklas Luhmann, *Soziale Systeme: Grundriss einer allgemeinen Theorie*, 34-70 (Suhrkamp 1984); Pierre Bourdieu, *Die Logik der Felder*, in *Reflexive Anthropologie*, 124 (134-135) (P. Bourdieu and L.J.D. Wacquant eds, Suhrkamp 1996); Pierre Bourdieu, *Die Regeln der Kunst. Genese und Struktur des literarischen Feldes*, 253-255 and 368 (Suhrkamp 1999).
34. *See* Christophe Geiger, *When the Robots (Try to) Take Over: Of Artificial Intelligence, Authors, Creativity and Copyright Protection*, in *Innovation–Creation–Markets, Festschrift für Reto M. Hilty*, 67 (80) (F. Thouvenin and A. Peukert et al. eds, Springer 2024), who points out that AI systems authors 'might very well cohabitate in the future and support each other'. As to the question which human contribution is necessary to obtain copyright protection for interactions with, and modifications of, AI-generated output, *see* CJEU, Case C-5/08, *Infopaq International A/S v. Danske Dagblades Forening*, 16.7.2009, ECLI:EU:C:2009:465; para. 45; CJEU, Case C-145/10, *Eva-Maria Painer v. Standard VerlagsGmbH et al*., 1.12.2011, ECLI:EU:C:2013:138, para. 89. *See* P. Bernt Hugenholtz and João Pedro Quintais, *Copyright and Artificial Creation: Does EU Copyright Law Protect AI-Assisted Output?*, IIC 52, 1190 (1212-1213) (2021) https://

2.3 Need for a Proper Balance

The discussion of GenAI pros and cons in the preceding sections sheds light on the need for a proper balance. Policymakers must reconcile divergent economic objectives and industry interests: a favourable climate for AI development is desirable; a proper incentive and reward for investment in human literary and artistic productions as well. In addition, the impact on freedom of expression and freedom of information must not be overlooked. Potential corrosive effects on human creativity must be weighed against broader access to the literary and artistic discourse and the enrichment of the digital public domain.[35] Finally, the general societal interest in high-quality AI systems must be factored into the equation. Inevitably, limited access to human training resources restricts the ability of AI trainers to develop models capable of producing fair, culturally diverse results – in the sense of AI output that reflects all cultures, traditions and values expressed in human artworks. AI training based on mainstream works will lead to mainstream AI output that marginalizes niche repertoires and opinions. AI training based on a specific segment of literary and artistic production will lead to AI output focusing on this specific segment and neglecting other expressions.[36]

In the thicket of societal challenges and opportunities, the question arises which regulatory tools lawmakers have available to achieve appropriate results. Considering the whole process from AI development to AI exploitation,[37] two central starting points for regulatory interventions can be identified. On the one hand, the input dimension can be brought into focus: the use of human literary and artistic creations for AI training purposes. On the other hand, the final result leading to the generation of AI output – the

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doi.org/10.1007/s40319-021-01115-0; Dan L. Burk, *Thirty-Six Views of Copyright Authorship, by Jackson Pollock*, Houston L. Rev.58, 263 (270-321) (2020); Ginsburg and Budiardjo, *supra* n. 6, 395-396; Marie-Christine Janssens and Frank Gotzen, *Kunstmatige Kunst. Bedenkingen bij de toepassing van het auteursrecht op Artificiële Intelligentie*, Auteurs en Media 2018-2019, 323 (325-327); Russ Pearlman, *Recognizing Artificial Intelligence as Authors and Investors under U.S. Intellectual Property Law*, Rich. J.L. & Tech. 24, 1 (4) (2018).

35. Kraetzig, *supra* n. 32, 697. *See* Christophe Geiger and Elena Izyumenko, *Copyright on the Human Rights' Trial: Redefining the Boundaries of Exclusivity Through Freedom of Expression*, IIC 45, 316 (2014) https://doi.org/10.1007/s40319-014-0181-3; Jonathan Griffiths, *European Union Copyright Law and the Charter of Fundamental Rights: Advocate General Szpunar's Opinions in (C-469/17) Funke Medien, (C-476/17) Pelham GmbH and (C-516/17) Spiegel Online*', ERA Forum, 35 (46-49) (2019) https://doi.org/10.1007/s12027-019-00560-2.
36. Cf. Carys Craig, 'The AI-Copyright Challenge: Tech-Neutrality, Authorship, and the Public Interest', *All Papers: Osgoode Hall Law School of York University* 360 (2022), 1 (26); Geiger and Iaia, *supra* n. 30, 5; Lemley and Casey, *supra* n. 27, 770.
37. For a description of the different steps in this process, *see* Kacper Szkalej and Martin R.F. Senftleben, *Generative AI and Creative Commons Licences: The Application of Share Alike Obligations to Trained Models, Curated Datasets and AI Output*, JIPITEC 3, 7-11 (2024) available at: https://ssrn.com/abstract=4872366.

offer of GenAI products and services in the marketplace – may serve as a reference point. Quite clearly, the complexity of the outlined interests and policy goals implies that the ultimate answer can hardly be black or white:

- *categorically prohibiting use in AI training*: the categorical prohibition of the use of copyrighted material for AI training is unlikely to offer an appropriate basis for the development of fair, unbiased AI models. A legal obligation to license each and every content item before inclusion in an AI training dataset can easily lead to a focus on mainstream repertoires that may become available – without excessive transaction costs[38] – after negotiations with several large right holders. It will lead to biased AI output that fails to reflect the full spectrum of literary and artistic traditions and expressions;
- *categorically permitting use in AI training*: placing AI training outside the realm of copyright altogether and offering unbridled freedom to use copyrighted works for AI training without remuneration can hardly be expected to satisfy the societal interest in human literature and art. This solution refuses to provide support for human literary and artistic projects. It leads to a loss of impulses for the improvement of social and political conditions that human works can provide. Instead of encouraging new, unexpected avant-garde expression, it favours literary and artistic productions that are built on monochrome AI-generated recombinations of known styles and expressions. Moreover, this approach fails to address the interests and concerns of authors facing displacement effects.

Hence, appropriate strategies for adding shades of grey are particularly important. Between the two poles – categorical prohibition; unbridled freedom – there may be legal mechanisms that allow lawmakers to square the circle: legal mechanisms that can ensure fair remuneration for authors without stifling AI innovation and compromising the cultural diversity of AI systems. To identify these legal mechanisms, it is necessary to embark on a closer inspection of input-based (focus on AI training) and output-based (focus on the final offer of AI products and services) legal solutions capable of generating a money stream that supports authors without imposing too heavy a burden on AI developers. With its focus on AI training, the AIA allows the analysis of an approach seeking to ensure the payment of remuneration upfront: at the AI training stage, where human works are used

38. *See* Geiger and Iaia, *supra* n. 30, 5-6; Craig, *supra* n. 36, 26; Lemley and Casey, *supra* n. 27, 770-771; Reto M. Hilty and Heiko Richter, *Position Statement of the Max Planck Institute for Innovation and Competition on the Proposed Modernisation of European Copyright Rules: Part B – Exceptions and Limitations: Art. 3 Text and Data Mining*, Max Planck Institute for Innovation and Competition Research Paper Series 2017-02, 1 (1) (2017).

as input for machine learning. In the following section 3, this approach will be scrutinized before turning to output-oriented alternatives in section 4.

3 REMUNERATION AT INPUT LEVEL (AI TRAINING)

Remuneration arguments focusing on AI training (input dimension) emphasize the fact that myriad human works have been used without prior authorization to train GenAI systems capable of replacing human literary and artistic productions. This line of argument had a deep impact on the legislative process, leading to the AIA. In Europe, artists and right holders expressed serious concerns over parasitic use of human works for AI training purposes.[39] The final AIA text shows that these concerns impacted the parliamentary debate and the trilogue phase in which the European Commission, the Council and the European Parliament established the definite version. Recital 105 AIA addresses '[g]eneral-purpose AI models, in particular large generative AI models, capable of generating text, images, and other content'.[40] Recognizing potential corrosive effects on human creativity, it points out that these models 'present unique innovation opportunities but also challenges to artists, authors, and other creators and the way their creative content is created, distributed, used and consumed'.[41] The Recital also emphasizes that the development and training of GenAI 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.[42]

After this problem statement, Recital 105 confirms that the use of literary and artistic works for AI training purposes has copyright relevance and involves acts of text and data mining that require the authorization of right holders: '[a]ny use of copyright protected content requires the authorisation of the rightsholder concerned unless relevant copyright exceptions and limitations apply'.[43] As requested by authors, performers and creative industries, the EU legislator, thus, clarified that authors and industry right holders can exercise control over the use of human works during GenAI training processes on the basis of copyright protection – unless a copyright exception applies.

