

Machines, Authorship, and the Law: Rethinking Intellectual Property Frameworks in the Age of Artificial Intelligence

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Abstract

The increasing popularity of artificial intelligence within creative and innovative areas has brought about a strong crisis in the way we conceptualize technology and intellectual property law. The existing methods of copyright and patents are founded on the notion that a human being created the work and here nothing can be patented as the work is a self-written novel or even a drug developed by machine. The paper delves into the emerging legal challenges related to generative AI systems and existing intellectual property laws aiming at answering key questions such as authorship, ownership, and how innovation can be effectively spurred. This paper argues that our legal directions are stretched to the farthest extent by looking at recent legal trends like the 2023 report by the United States Copyright Office on AI-assisted content, the decision of the Federal Circuit in *Thaler v. Vidal* on AI inventorship and its denial to grant an application to DABUS. These judges and regulators actions are discussed in the wider context of the incentives-driven and author-rights conception of the definition of intellectual property, and the argument that the two categories of approaches can never attempt to provide a sufficient explanation of the uniqueness of the creativity that is introduced by AI. The paper further examines some of the suggested legislative and policy solutions, which include the introduction of a unique *sui generis* right of output animation generated by AI, the compulsory licensing system, and the rights of ownership of the person who implements or develops AI technologies. It concludes by saying that an all-round regulatory response must not only entail some adjustments to the current doctrines but also involve a reconsideration of what the intellectual property law is supposed to do in this era of non-human intelligence. Since AI spans international boundaries, international consistency will become a vital goal to prevent a set of regulations.

Keywords: Artificial Intelligence; Intellectual Property; AI Authorship; Generative AI; Patent Law

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1. Introduction

It is clear that laws concerning intellectual property have always developed in response to changes in technology. Copyright was needed for printed materials, patents were needed during the industrial revolution, and intellectual property laws had to be rewritten as the internet age began. However, the development of artificial intelligence (AI) seems to be the biggest challenge faced thus far because it is not a tool used by individuals to create content; rather, it is a tool that can create literary material, music, drugs, and engineering

designs without human intervention, which would normally be protected under intellectual property laws.¹

The key point here is that intellectual property laws assume that all creations and inventions were created by human minds. To have copyrights, there must be an "author" and patents require an "inventor." In the case where an AI system generates content based on the analysis of millions of pieces of data or finds a drug candidate based on chemical reasoning without human intervention, both intellectual property laws fail to apply. The person who trains the machine does not write the work, and the prompt provided by the user might only include keywords.²

The present paper posits that the burgeoning spread of innovative and creative products produced by AI calls for more than just a doctrinal adjustment, but a fundamental rethinking of the very purposes and subjects of intellectual property rights. Section II presents the literature on this topic. Section III describes the aims of this paper. Section IV outlines the doctrinal basis of copyright and patent laws, and explains how they are anthropocentric. Section V provides an overview of important legal precedents and policy statements. Section VI locates the above in competing theories. Section VII discusses proposals made in response. Section VIII focuses on the issue of harmonization at the international level.

2. Literature Review

The literature on the topic of AI and IP law has expanded very quickly, despite being quite scattered in nature. Much early literature on the topic tended to be purely speculative and focused on conceptual issues rather than real-world legal problems. Later developments, however, have resulted in a much more contentious area of study.

Questions concerning authorship have occupied many legal minds. Guadamuz's comparative paper highlighted the fact that notions of originality within both Anglo-American and civilian jurisdictions were designed with human creativity in mind, making it impossible to adapt such concepts to AI-created work.³ Samuelson's groundbreaking piece of writing from 1986 on computer-generated creations discussed many issues currently faced in the field. His solution to the problem entailed adopting legislation that attributed authorship to the human behind the creative effort made by the computer, an approach used by the UK in section 9(3) of the Copyright, Designs and Patents Act of 1988.⁴

The issue of inventorship is equally contentious in academic discussions about patent law. Abbott's study of "reasonable robot" suggests that patent laws should adopt technology-neutral criteria that do not favor or discriminate against innovations made by AI. According to Pearlman, the language of the Patent Act does not preclude the notion of an AI inventor, and human-inventor criteria should be construed narrowly.⁵ Conversely, Lemley and Casey focus on system-level consequences and warn that recognition of AI as inventors might benefit established entities at the expense of competitive processes.⁶

¹ "WIPO, Revised Issues Paper on Intellectual Property Policy and Artificial Intelligence, WIPO/IP/AI/2/GE/20/1 REV (May 2020)".