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39. *See* the literature references *supra* n. 9.
40. Recital 105 AIA.
41. *Ibid.*
42. *Ibid.*
43. *Ibid.*

Prior to AIA adoption, the TDM discussion in EU copyright law already culminated in the introduction of rules that could be understood to confirm the copyright relevance of AI development processes, such as the use made of protected works during the training of GenAI systems. The specific TDM provisions in Articles 3 and 4 CDSMD set forth two specific exceptions to copyright, related rights and database protection that play an important role in the context of TDM projects that require the extraction of data from protected literary and artistic works. Arguably, it would not have been necessary to adopt specific copyright exceptions if TDM had no copyright relevance.[44] From this perspective, the AIA merely confirms that EU copyright law brings all forms of TDM under the umbrella of the right of reproduction and, thus, requires the invocation of a copyright exception, such as the scientific research rule in Article 3 CDSMD, the broader exemption in Article 4 CDSMD, or the long-standing temporary copying rule in Article 5(1) of the 2001 Information Society Directive (ISD).[45]

In the case of commercial AI training falling under Article 4(1) CDSMD, this configuration of the right of reproduction also means that EU copyright law brings TDM activities within the reach of right holders seeking to receive a remuneration for the use of their works.[46] Referring to the rights reservation mechanism in Article 4(3) CDSMD,[47] the AIA confirms the intention to give right holders the opportunity to exercise control over the use of their works for AI training purposes in Article 4 CDSMD scenarios:

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44. As to the argument that TDM falls outside the scope of copyright because it constitutes use of works as data and not use of works 'as works', *see* Michael W. Carroll, *Copyright and the Progress of Science: Why Text and Data Mining Is Lawful*, U.C. Davis L. Rev. 53, 893 (954) (2019). *See* Lemley/Casey, *supra* n. 27, 772-773 and 779-780; Tatsuhiro Ueno, *The Flexible Copyright Exception for 'Non-enjoyment' Purposes Recent Amendment in Japan and Its Implication*, Gewerblicher Rechtsschutz und Urheberrecht International 70, 145 (150-151) (2021) https://doi.org/10.1093/grurint/ikaa184; Rossana Ducato and Alain M. Strowel, *Ensuring Text and Data Mining: Remaining Issues with the EU Copyright Exceptions and Possible Ways Out*, EIPR 43, 322 (334) (2021).
45. 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, OJ 2001 L 167, 22.6.2001, 10. For an overview of the exceptions in EU copyright law that can be invoked with regard to TDM, *see* Senftleben, *supra* n. 2, 27-28; 36-37.
46. *See* Perry Keller, *Protecting Creatives or Impeding Progress? Machine Learning and the EU Copyright Framework*, Kluwer Copyright Blog, 20 February 2023, available at: https://copyrightblog.kluweriplaw.com/2023/02/20/protecting-creatives-or-impeding-progress-machine-learning-and-the-eu-copyright-framework/; Communia, *Using Copyrighted Works for Teaching the Machine*, Communia Policy Paper 15, 26 April 2023, available at: https://communia-association.org/policy-paper/policy-paper-15-on-using-copyrighted-works-for-teaching-the-machine/.
47. Cf. Martin R.F. Senftleben, *The TDM Opt-Out in the EU: Five Problems, One Solution*, Kluwer Copyright Blog, 22 April 2025, available at: https://copyrightblog.kluweriplaw.com/2025/04/22/the-tdm-opt-out-in-the-eu-five-problems-one-solution/.

> 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.[48]

In accordance with Article 4(3) CDSMD, right holders can exclude TDM via a machine-readable rights reservation. This means that AI trainers must take into account not only robots.txt files but also the terms and conditions of a website or online service, in order to assess whether TDM is permitted with regard to a particular work.[49] In principle, right holders can thus rely on technical safeguards, such as robots.txt files, to prevent the use of human creations for AI training purposes.

As in other cases where copyright holders can refuse permission for a given form of use, this veto right can pave the way for remuneration.[50] It is conceivable that the rights reservation option in Article 4(3) CDSMD leads to the evolution of machine-readable rights reservation protocols that express different right holder standpoints. One standpoint could be robots.txt that signals an outright exclusion of any use of the literary and artistic work at issue for AI training purposes. Using this version of robots.txt, right holders can express their preference for an outright prohibition and prevent TDM of copyrighted material altogether. An alternative standpoint, however, could be robots.txt that prohibits use for AI training purposes only if the AI trainer behind the crawler is reluctant to pay remuneration. Using this alternative version, right holders can thus express their willingness to permit the use against the payment of remuneration. In other words, in an ideal world, the rights reservation option in Article 4(3) CDSMD serves as a catalyst to arrive at generally agreed, machine-readable remuneration protocols that trigger an automated process for the payment of remuneration. Unfortunately, it may be quite difficult to achieve this ideal result in the real world.

First, the rights clearance infrastructure in the EU is highly fragmented.[51] Even if standardized rights reservation protocols – capable of expressing remuneration wishes and modalities – become available, it is unclear whether copyright holders and collecting societies will ever manage

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48. Recital 105 AIA. *See* Geiger and Iaia, *supra* n. 30, 4.
49. Recital 18 CDSMD. *See* Higher Regional Court of Hamburg, 10 December 2025, case 5 U 104/24, Kneschke/LAION, insisting on machine-readable opt-out statements. Cf. Matthias Leistner and Lucie Antoine, *TDM and AI Training in the European Union: From 'LAION' to Possible Ways Ahead?*, available at: https://ssrn.com/abstract=5178237, 6-8 (2025); P. Bernt Hugenholtz, *Artikelen 3 en 4 DSM-richtlijn: tekst- en datamining*, Tijdschrift voor auteurs-, media- en informatierecht, 167 (170) (2019).
50. *See* the positive assessment of the situation by Keller, *supra* n. 46; Communia, *supra* n. 46.
51. *See* Martin R.F. Senftleben, João Pedro Quintais and Arlette Meiring, *How the European Union Outsources the Task of Human Rights Protection to Platforms and Users: The Case of User-Generated Content Monetization*, Berkeley Tech. L. J. 38, 933 (946-947) (2023); Senftleben et al., *supra* n. 29, 67, para. 7.

to create efficient, pan-European rights clearance solutions that offer reliable and well-functioning payment interfaces with the technical safeguards – robots.txt files, for example – that express the electronic remuneration caveat. As long as the automated, machine-based identification of right holders and the automated processing of payments remain complicated or unreliable, the rights reservation option in Article 4(3) CDSMD is unlikely to pave the way for a remuneration system that has success in practice. TDM requires the availability of myriad literary and artistic works. The moment AI trainers are obliged to check rights ownership, observe specific payment conditions and obtain permission at the level of individual works or databases, the burden of rights clearance will inevitably put an end to the whole remuneration endeavour.[52]

Second, the described need for standardized, machine-readable remuneration protocols under Article 4(3) CDSMD indicates that, if satisfactory rights clearance solutions become available at all, these solutions will most probably be the result of industry collaboration: the creative industry agrees with the high-tech industry on conditional rights reservation protocols that make use of protected material possible the moment the desired remuneration has been paid.[53] The reference to 'large private or public databases or data archives' in Recital 107 AIA also shows that fears about right clearance and remuneration payments at industry level – between AI industry and content majors in the creative industry – are not unfounded. If collecting societies with repartitioning schemes ensuring direct payments to individual artists[54] are not at the negotiation table, the results of the new remuneration infrastructure may disappoint individual creators. Additional income from TDM may fill the pockets of large companies in the creative industries that

52. *See* Geiger and Iaia, *supra* n. 30, 5-6; Craig, *supra* n. 36, 26; Lemley and Casey, *supra* n. 27, 770-771; Hilty and Richter, 1 (2017).
53. *See* Samuelson, *supra* n. 9, 1565.
54. *See* German Federal Court of Justice, 11 July 2002, case I ZR 255/00, *Elektronischer Pressespiegel*, 14-15; Martin R.F. Senftleben and Elena Izyumenko, *Author Remuneration in the Streaming Age: Exploitation Rights and Fair Remuneration Rules in the EU*, JIPLP 20 (2025), available at: https://doi.org/10.1093/jiplp/jpaf071, Part B; Guido Westkamp, *The 'Three-Step Test' and Copyright Limitations in Europe: European Copyright Law Between Approximation and National Decision Making*, J. Copyr. Soc. U.S.A. 56, 1 (55-59) (2008); João Pedro Quintais, *Copyright in the Age of Online Access: Alternative Compensation Systems in EU Law*, 335-336, 340-341, 347-349 and 356-357 (Kluwer Law International 2017); European Copyright Society, *Opinion on Reprobel*, European Copyright Society 2015, available at: https://europeancopyrightsociety.org/opinion-on-reprobel/; Christophe Geiger, *Promoting Creativity through Copyright Limitations: Reflections on the Concept of Exclusivity in Copyright Law*, JETLaw 12, 515 (532-533) (2010); Reto M. Hilty, *Verbotsrecht vs. Vergütungsanspruch: Suche nach Konsequenzen der tripolaren Interessenlage im Urheberrecht*, in *Perspektiven des Geistigen Eigentums: Festschrift für Gerhard Schricker zum 70. Geburtstag*, 325 (325-353) (A. Ohly and M. Lehmann et al. eds, C.H. Beck 2005).

own impressive repertoires of literary and artistic works.[55] Individual creators whose works form part of these repertoires, however, will not necessarily receive higher honoraria or an appropriate share of the TDM income.[56]

Third, it is foreseeable that, with or without generally agreed rights reservation protocols, trust issues will remain. Who can guarantee that AI trainers observe rights reservations that are made in accordance with Article 4(3) CDSMD? And who can convincingly prove that a given work has been part of the AI training dataset when the final AI-generated output only reflects general style elements and bears no direct resemblance to a specific pre-existing work? Even if machine-readable remuneration protocols evolve from industry negotiations, it will remain difficult to control compliance with remuneration requirements and ensure remuneration payments that are accurate in the sense of capturing all works that have been used for AI training purposes.[57] The AIA seeks to solve this dilemma by imposing a transparency obligation on AI trainers:

> [i]n order to increase transparency on the data that is used in the pre-training and training of general-purpose AI models, including text and data protected by copyright law, it is adequate that providers of such models draw up and make publicly available a sufficiently detailed summary of the content used for training the general-purpose AI model.[58]

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55. *See* Trendacosta and Doctorow, *supra* n. 7, predicting 'the perverse effect of limiting this technology development to the very largest companies, who can assemble a data set by compelling their workers to assign the 'training right' as a condition of employment or content creation'. However, *see also* Nicola Lucchi, *ChatGPT: A Case Study on Copyright Challenges for Generative Artificial Intelligence Systems*, EJRR (2023), available at: https://doi.org/10.1017/err.2023.59, 1 (17-18), and Mauritz Kop, *The Rights to Process Data for Machine Learning Purposes in the EU*, Harv. J.L. & Tech. 34, Digest Spring, 1 (7) (2021), who point out that data sharing agreements or data altruism initiatives may soften the predominance of large industry players.
56. As to the weak position of authors in the relationship with exploiters of their works and the limited success of copyright contract rules seeking to strengthen the position of authors, *see* Stef J. van Gompel and P. Bernt Hugenholtz et al., *Evaluatie Wet Auteurscontractenrecht: Eindrapport*, 36, 44, 63-64 and 96-97 (University of Amsterdam 2020); Severine Dusollier, *EU Contractual Protection of Creators: Blind Spots and Shortcomings*, Colum. J.L. & Arts 41, 447-448 and 454-455 (2018); Martin R.F. Senftleben, *More Money for Creators and More Support for Copyright in Society: Fair Remuneration Rights in Germany and the Netherlands*, Colum. J.L. & Arts 41, 413 (429) (2018).
57. *See* the critical remarks by Geiger and Iaia, *supra* n. 30, 5; João Pedro Quintais, *Generative AI, Copyright and the AI Act*, Kluwer Copyright Blog, 9 May 2023, available at: https://copyrightblog.kluweriplaw.com/2023/05/09/generative-ai-copyright-and-the-ai-act/.
58. Recital 107 and Art. 53(1)(c) and (d) AIA.

More concretely, the summary must offer sufficient detail to allow copyright enforcement. It is intended 'to facilitate parties with legitimate interests, including copyright holders, to exercise and enforce their rights'.[59] The AIA gives the example of 'listing the main data collections or sets that went into training the model, such as large private or public databases or data archives'.[60] It also mentions the option of 'providing a narrative explanation about other data sources used'.[61] To harmonize the modes of reporting, the AI Office provides a template for summaries.[62] The introduction of these measures confirms the existence of transparency and trust issues. For the AI industry, the submission of detailed summaries of copyrighted training resources is a substantial administrative burden. Moreover, these summaries represent considerable risk factors. Conceding the use of certain work repertoires in reports submitted in the EU, AI companies provide ammunition for copyright infringement claims in other regions. Without doubt, the creative industry will study the EU summaries carefully and assess the chances of obtaining damages and licence fees not only in the EU but also elsewhere.

Fourth, it must not be overlooked that international competitors of the EU have chosen TDM approaches that markedly depart from the focus on licensing in the EU. The US, Canada, Singapore, South Korea, Japan and Israel have opted for broader, more flexible copyright limitations.[63] Arguably, this regulatory approach enhances the innovation potential of high-tech companies in these countries in comparison with their EU counterparts. In the US, TDM has been considered to be transformative fair use that is permissible without the prior authorization of the rightholder and which does not generate claims for remuneration.[64] Japan has implemented in its

59. Recital 107 AIA.
60. *Ibid*.
61. *Ibid*.
62. European Commission, 24 July 2025, *Annex to the Communication to the Commission: Approval of the content of the draft Communication from the Commission – Explanatory Notice and Template for the Public Summary of Training Content for general-purpose AI models required by Article 53(1)(d) of Regulation (EU) 2024/1689 (AI Act)*, Document C(2025) 5235 final, Brussels: European Commission 2025.
63. *See* Katharina de la Durantaye, *Exceptions for Training Generative AI*, IIC 56, 737 (748-750; 759-760) (2025); Matthew Sag and Peter K. Yu, *The Globalization of Copyright Exceptions for AI Training*, Emory L.J. 74, 1163 (1190-1192) (2025); Davis Tan and Thomas Lee Chee Seng, *Fair Use, Computational Data Analysis and the Personal Data Protection Act*, SAcLJ 33, 1032 (1068-1076) (2021); Eleonora Rosati, *No Step-Free Copyright Exceptions: The Role of the Three-Step in Defining Permitted Uses of Protected Content (Including TDM for Al-Training Purposes)*, EIPR 46, 262 (271) (2024); Senftleben et al., *supra* n. 29, 72-73, para. 11-12.
64. Samuelson, *supra* n. 9, 1556-1567; Matthew Sag, *Copyright Safety for Generative AI*, Houston L. Rev. 61, 295 (314-334) (2023); Pamela Samuelson, *Text and Data Mining of In-Copyright Works: Is It Legal?*, Communications of the ACM 64 (November 2021), 20 (20-22) (2021); Lemley and Casey, *supra* n. 27, 760-779.

copyright legislation a broad TDM exception in 2009.[65] The US and Japan are interesting examples because, while belonging to different copyright traditions, they both have thriving creative and cultural industries as well as a highly competitive high-tech sector in the field of AI.[66]

Considering this global scenario, it is clear that impractical, complicated remuneration systems may disadvantage EU-based high-tech industries in comparison with their peers in other legal systems.[67] The remuneration architecture built on the rights reservation option in Article 4(3) CDSMD and the accompanying AIA rules can easily lead to an unfortunate lose-lose scenario: no remuneration for authors; no access to copyrighted resources for AI trainers in the EU.[68] By virtue of Article 4(3) CDSMD, copyright holders may have success in reserving their rights and preventing the use of their works for AI training purposes. However, a successful rights reservation need not lead to licensing agreements and extra income. Instead, the high-tech industry may decide to move AI training activities to other regions that offer a more favourable training environment. As a result, the remuneration claim fails: the EU right holder does not receive money; the AI trainer looks for training resources elsewhere.

To counter this risk, the AIA seeks to bypass the principle of territoriality and universalize the obligation to ensure compliance with opt-outs in the EU – regardless of where on the planet the AI system has been trained:

> Providers that place general-purpose AI models on the Union market should ensure compliance with the relevant obligations in this Regulation. To that end, 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) [CDSMD].[69]

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65. Ueno, *supra* n. 44, 145-152 (2021).
66. Senftleben et al., *supra* n. 29, 72-73, paras 11-12.
67. For a critique of the approach taken in the EU, *see* Christophe Geiger, *The Missing Goal-Scorers in the Artificial Intelligence Team: Of Big Data, the Right to Research and the Failed Text-and-Data Mining Limitations in the CSDM Directive*, in *Intellectual Property and Sports – Essays in Honour of Bernt Hugenholtz*, 383 (383-394) (M.R.F. Senftleben and J. Poort et al. eds, Kluwer Law International 2021); Christian Handke, Lucie Guibault and Joan-Josef Vallbé, *Is Europe Falling Behind in Data Mining? Copyright's Impact on Data Mining in Academic Research*, in *New Avenues for Electronic Publishing in the Age of Infinite Collections and Citizen Science: Scale, Openness and Trust: Proceedings of the 19th International Conference on Electronic Publishing,* 120 (120-130) (B. Schmidt and M. Dobreva eds, IOS 2015).
68. Cf. Geiger and Iaia, *supra* n. 30, 5; Craig, *supra* n. 36, 26; Lemley and Casey, *supra* n. 27, 770-771.
69. Recital 106 and Art. 53(1)(c) AIA.