² Ryan Abbott, *The Reasonable Robot: Artificial Intelligence and the Law* (Cambridge University Press, 2020), 65-72.

³ Andres Guadamuz, "Do Androids Dream of Electric Copyright? Comparative Analysis of Originality in Artificial Intelligence Generated Works," 2 "Intellectual Property Quarterly 169 (2017)".

⁴ "Pamela Samuelson," "Allocating Ownership Rights in Computer-Generated Works," 47 "University of Pittsburgh Law Review 1185 (1986).

⁵ "Russ Pearlman", "Recognizing Artificial Intelligence (AI) as Authors and Inventors Under U.S. Intellectual Property Law," 24 "Richmond Journal of Law and Technology 1 (2018)".

⁶ Mark Lemley & Bryan Casey, "Fair Learning," 104 *Texas Law Review* (forthcoming 2024); Andres Guadamuz, "The Artificial Intelligence Copyright Conundrum," 2022 *JIPITEC* 1.

In the realm of theory, the debates fall into instrumentalism versus natural rights categories. Thus, Gervais suggests a "machine authorship" concept, which would confer copyright to AI creators on account of incentivizing their investments.⁷ Yanisky -Ravid also favors an approach that prioritizes accountability of machine output to the creators of the software.⁸ At the same time, Ginsburg and Budiardjo are certain that the concept of authorship cannot survive separation from human factors.⁹

At the policy level, WIPO's ongoing consultation process has surveyed the landscape without settling any central conflicts, owing to the profound disagreement among members about the need and desirability of new international treaties.¹⁰ The "European Union's AI Act", despite its orientation toward safety and risk concerns, also carries implications for intellectual property governance that have yet to be studied by researchers.¹¹

Where the existing literature falls short is in developing a synthesis that progresses from diagnosis to prescription, placing practical doctrinal recommendations into a theoretical framework that explains why IP protection for AI-generated works should or should not exist. This article aims to contribute to such a synthesis.

3. Objectives of the Study

The goals of this paper are as follows. First, to precisely pinpoint and define the ways in which current intellectual property doctrines fail to account for "creative works or inventions" produced by AI technology, going beyond the assertion that "the law has not kept up" to determine exactly which doctrines are under strain and why. Second, to examine the reaction of judges and regulators in response to these strains, we should identify and understand whether such responses provide real and durable solutions or merely be can kicking exercises. Third, to weigh up various theoretical foundations for intellectual property against the particularities of AI creativity to determine which theoretical perspective, if any, offers the appropriate normative justification for protecting or denying IP rights to AI-produced works. Fourth, to develop some actual reform recommendations and to gauge their practicality in light of international commitments.

4. Doctrinal Foundations and the Human Authorship Imperative

4.1. Copyright Law and the Requirement of Authorship

The protection provided under "U.S. copyright" law applies to "original works of authorship fixed in any tangible medium of expression."¹² Originality as defined in copyright law must entail "that the work owes[s] its origin to the author and that it possesses at least some minimal degree of creativity."¹³ Of crucial importance here is the notion that for an idea to "owe its origin to the author," there has to be an actual author involved, i.e., someone making expressible choices rather than an automated entity. As the Copyright Office put it in its 2023 guidelines, it would not consider machine-produced outputs lacking any authorial intervention.¹⁴

⁷ "Daniel Gervais", "The Machine as Author," 105 "Iowa Law Review" 2053 (2020).

⁸ "Shlomit Yanisky-Ravid," "Generating Rembrandt: Artificial Intelligence, Copyright, and Accountability in the 3A Era," 2017 "Michigan State Law Review" 659, 700-712".

⁹ "Jane Ginsburg & Luke Budiardjo", "Authors and Machines," 34 Berkeley Technology Law Journal 343 (2019).

¹⁰ WIPO, "WIPO Conversation on Intellectual Property and Artificial Intelligence," "Third Session, Geneva, November 2020", WIPO/IP/AI/3/GE/20/INF/1 REV

¹¹ EU "Artificial Intelligence Act, Regulation (EU) 2024/1689, Official Journal of the European Union, L 2024/1689," 12.7.2024.

¹² "17 U.S.C. § 102(a) (2018); Burrow-Giles Lithographic Co. v. Sarony, 111 U.S. 53 (1884)".

¹³ "Feist Publications, Inc. v. Rural Telephone Service Co., 499 U.S. 340, 345 (1991)".

¹⁴ "U.S. Copyright Office, Copyright and Artificial Intelligence, Part 1: Digital Replicas (July 2023)".