With regard to this feature of the new legislation, the AIA itself makes no secret of the fact that a 'Brussels effect'[70] is intended:

> Any provider placing a general-purpose AI model on the Union market should comply with this obligation, regardless of the jurisdiction in which the copyright-relevant acts underpinning the training of those general-purpose AI models take place. This is necessary to ensure a level playing field among providers of general-purpose AI models where no provider should be able to gain a competitive advantage in the Union market by applying lower copyright standards than those provided in the Union.[71]

This additional facet of the EU approach intensifies concerns about an unattractive, perhaps even deterrent, regulatory framework.[72] With the universalization of right holder opt-outs beyond the borders of the EU, the AIA is likely to cause unwelcome surprises for AI companies finally seeking to offer their goods and services in the EU after a start in another region. For example, a Japanese start-up company that has trained a highly successful text-to-manga model in full compliance with Japanese law may find it surprising to learn that it cannot enter the EU market unless it first creates an alternative model that observes all opt-outs in the EU. The need to ensure compliance with EU policy when entering the EU market raises the delicate question of 'unlearning'. Is it possible to remove EU threads woven into the fabric of an AI model that has been trained outside the EU? And what about opt-outs that are declared after the AI development phase? Is it legitimate to keep offering a GenAI system that has been trained prior to the opt-out?[73] And, if so, can the training of new versions of the AI system still be based on the model trained prior to the opt-out? Or is the AI company obliged to start the whole training process from scratch and observe all opt-outs that are valid at that point in time?

In sum, the AIA package may lead to a situation where the spectrum of GenAI systems on the EU market is smaller than in other regions, and where the GenAI systems that do become available in the EU are less sophisticated and powerful than in other regions. In an endeavour to provide right holders with a watertight remuneration claim at input level, the EU has established a system that must appear highly complex and burdensome from the perspective of AI companies.

Perhaps even more importantly, the various obstacles posed in EU law give rise to a final, fifth concern: the complexity of legal requirements

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70. Cf. Bradford, *supra* n. 3; Husovec and Urban, *supra* n. 3.
71. Recital 106 AIA.
72. For a critical analysis of practical implications of the EU opt-out systems, *see* Péter Mezei, *A Savior or a Dead End? Reservation of Rights in the Age of Generative AI*, European Intellectual Property Review 46 (2024), 461 (465-469). *See also* the critique of copyright obstacles thwarting AI development by Craig, *supra* n. 36, 28.
73. *See* Mezei, *supra* n. 72, 466.

resulting from the amalgamation of opt-outs under Article 4(3) CDSMD and AIA rules may lead to a situation where AI trainers shy away from the use of literary and artistic resources stemming from the EU. The described legal obligations and restrictions may render EU repertoires unattractive, if not simply unavailable. Hence, the EU approach implies the risk of marginalizing EU literary and artistic input and EU cultural heritage in GenAI models. In consequence, EU culture will be less visible in AI output. The more that AI-mediated communication becomes the rule and the *lingua franca* of the coming generations of 'GenAI natives', the more problematic the unavailability of EU training resources. With its restrictive approach to AI development, the EU substantially reduces the impact of its literary and artistic thinking and the messages and values conveyed by European literary and artistic productions on the evolving new mode of AI-supported human communication. The same can be said about non-EU repertoire that is covered by an opt-out declared by a European or foreign right holder in accordance with Article 4(3) CDSMD. The rights reservation option impoverishes the spectrum of AI training resources – and the spectrum of expressions that become part of the *lingua franca* of future generations of GenAI users in the EU.

In a less pessimistic scenario, the complexity of EU regulations does not completely extinguish the appetite for EU training resources. However, the transaction costs evolving from licensing and reporting obligations can easily lead to a focus on big repertoire holders and 'high-level deals' between large AI companies and content majors in the creative industry.[74] Owners of niche repertoires in the creative industry may have difficulty convincing AI trainers that the drop in training resources they provide will make a difference in the sea of literary and artistic input required for AI development. In the end, the EU approach may thus promote targeted licensing initiatives covering predominantly mainstream repertoires of big right holders. AI training based on mainstream repertoire, however, will inevitably lead to AI models generating mainstream output. With regard to EU knowledge resources, GenAI may thus be biased.[75] Instead of reflecting the full spectrum of literary and artistic traditions and expressions in EU Member States, they only offer content based on mainstream productions – content that neglects smaller repertoires and cultural traditions.

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74. For an example of an existing licensing success at large company and big repertoire level, *see* the agreement concluded between Universal Music and Google/YouTube, as described by Anna Nicolaou and Madhumita Murgia, *Google and Universal Music Negotiate Deal over AI 'Deepfakes'*, Financial Times, 8 August 2023, available at: https://www.ft.com/content/6f022306-2f83-4da7-8066-51386e8fe63b.
75. *See* Senftleben, *supra* n. 32, 33; Geiger and Iaia, *supra* n. 30, 5.

4 REMUNERATION AT OUTPUT LEVEL (AI COMMERCIALIZATION)

Considering these drawbacks of the EU system requiring rights clearance and remuneration as a prerequisite for AI development, it is important to explore alternative approaches. As indicated, a remuneration mechanism in favour of human authors need not focus – and impose heavy administrative burdens – on the AI training phase. Alternatively, the final offer of AI services and products on the market can serve as a reference point for a legal obligation to pay remuneration (output dimension).

More specifically, it seems possible to establish a lumpsum remuneration system that channels a certain share of revenue accruing from the supply and use of GenAI systems in the literary and artistic field to human authors.[76] Instead of imposing payment obligations and administrative burdens on AI developers during the training phase (*see* the discussion in the preceding section), output-based remuneration systems offer the chance of giving AI trainers far-reaching freedom. Without exposure to any payment or administrative obligation, lawmakers can permit the use of the full spectrum of available literary and artistic resources for AI training purposes.[77] As a result, AI trainers can develop the best and most powerful AI models. Relying on diverse literary and artistic sources for training purposes, they can also ensure that these models are capable of producing culturally diverse output: content that reflects all cultures, traditions and values expressed in human artworks. Once these fully developed AI systems are brought to the market, however, the question of fair remuneration for authors arises. As compensation for the unbridled freedom to use human creations for training purposes, an output-based system requires that authors be remunerated when the supply and use of AI systems in the marketplace generate income.

4.1 Towards a Lumpsum Remuneration System

Following this alternative approach, providers of GenAI systems would be obliged to pay equitable remuneration for the production of literary and artistic content that has the potential to serve as a substitute for human

76. As to theoretical groundwork for this approach, *see* Christophe Geiger, *Freedom of Artistic Creativity and Copyright Law: A Compatible Combination?*, UC Irvine L. Rev. 8, 413 (448-458) (2018); Christophe Geiger, *Elaborating a Human Rights-Friendly Copyright Framework for Generative AI*, IIC 55, 1129 (1151-1153) (2024) https://doi.org/10.1007/s40319-024-01481-5. For concrete lumpsum remuneration proposals in the AI debate, *see* Senftleben, *supra* n. 5, 1549-1556; Giancarlo Frosio, *Should We Ban Generative AI, Incentivise It or Make It a Medium for Inclusive Creativity?*, in *A Research Agenda for EU Copyright Law*, 61 (80-87) (E. Bonadio and C. Sganga eds, Edward Elgar 2024); Geiger and Iaia, *supra* n. 30, 6; Geiger, *supra* n. 34, 79-80; Lucchi, *supra* n. 55, 18-19.