The issue facing generative AI technology is that the choices involved in the process that generate the outputs, whether those are the choice of individual words, the melodic structure of the piece of music, or the composition of the image, are choices that do not come from the user but rather from the AI itself. While human intervention is necessary in the form of training data or instructions provided in prompts, it is not entirely clear whether the latter constitutes authorship as required by copyright law, especially after the recent clarification from the Copyright Office.¹⁵

The “United Kingdom’s Copyright”, “Designs and Patents Act (CDPA)” serves as a useful comparison in this regard. The definition of an author under Section 9(3) is that of “the person by whom the arrangements necessary for the creation of the work are undertaken.” While this solves the issue of putting AI-generated works in the public domain, it also opens up another can of worms because it doesn’t stipulate that the nominated author must make any expressive decisions.¹⁶

4.2. Patent Law and the Human Inventor Requirement

Problems for patent law concerning AI may well be even more pronounced. The “Patent Act” provides that “inventor” means the individual or, if a joint invention, the individuals collectively who invented or discovered the subject matter of the invention.”¹⁷ Courts have interpreted and applied the term “individual” such that only a natural person is an inventor. Such interpretation has recently been reaffirmed through the case of DABUS, in which the Federal Circuit ruled that the inventor must be a natural person.¹⁸ A similar decision by the EPO, interpreting the European Patent Convention, came to the same conclusion in light of the fact that an inventor must be a human individual.

The result is clear: inventions invented by AI technologies without decisive human intervention in the creation process will not qualify for patents under the existing legal regime. Once an invention is ineligible for a patent, it becomes part of the public domain instantly, denying the inventor any exclusivity rights, but also denying the public the benefit of the disclosure bargain facilitated by the patent system. Another option available to inventors is the utilization of trade secrecy in protecting their inventions created using AI technologies, although this offers less surety than patents, yet entails no disclosure requirement, which is counterproductive from the patent system’s knowledge dissemination point of view.¹⁹

5. Judicial and Regulatory Responses

5.1. The DABUS Cases

In DABUS, the conflict between artificial intelligence and patents has reached its most prominent form. “Stephen Thaler” applied for patents in several jurisdictions with DABUS, an AI system he designed, as the only inventor. All jurisdictions denied the applications because an AI could not qualify as an inventor.²⁰ In the case of ‘Thaler v. Vidal’, the Federal Circuit’s decision was significant for its purely textual approach, in which the court

¹⁵ “U.S. Copyright Office, Copyright Registration Guidance: Works Containing Material Generated by Artificial Intelligence, 88 Fed. Reg. 16190 (March 16, 2023)”.

¹⁶ “Berne Convention for the Protection of Literary and Artistic Works, art. 5, Sept. 9, 1886 (as revised)”.

¹⁷ 35 U.S.C. § 100(f) (2018).

¹⁸ Thaler v. Vidal, 43 F.4th 1207, 1213 (Fed. Cir. 2022).

¹⁹ “EPO Decision of the Examining Division dated 27 January 2020 in the case of European Patent Application No. 18 275 163”.

²⁰ “European Patent Office, Decision on Application No. 18 275 163”, “Food Container” (DABUS), January 27, 2020.

refrained from considering policy arguments in favor of or against AI inventorship and focused on the language "individuals" within the statute.²¹

The decisions in the DABUS cases highlight the core issue that is beyond the scope of textualist interpretation: if an AI system actually invents something independently without any contribution by humans, what policy response would best promote the objectives of the patent system? Refusal to provide patent protection might dissuade investments in research and development involving "artificial intelligence", while offering patent protection to the human implementer independent of his creativity could encourage rent-seeking behavior.

5.2. *The U.S. Copyright Office's 2023 Guidance*

While the March 2023 guidelines by the Copyright Office concerning works created using AI were cautious, they did not provide a complete framework to apply copyright doctrine to such situations. The Office noted that they would not register works created solely through the use of AI but stated that it could consider registering works where the human author had made "sufficient" selection, coordination, or arrangement of AI-generated content. This can be seen in the case of *Zarya of the Dawn* where only the human-generated story was registered while the AI-generated pictures were rejected.²² There are many unanswered questions concerning the guidelines issued by the Copyright Office. What quantum of human selection or arrangement would be "sufficient" to "satisfy the requirement" set out in the guidelines? Would writing prompts, selecting output, and editing output by a human creator suffice? It appears that there is no answer to these questions, thus posing a risk for investors in AI creation technologies.