77. As to the advantages of this approach, *see* Craig, *supra* n. 36, 26-28.

creations.[78] Surveying the canon of international rules in the field of copyright and neighbouring rights, it becomes apparent that a lumpsum remuneration approach is not entirely alien to the protection system. Article 15(1) of the WIPO Performances and Phonograms Treaty (WPPT) reads as follows:

> Performers and producers of phonograms shall enjoy the right to a single equitable remuneration for the direct or indirect use of phonograms published for commercial purposes for broadcasting or for any communication to the public.[79]

Hence, the international copyright community has already recognized that there might be specific circumstances requiring a switch from a right to prohibit use to a mere remuneration claim. As Article 15(1) WPPT is a norm of international law, it seems safe to assume that domestic counterparts of this right to receive equitable remuneration can be found in countries and regions around the globe.[80] Taking the EU exponent of Article 15(1) WPPT as an example, it can be demonstrated how an equitable remuneration rule relating to AI output could be modelled on the equitable remuneration rule in the area of phonograms. In the EU, Article 8(2) of the Rental, Lending and Related Rights Directive (RLRRD)[81] implements the international norm into harmonized copyright and neighbouring rights law:

> Member States shall provide a right in order to ensure that a single equitable remuneration is paid by the user, if a phonogram published for commercial purposes, or a reproduction of such phonogram, is used for broadcasting by wireless means or for any communication to the public, and to ensure that this remuneration is shared between the relevant performers and phonogram producers.[82]

Using this formulation as a blueprint, a new remuneration rule in the area of GenAI systems could take the following shape:

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78. *See* Senftleben, *supra* n. 5, 1549-1556; Lucchi, *supra* n. 55, 18-19.
79. Article 15(1) WPPT.
80. As to the distinction between rights 'of a preventive nature' and rights 'of a compensatory nature', *see* CJEU, Case C-135/10, *Società Consortile Fonografici (SCF) v. Marco Del Corso*, 15.3.2012, ECLI:EU:C:2012:140, para. 75 and 95-98; CJEU, Case 351/12, *OSA – Ochranný svaz autorský pro prva k dílům hudebním o.s. v. Léčebné lzně Marinské Lzně a.s.*, 27.2.2014, ECLI:EU:C:2014:110, para. 35; CJEU, Case C-117/15, *Reha Training Gesellschaft für Sport- und Unfallrehabilitation mbH contro Gesellschaft für musikalische Aufführungs- und mechanische Vervielfältigungsrechte eV (GEMA)*, ECLI-:EU:C:2016:379, 31.5.2016, para. 33-34. *See* Martin R.F. Senftleben, *Flexibility Grave – Partial Reproduction Focus and Closed System Fetishism in CJEU, Pelham*, IIC 51, 751 (762) (2020); D.J.G. Visser, *Openbaar maken met ketchup*, Tijdschrift voor auteurs-, media- en informatierecht, 41 (46) (2013).
81. Council Directive 92/100/EEC of 19 November 1992 on rental right and lending right and on certain rights related to copyright in the field of intellectual, OJ 1992 L 346, 27.11.1992, 61.
82. Article 8(2) RLRRD.

> Member States shall provide a right in order to ensure that a single equitable remuneration is paid by the provider of a generative AI system, if a literary and artistic output generated by the system, has the potential to serve as a substitute for a work made by a human author, and to ensure that this remuneration is paid to social and cultural funds of collective management organizations[83] for the purpose of fostering and supporting human literary and artistic work.[84]

Admittedly, each country considering the introduction of an output-based remuneration regime, and the use of the equitable remuneration rule relating to phonograms as a template, will have to further refine and clarify the lump-sum remuneration rule governing AI output before it can be adopted to support human authors. Potential definition hurdles, however, seem surmountable. As to the question which output quality is necessary to assume a substitution risk, for instance, it must be considered that, in line with the proposal developed here, the lawmaking process would aim at establishing a *lumpsum* remuneration system. Therefore, a general, abstract assessment of whether an AI system is capable of substituting human literary and artistic productions can be deemed sufficient to confirm a disruptive effect and impose a payment obligation. For instance, a relevant substitution effect could be assumed whenever an AI system is capable of generating content that resembles human literary and artistic productions. A fictitious originality test could be applied in this context: if the AI output had been made by a human author and not by a machine, would the AI-generated content fulfil copyright's originality test?

The general conceptual contours of the proposed lumpsum remuneration approach could be as follows: the system would serve the overarching purpose of creating a new revenue stream to support the work of authors of flesh and blood. Revenue accruing from remuneration payments for the use of GenAI systems would be channelled to collecting societies, which use the money for the purpose of improving the living and working conditions of human authors. In addition, the mandatory, inescapable obligation to pay equitable remuneration is intended to make the use of AI-generated content more expensive. AI system providers can no longer offer GenAI tools for free – unless they are willing to pay the remuneration out of their own pocket. Hence, the introduction of a remuneration obligation also reduces the attractiveness of less expensive, automated AI content production. The AI

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83. As to the room for social and cultural funds of collecting societies in EU copyright law, *see* CJEU, Case C 521/11, *Amazon.com International Sales Inc. et al. v. Austro-Mechana Gesellschaft zur Wahrnehmung mechanisch-musikalischer Urheberrechte Gesellschaft mbH*, 11.7.2013, ECLI:EU:C:2013:515, para. 49-52. *See* Martin R.F. Senftleben, *Copyright, Creators and Society's Need for Autonomous Art: The Blessing and Curse of Monetary Incentives*, in *What If We Could Reimagine Copyright?*, 25 (64-68) (R. Giblin and K. Weatherall eds, ANU Press 2017).
84. For an earlier discussion of this proposal, *see* Senftleben, *supra* n. 14, 1-3.

remuneration can be set at a level that counterbalances lower production costs and enhances the chances of human authors to compete with GenAI systems.

On its merits, the proposed system, thus, would *transform AI content revenue into human content revenue*.[85]

More concrete guidelines for the use of collected revenue can be derived from the six author remuneration objectives described in section 2.1. above.[86] Following the argument that the remuneration system offers compensation for the parasitic use of human works for the purpose of enabling AI systems to kill the market for human creativity (first argument), the collected money could be used broadly to support human literary and artistic productions. For instance, it is conceivable to distribute revenue in accordance with a general repartitioning scheme that is based on the use of certain work repertoires or work genres for AI training purposes, or aligned with the number of references to repertoires or genres in prompts entered by AI system users.[87] Insights into prompts entered by users can provide important vectors for the calibration of the repartitioning scheme. Data showing that certain work categories, or genres, figure prominently in user prompts could offer a basis for increasing the revenue share of human authors whose creative labour concerns these categories and genres, etc. The adoption of a general repartitioning scheme can also make sense from the perspective of the AI industry's own interest in the continuous evolution of fresh human creations that can finally become training material for the further improvement and diversification of AI output (sixth argument).

An approach seeking to support literature and art projects may follow from the insight that AI-generated content may lead to a loss of human works and avant-garde movements that, as a mirror of social and political conditions, can provide new directions for future creativity and impulses for improving society (second and third arguments). To the extent to which AI output is capable of replacing human creativity serving this societal function,[88] the establishment of cultural funds seeking to promote human works in the high arts sector seems warranted.[89] Support for this approach – investing in projects and activities in the field of literature and art – can also

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85. *See* Senftleben, *supra* n. 14, 2-3.
86. Senftleben, *supra* n. 5, 1549-1556. *See also* Lucchi, *supra* n. 55, 18-19.
87. However, *see also* Geiger and Iaia, *supra* n. 30, 8, who warn of potential imbalances that might be caused in the case of highly popular works and artists.
88. Cf. Florian Hoffmann, *Zehn Thesen zu Künstlicher Intelligenz (KI) und Urheberrecht*, *Wettbewerb in Recht und Praxis*, 11 (17-18) (2024); R. Chavannes, *De bescherming van deep learning-systemen door het intellectuele eigendomsrecht*, Tijdschrift voor auteurs-, media- en informatierecht, 179 (182) (2018), who are confident that human fine art and avant-garde productions will survive the generative AI revolution.
89. As to the practical implementation of this approach, *see* Sabine Jacques and Matthew Flynn, *Protecting Human Creativity in AI-Generated Music with the Introduction of an AI-Royalty Fund*, Gewerblicher Rechtsschutz und Urheberrecht – International 73, 1137 (1141-1143) (2024).

follow from the objective to stimulate human aesthetic engagement and ensure that human role models remain visible in society to inspire everyday human literary and artistic practice (fifth argument). Considering the overarching goal to avoid the impression that the remix and reuse of literature and art is a task for the machine, the use of AI revenue for projects that further human creativity and allow participants to experience the positive effects of aesthetic play makes sense. Finally, the general socio-political goal of supporting human authors who lose their jobs due to competing AI content (fourth argument) can justify investment in literature and art projects that offer new job opportunities for freelancers and small production companies. The six rationales developed above, thus, offer a basis for different measures – ranging from the establishment of a general repartitioning scheme to investment in social and cultural funds that support literature and art projects.[90]

However, doubts about the beneficial effects of collective licensing solutions have been expressed in the AI remuneration debate. For instance, Pam Samuelson has asserted that a collective licensing regime would be 'very difficult to administer given the staggeringly large number of copyright owners and of works and of types of works used as AI training data – literally in the billions'.[91] She also fears that '[a] significant proportion of revenues collected from GenAI companies would be needed to cover administrative costs',[92] 'amounts paid to individual copyright owners would likely be very modest, and would be unlikely to provide significant financial support to authors and artists'[93] and that '[a] proliferation of collective license regimes [in countries and regions around the globe], each of which would aim to collect significant sums to support authors and artists, might make development of GenAI too expensive to be feasible',[94] in particular for small and medium-sized companies.[95]

While these points are particularly important, the criticism overlooks that, from the outset, a lumpsum remuneration regime that is administered collectively does not aim at meticulously determining the most accurate remuneration amount for each and every individual work used for AI training. As explained above, the system would seek to distribute money at the more aggregated level of work categories and genres. Collecting societies administering these work categories and genres can pay AI revenue to their members together with other collected money they are distributing – without too much additional administrative costs. Moreover, the CJEU's *Amazon* decision shows that, in cases where it is very difficult to calculate the

90. *See* Jacques and Flynn, *supra* n. 89, 1141-1143.
91. Samuelson, *supra* n. 9, 1566. *See* Craig, *supra* n. 36, 26-28.
92. Samuelson, *supra* n. 9, 1566.
93. *Ibid.*
94. *Ibid.,* 1566-1567.
95. *Ibid.*

individual damage which an author suffered because of a copyright exception (the case concerned private copying), a substantial share of collected money can be invested in social and cultural funds that invest in impactful literature and art projects.[96] Arguably, this consideration applies *mutatis mutandis* to the GenAI scenario. As in the case of private copying, it is hardly possible to calculate the exact damage which the offer and use of GenAI inflicts on an individual author – or the specific value of that author's works for AI training.[97]

Regardless of this imprecision, a lumpsum remuneration approach has important advantages. In comparison to tax-based support for literature and art, cultural funds of collecting societies offer authors and performers the opportunity to establish rules for the use of collected money themselves and decide autonomously – within the creative sector – on measures to support human creativity. The censorship risk arising from dependence on general tax money – and government decisions that may favour certain types of literature and art, and discriminate against others – can be avoided.

Considering the described options for configuring and implementing lumpsum remuneration systems, it is inaccurate to assume that collective licensing solutions would sacrifice innovation in the field of AI for meaningless micropayments to individual right holders and enormous administrative costs of collecting societies. Even if collective licensing approaches metastasize across countries and regions, they will not thwart AI development. As explained, the output-based approach proposed here would avoid burdens on AI training and give AI trainers far-reaching freedom to use human works for AI development. The obligation to pay remuneration only arises the moment fully trained AI systems are brought to the market. At that stage, payment obligations in different countries and regions do not appear overly burdensome. They are a corollary of income prospects in all territories involved. If an AI company successfully launches its products and services – and makes money – in several countries, it can be expected to contribute part of its revenue to the remuneration of authors in all these countries.

4.2 Foundation in Copyright Law

As the proposed lumpsum remuneration system focuses on AI output, it raises a delicate legal-doctrinal question as to the copyright basis for the remuneration claim. Content produced by a GenAI system need not display

96. CJEU, Case C-521/11, *Amazon.com International Sales Inc. et al. v. Austro-Mechana Gesellschaft zur Wahrnehmung mechanisch-musikalischer Urheberrechte Gesellschaft mbH*, 11.7.2013, ECLI:EU:C:2013:515, para. 50. *See* Martin R.F. Senftleben, *Copyright, Creators and Society's Need for Autonomous Art: The Blessing and Curse of Monetary Incentives*, in *What if We Could Reimagine Copyright?*, 25 (63-68) (R. Giblin and K. Weatherall eds, ANU Press 2017).
97. *See* Geiger and Iaia, *supra* n. 30, 6.

protected traces of individual human expression.[98] Compared to the AI training (input) perspective, the situation is different. During the AI training phase, protected human works are used as learning resources for the AI system. Hence, there is a direct link between the machine-learning process and the use of protected human literary and artistic works. Qualifying copies made for AI training purposes as relevant reproductions,[99] the lawmaker can create a legal basis for a remuneration claim in copyright law. With regard to AI output, however, the copyright basis for equitable remuneration is less clear. Instead of reproducing individual expression – protected free, creative choices by a human author[100] – AI output may merely reflect unprotected ideas, concepts and styles.[101]

The absence of protected human expression in AI output, however, does not pose an insuperable obstacle. In fact, a copyright concept that, by analogy, can be invoked as a legal-doctrinal basis for the introduction of a lumpsum remuneration system focusing on AI output has already been developed in the last century. In the discussion on the so-called *domaine public payant*, Adolf Dietz explained in a 1990 landmark article that, in addition to traditional exploitation and remuneration rights of individual authors, it is consistent and advisable to recognize in copyright law a new right to which a different right holder – the 'community of authors'[102] – is entitled as a collective. Dietz pointed out that this step could be regarded as a corollary of a modern understanding of copyright law 'as part of a more comprehensive concept of culture law'.[103] Once this broader role and responsibility of copyright is taken as a starting point, the law is no longer condemned to accept 'harmful discrepancies'[104] between substantial profits made by exploiters of public domain works on the one hand, and precarious working and living conditions of current authors on the other.[105] Instead, copyright can be employed as a legal tool to introduce a remuneration right for the community of living and creating authors as a means of redress:

> What we finally propose is simply to introduce another right owner, namely the community of living and creating authors, among several kinds of right owners already existing in copyright law. This community

98. Lemley and Casey, *supra* n. 27, 772-776.
99. For a more detailed discussion of this question, *see* Martin R.F. Senftleben, *Compliance of National TDM Rules with International Copyright Law: An Overrated Nonissue?*, IIC 53, 1477 (1495-1502) (2022) https://doi.org/10.1007/s40319-022-01266-8.
100. CJEU, Case C-5/08, *Infopaq International A/S v. Danske Dagblades Forening*, 16.7.2009, ECLI:EU:C:2009:465, para. 45; CJEU, Case C-145/10, *Eva-Maria Painer v. Standard VerlagsGmbH e al.*, 1.12.2011, ECLI:EU:C:2013:138, para. 89.
101. Article 9(2) TRIPS; Art. 2 WCT. *See* Dutch Supreme Court, *Broeren v. Duijsens*, 29.3.2013, ECLI:NL:HR:2013:BY8661, para. 3.5; Senftleben, *supra* n. 33, 27-28.
102. Dietz, *supra* n. 21, 15.
103. *Ibid.*, 13.
104. *Ibid.*
105. *Ibid.*

> of authors should have the direct right to participate in the income from exploitation of works of dead authors after the individual term of copyright protection has expired.[106]

As this statement indicates, Dietz developed his concept of a new right for the community of authors with a focus on the exploitation of works in the public domain. He placed his proposal in the context of the discussion on the *domaine public payant* that had gained momentum after the Second World War.[107] From his perspective, soaring prices and income from the exploitation of public domain works in the field of literature, music and art should, 'at least partly and proportionally, also serve the living and creating generation of authors'.[108] Evidently, the introduction of a new – collective – right to participate in revenue accruing from the exploitation of public domain works begs the question of how this new right of the community of living and creating authors might be exercised in practice. Dietz solves this problem by relying on the well-established system of collective rights management in Europe:

> [T]here must be a natural or legal person or body ready to interfere and, in particular, to control the market and claim the participation right, if necessary in a lawsuit. In addition, this body must be able to distribute the incoming money according to statutory purposes and rules, preferably under government supervision … We should not forget, however, that these kind of bodies already exist, and have done so for decades, in the form of collecting societies.[109]

Before turning to parallels between this remuneration concept and the AI remuneration system discussed here, it is noteworthy that in the second half of the last century, the proposal of a *domaine public payant* did not remain a mere theoretical option. In Germany, it formed part of the official government proposal for new copyright legislation that was discussed in 1965.[110] Although the German legislator finally refrained from introducing a new remuneration right for the community of authors in the 1965 Copyright Act,[111] the fact that the *domaine public payant* was included in the government proposal shows that the concept and the underlying objective to improve the working and living conditions of authors had broad support in

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106. *Ibid*., 14.
107. As to the historical origin and development of the *domaine public payant*, *see* Walter Dillenz, *Überlegungen zum Domaine Public Payant*, Gewerblicher Rechtsschutz und Urheberrecht – International 1983, 920 (920-922).
108. Dietz, *supra* n. 21, 14.
109. *Ibid*., 15.
110. Adolf Dietz, *Die sozialen Bestrebungen der Schriftsteller und Künstler und das Urheberrecht*, Gewerblicher Rechtsschutz und Urheberrecht, 11 (14-15) (1972).
111. Act on Copyright and Related Rights (*Urheberrechtsgesetz*), official English translation available at: https://www.gesetze-im-internet.de/englisch_urhg/ (last visited on 11 July 2023).

Germany.[112] An international UNESCO/WIPO survey conducted in 1982 also brought to light several starting points for implementing the *domaine public payant* in copyright law.[113] In more recent debates on recalibrating copyright, Rebecca Giblin confirmed the concept's continued relevance and importance. In a critical assessment of the term of copyright protection, she qualified the *domaine public payant* as a useful reference point for her proposal to draw a clearer distinction between incentive and reward goals and introduce an opt-in 'creator-right' that would give authors access to remuneration systems in return for the registration of their works after an initial term of protection.[114]

The parallels between the *domaine public payant* and the proposed output-based remuneration system in the area of GenAI are striking. Both concepts concern creations that fall outside the scope of the exploitation rights of individual authors: literary and artistic works that never or no longer enjoy copyright protection in the case of the *domaine public payant*; general ideas, concepts and styles in the case of AI output that does not reproduce individual expression of a human author. At the same time, it is clear that both concepts concern literary and artistic subject matter: public domain works and public domain ideas, concepts and styles. With regard to AI output, it can even be added that pre-existing human creations have been a *conditio sine qua non* for the literary and artistic productions at issue. Without human training material, the machine could not have generated the content. The same cannot be said about public domain masterpieces made by authors from the past. Current authors can hardly assert that these masterpieces depended on their creative input.

The precursor of the *domaine public payant*, thus, shows that potential legal-doctrinal concerns need not thwart the introduction of a remuneration system focusing on AI output. Even if AI output merely reflects unprotected ideas, concepts and styles, it is still possible and consistent to incorporate a lumpsum remuneration right in copyright law – a new right that is subject to mandatory collective rights management. As a new right holder, the community of living authors[115] should be entitled to benefit from payments made under this new system. In line with this approach, the collective remuneration right should be administered and enforced by collecting

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112. *See* Dietz, *supra* n. 110, 14-15.
113. United Nations Educational, Scientific and Cultural Organization/World Intellectual Property Organization, 10 March 1982, *Committee of Non-governmental Experts on the 'Domaine Public Payant': Analysis of the Replies to the Survey of Existing Provisions for the Application of the System of 'Domaine Public Payant' in National Legislation*, Document UNESCO/WIPO/DPP/CE/I/2, available at: https://unesdoc.unesco.org/ark:/48223/pf0000048044.
114. Rebecca Giblin, *Reimaging Copyright's Duration*, in *What If We Could Reimagine Copyright?*, 177 (200-203 and 207-208) (R. Giblin and K. Weatherall eds, ANU Press 2017).
115. Dietz, *supra* n. 21, 15.

societies, which distribute collected money through repartitioning schemes and social and cultural funds.

Alternatively, it is possible to forge a link with the input dimension – the use of copyrighted works for AI training purposes – and focus on the use of human training material as an indispensable precondition for AI output that resembles human literary and artistic productions.[116] As already pointed out above, GenAI systems are only capable of mimicking human creativity because human works have been used as training material at some stage. Even in the case of AI systems trained on synthetic, machine-made literary and artistic material, the system's capability to mimic human creativity can only be explained by the fact that human training resources played a role somewhere in the whole chain of training processes leading to the GenAI system producing output that resembles a human work.

Considering this connection between input and output, it can be argued that remuneration for literary and artistic AI output must be paid because, directly or indirectly, this output is the result of the use of human works for AI training.[117] Once again: without the use of copyrighted training material at some stage in the chain of training processes leading to a GenAI system, the literary and artistic output would not be possible. As input and output are thus two sides of the same coin, the payment of remuneration at the output level simply constitutes a deliberate choice of the legislator. Instead of placing heavy administrative and financial burdens on AI trainers, the lawmaker can leave the training process (input dimension) unencumbered and take measures to compensate authors when final AI products and services are offered in the marketplace and produce literary and artistic content (output dimension).

This detachment of the act triggering the payment obligation from the act that provides the legal basis for the compensation claim is not unusual in the area of lumpsum remuneration systems.[118] In the context of private copying, for instance, the CJEU has explicitly recognized that EU Member States are free to impose an obligation to pay compensation for reproductions made by private users on manufacturers and importers of relevant copying equipment, devices and media. Even though the act with copyright relevance – the private copying – will only occur after the equipment, devices and media have reached end consumers, the payment obligation can be imposed on manufacturers and importers:

> given the practical difficulties in identifying private users and obliging them to compensate right holders for the harm caused to them, and bearing in mind the fact that the harm which may arise from each private use, considered separately, may be minimal and therefore does not give

116. Senftleben, *supra* n. 32, 44-45.
117. *Ibid*., 45.
118. *Ibid.*, 45-46.

> rise to an obligation for payment […], it is open to the Member States to establish a 'private copying levy' for the purposes of financing fair compensation chargeable not to the private persons concerned, but to those who have the digital reproduction equipment, devices and media and who, on that basis, in law or in fact, make that equipment available to private users or who provide copying services for them.[119]

In the light of this existing configuration of levy systems in the area of private copying,[120] it does not seem unusual – and perhaps even less unusual than a legal-doctrinal solution based on the *domaine public payant* – to simply delay the remuneration payment and take the production of literary and artistic AI output as a reference point for compensating human authors for the use of their works during AI training.[121] This alternative legal-doctrinal approach forges a link with proposals to introduce a statutory licence and remuneration regime at the AI training stage.[122] Considering the practical problems arising from the opt-out mechanism in Article 4(3) CDSMD and the transparency and training requirements in the AIA, Christophe Geiger and Vincenzo Iaia have recommended the adoption of statutory licenses and remuneration rules for AI training.[123] They propose this regulatory approach as an alternative to the overly burdensome rights reservation system in the EU with all shortcomings and difficulties described above. Focusing on input for AI development, Geiger and Iaia argue that the switch to a right to fair remuneration 'allows maximization of the copyright content exploitable for [machine learning] purposes while taking into account the interests of the authors to be remunerated for the commercial use of their intellectual efforts … '.[124] Based on an analysis of the need to reconcile AI innovation with authors' remuneration interests in the light of fundamental rights, they conclude that:

> [t]he introduction of a remunerated copyright limitation for Generative AI commercial purposes represents a compelling solution to meet the endangered remuneration right of creators without disproportionately

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119. CJEU, Case C-467/08, *Padawan SL v. Sociedad General de Autores y Editores de España (SGAE)*, 21.10.2010, ECLI:EU:C:2010:620, para. 46.
120. As to parallels with lumpsum remuneration systems for private copying in the debate on generative AI systems and author remuneration, *see also* Geiger and Iaia, *supra* n. 30, 6.
121. Senftleben, *supra* n. 32, 46.
122. *See* Frosio, *supra* n. 76, 80-87; Geiger and Iaia, *supra* n. 30, 6; Geiger, *supra* n. 34, 79-80; Kop, *supra* n. 55, 7; Nicola Lucchi, *Generative AI and Copyright: Training, Creation, Regulation*, Study requested by the JURI Committee, Brussels: European Parliament, Policy Department for Justice, Civil Liberties and Institutional Affairs, 126-137 (2025).
123. Geiger and Iaia, *supra* n. 30, 6-8.
124. *Ibid.,* 7.

> sacrificing the interest of AI developers to offer increasingly high-performing services able to foster human creativity.[125]

Similarly, Giancarlo Frosio has stated that the adoption of a lumpsum remuneration approach for AI training offers the opportunity to reconcile the societal interest in rich training resources for high-quality AI systems with the legitimate interest of authors to receive fair remuneration for the use of their works:

> [t]o address this tension, while simultaneously (1) addressing market substitution of human creations by AI-generated creativity, (2) considering the mentioned inherently combinatorial nature of such creativity, (3) lowering transaction costs of traditional copyright exclusivity models, and (4) potentially spurring further innovation by encouraging the creation of new original works that could be used for AI training, a levy system should be implemented. This system would allocate revenue from AI productions to human literary and artistic endeavors, with collective management of revenues that might proceed from Generative AI platform facilitating such AI creativity.[126]

Frosio's analysis leaves no doubt that he sees AI development – involving the use of human works as input for AI training purposes – as the central reference point for the payment of remuneration. He points out that the levy 'would pertain specifically to the use of content as input for training foundation models, rather than serving as compensation for potential output infringements'.[127] In his view, only the use of protected works as input for the training of foundational models can give rise to liability of AI trainers and an obligation to pay fair remuneration.[128]

Arguing for the payment of fair remuneration at a later stage – when AI products and services are finally brought to the market – the output-based proposal developed here seems irreconcilable with this approach. However, once output-based remuneration is seen as a delayed compensation for the use of human works during the AI training phase, this contradiction vanishes. Rightly understood, output-based remuneration approaches have the potential to integrate all lumpsum remuneration proposals that have been made in the AI debate. Output-based remuneration approaches simply delay the payment of remuneration until AI products and services are finally offered in the marketplace. The remuneration claim, however, can be traced back to the insight that AI output mimicking human creativity is only possible because human creations have been used as training material for GenAI systems. This basic insight provides common ground for all lumpsum remuneration proposals that seek to offer fair compensation for the use of human works for

125. *Ibid*.
126. Frosio, *supra* n. 76, 80-87.
127. *Ibid.,* 19.
128. *Ibid*.

AI training. The difference between the described approaches focusing on AI development (the proposals made by Geiger, Iaia and Frosio) and the approach focusing on AI exploitation (the proposal made here) only concerns the point in time when the remuneration payment is due. While the proposals focusing on the development phase require the payment of fair remuneration as a precondition for the use of human works for AI training, the output-based approach advocated here offers maximum access to human training resources without administrative and payment obligations. It only requires the payment of fair remuneration when a fully trained AI system is finally exploited on the market.

In sum, there are thus two legal-doctrinal avenues that can lead to the introduction of a lumpsum remuneration system focusing on AI output. On the one hand, the concept of *domaine public payant* offers a basis for establishing a collective right of the community of living authors – a new right that is subject to mandatory collective rights management – to receive remuneration for AI output reflecting literary and artistic ideas, concepts and styles. On the other hand, the focus can be on the use of human training material as an indispensable precondition for AI output that resembles human literary and artistic productions. Following the example of levy systems in the area of private copying, it is possible to uncouple the act triggering the payment obligation from the act that provides the legal basis for the compensation claim. Hence, the legislator is free to delay the remuneration payment and take the production of literary and artistic AI output as a reference point for compensating human authors for the use of their works during AI training.

4.3 Legal and Practical Advantages

An output-oriented remuneration system offers essential practical advantages in comparison to the above-described input-based remuneration architecture, which the EU legislator has erected on the basis of the rights reservation option in Article 4(3) CDSMD and fortified with the additional rules in the AIA.

First, an output-oriented remuneration system can be applied in a uniform manner to all providers of GenAI systems. In contrast to a remuneration obligation focusing on the input dimension and AI training activities, an output-oriented approach avoids the risk of disadvantaging domestic high-tech industries and encouraging them to look for a more favourable training environment elsewhere. All providers of GenAI systems are equally exposed to the payment obligation the moment they offer their products and services in the marketplace.

Second, an output-based remuneration system raises less trust and transparency issues. As already pointed out, the remuneration system can be based on the payment of a global lumpsum. For instance, the remuneration

could consist of a certain percentage of revenue which AI companies derive from advertising, subscription fees or other payments they receive from users.[129] In the case of profit-oriented providers of GenAI systems, the remuneration may also consist of a certain percentage of the annual turnover. It also seems possible to explore the possibility of aligning the payment with the number of AI-generated literary and artistic products or the number of prompts entered by users.

Third, the involvement of collecting societies in the area of remuneration for AI output can ensure that, on the basis of repartitioning schemes considering not only industry right holders but also individual authors,[130] the original creators of human works can benefit directly from the extra income accruing from payments. With regard to the single equitable remuneration that is due for the broadcasting and other communication to the public of published phonograms, Article 15(2) WPPT, for instance, explicitly points out that:

> Contracting Parties may enact national legislation that, in the absence of an agreement between the performer and the producer of a phonogram, sets the terms according to which performers and producers of phonograms shall share the single equitable remuneration.[131]

In contrast to industry collaboration in the field of Article 4(3) CDSMD, the proposed lumpsum remuneration approach at output stage, thus, need not give rise to concerns that collected money will hardly ever reach individual creators.[132]

Fourth, a lumpsum remuneration approach does not require the management of use permissions at the level of individual works. As explained above, the reservation of copyright on the basis of Article 4(3) CDSMD will only lead to the payment of remuneration if a machine-readable rights reservation is combined with the offer of a TDM permission against the payment of remuneration. To achieve this goal, however, it is necessary to establish a well-functioning rights clearance infrastructure that is capable of interacting with content crawlers that are used for AI training purposes. An output-oriented lumpsum remuneration approach, by contrast, need not pose comparable practical and administrative obstacles. Instead of imposing payment obligations and administrative burdens during the AI development phase, lawmakers can exempt the AI training process from the control of

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129. *See* Lucchi, *supra* n. 55, 18-19.
130. *See* CJEU, Case C-521/11, *Amazon.com International Sales Inc. et al. v. Austro-Mechana Gesellschaft zur Wahrnehmung mechanisch-musikalischer Urheberrechte Gesellschaft mbH*, 11.7.2013, ECLI:EU:C:2013:515, paras 49-52.
131. Article 15(2) WPPT.
132. In the context of repartitioning schemes of collecting societies, the individual creator has a relatively strong position. *See* the literature references *supra* n. 54.

copyright holders. The law can permit the use of the full spectrum of available literary and artistic resources for AI training purposes and allow AI trainers to develop the best and most powerful AI models. Only at a later stage – when these fully developed models are exploited in the marketplace – the payment obligation arises. As a compensation for the unbridled freedom to use human creations for training purposes, the output-based lumpsum system proposed here requires the payment of fair remuneration when the supply and use of AI systems in the market finally generate income.

The reduction of financial and administrative burdens leads to a fifth advantage: with an output-based remuneration system, it is no longer necessary to introduce opt-out mechanisms and burdensome upfront transparency and licensing obligations. Lawmakers adopting an output-based remuneration approach need not copy the rights reservation system of Article 4(3) CDSMD and the accompanying AIA rules. They can avoid these highly complex AI training rules that may deter AI trainers and render literary and artistic resources unavailable or unattractive in the light of practical and administrative hurdles. In this way, an output-based remuneration approach bans the risk of marginalizing a country's literary and artistic repertoire in AI training datasets and AI output. Making the full spectrum of literary and artistic works available for training purposes removes access obstacles, contributes to the reduction of cultural biases in AI models that may result from the unavailability of work repertoires and, as a corollary, broadens the spectrum of messages and values which AI systems are able to reflect when producing literary and artistic output. Removing access obstacles at the training stage, an output-based remuneration approach, thus, contributes to better, culturally diverse AI models.

5 CONCLUSION

As the analysis has shown, the AI Act/copyright interface resulting from the amalgam of TDM provisions in the CDSMD and the copyright rules in the AIA is unlikely to reconcile the societal interest in culturally diverse AI systems with copyright values, in particular the need to ensure the fair remuneration of authors. With its input-based remuneration approach – leading to rights reservations and complex transparency rules blocking access to AI training resources – the current configuration of the AI Act/copyright interface is likely to reduce the attractiveness of the EU as a region for AI development. Moreover, the regulatory barriers posed by the TDM regulations in the CDSMD and the accompanying AIA rules may marginalize the messages and values conveyed by European cultural expressions in AI training datasets and AI output.

Fortunately, more promising regulatory alternatives are available. Implementing output-based remuneration systems, lawmakers can establish a legal framework that supports the development of culturally diverse AI

models while, at the same time, ensuring that authors receive a fair remuneration for the use of literary and artistic works for AI training purposes – a fair remuneration that softens displacement effects in the market for literary and artistic creations where human authors face shrinking market share and loss of income. Instead of imposing payment obligations and administrative burdens on AI developers during the AI training phase, output-based remuneration systems offer the chance of giving AI trainers far-reaching freedom. Without exposing AI developers to heavy administrative and financial burdens, lawmakers can permit the use of the full spectrum of human literary and artistic resources. Once fully developed, AI systems are brought to the market; however, providers of these systems are obliged to compensate authors for the unbridled freedom to use human creations during the AI training phase and displacement effects caused by AI systems that are capable of mimicking human literary and artistic works.

Considering the legal and practical difficulties resulting from the EU approach, lawmakers in other regions should refrain from following the EU model. As an alternative, they should explore output-based remuneration mechanisms.[133] In contrast to the burdensome EU system that requires the payment of remuneration for access to human AI training resources, an output-based approach does not weaken the position of the domestic high-tech sector: AI developers are free to use human creations as training material. Once fully developed, AI systems are offered in the marketplace, all providers of AI systems capable of producing literary and artistic output are subject to the same payment obligation and remuneration scheme – regardless of whether they are local or foreign companies. The advantages of this alternative approach are evident. Offering broad freedom to use human creations for AI training, an output-based approach is conducive to AI development. It also bans the risk of marginalizing the messages and values conveyed by a country's literary and artistic expressions.

In practice, collective rights management can play a central role in output-oriented lumpsum remuneration systems. On the basis of jointly established repartitioning schemes or statutory rules for revenue sharing,[134] collecting societies can distribute AI revenue appropriately between individual creators and industry right holders. While input-based rights clearance in the EU is likely to benefit primarily industry right holders, an output-based approach can ensure that a substantial share of collected money reaches individual authors directly. Depending on the legislation and statutes

133. As to the chances of US policymakers considering this alternative approach, *see* Samuelson, *supra* n. 9, 1568, who predicts that, '[a]s challenging as collective license design issues may be, the political reality is that legislation to adopt such a regime is unlikely, at least in the U.S.'.

134. As to the option of enacting legislation to set the terms for remuneration sharing, *see* Art. 15(2) WPPT.

governing a country's collecting societies, it may also be possible to use a part of the remuneration to finance social and cultural funds that support human literary and artistic projects and activities, and improve the working and living conditions of human authors who are subject to displacement effects.