5.3. *The European Approach*

The resolution on AI and IP passed by the European Parliament in 2020 did not prescribe any solutions but recognized the inefficiency of current legislation, urging the Commission to consider whether more forms of legal protection should be introduced.²³ The AI Act of the European Union adopted in 2024 places obligations upon providers of AI, specifically requiring them to make publicly available descriptions of datasets used for training the AI. Although the issue of AI ownership is not directly addressed within the Act, the question remains for consideration of national laws and further Commission action.

6. Theoretical Frameworks

6.1. *Incentive Theory*

Incentive theory, the dominant reason for IP rights in Anglo-American law, states that exclusive rights should be granted in return for the creative or inventive effort undertaken in order to provide incentives to undertake valuable investments.²⁴ In relation to AI, it can thus be argued that IP rights must be granted only if their presence is required in order to secure the investment that results in valuable creations. Insofar as the cost of training of the AI system would be repaid by virtue of the provision of services, or other means, including the first mover advantage, the existence of an intellectual property right would appear unnecessary. If, however, such a right is required to make up the investment in

²¹ *Thaler v. Vidal*, 43 F.4th 1207 (Fed. Cir. 2022).

²² "*Zarya of the Dawn* (Registration # VAu001480196); U.S. Copyright Office letter to Kristina Kashtanova (February 21, 2023)".

²³ "European Parliament Resolution of 20 October 2020 on Intellectual Property Rights for the Development of Artificial Intelligence Technologies, 2020/2015(INI)".

²⁴ Mark Lemley, "IP in a World Without Scarcity," 90 *New York University Law Review* 460 (2015)".

the AI system that produces valuable results, then there is a case for granting such a right, notwithstanding the absence of a traditionally understood author or inventor.²⁵

However, applying incentive theory to the field of AI faces one main problem, which is an empirical one, i.e., the lack of information on whether it is really necessary to induce innovation via the IP grant.

6.2. *Natural Rights and Author-Rights Theories*

The natural rights approach, which is prevalent in the civil law tradition, bases IP rights on the connection between the individual and his creation as a manifestation of either personality or labor.²⁶ This theory offers the least tolerance for the concept of AI as an author because AI does not have any personality or labor and thus cannot have interests protected by intellectual property laws. “Ginsburg and Budiardjo” argue that the moral theory of authorship precludes AI from being an author.

However, this theory could still have some use in a revised intellectual property law regime, where it may be used to support the notion of protecting human input into AI-generated works, the creativity of human authors involved in the selection, compilation, and editing of such works.

6.3. *Social Planning Theory*

According to social planning theory, IP rights ought to be designed to maximize social welfare by taking into account, besides incentives, the distributional impacts of exclusivity, requirements for follow-on innovation, and public interests.²⁷ In applying social planning theory to the issue of IP rights with regard to AI-generated works, the question is this: what would constitute an optimal allocation of property rights with respect to AI-generated works in terms of meeting the collective interests of society, especially with respect to the interests of those whose works have been utilized to train AI programs, developers who incur costs for conducting AI research, implementers who modify AI systems for practical purposes, and consumers who enjoy the benefits of the works generated by AI? Such a holistic approach is bound to yield results that are much more sophisticated than the results obtained through any purely incentive-based approach or natural rights approach.²⁸

7. Proposed Solutions and Their Evaluation

7.1. *Sui Generis Protection*

The most innovative proposal is the creation of a sui generis intellectual property right for AI-generated works. Unlike patents and copyright, this type of right would not rely on an attribution requirement, i.e., no claim would be made that such works have an author or inventor.²⁹ Protection for nonoriginal works, provided in the EU's database directive, is an example that illustrates that protection does not have to be based on a requirement of originality but rather on a requirement of an underlying economic activity, i.e., investment.³⁰ A sui generis right for “AI-generated” outputs can be crafted in such a way as to confer a bundle of limited rights on the developer or “user of the AI”, to be in place for a limited amount of time, to be subject to compulsory licenses for certain

²⁵ Robert P. Merges, “Who Owns the Output of Generative AI?” 36 “Harvard Journal of Law and Technology” 1 (2023).

²⁶ Lior Zemer, *The Idea of Authorship in Copyright* (Ashgate, 2007), 11-28.

²⁷ Niva Elkin-Koren & Michal Shur-Ofry, “Governance by Default,” 93 Southern California Law Review 227 (2020).

²⁸ “Shyamkrishna Balganes,” “Causing Copyright,” 117 “Columbia Law Review” 1 (2017).

²⁹ Cf. Database Directive 96/9/EC (EU), establishing sui generis protection for databases without requiring originality.

³⁰ Gervais, *supra* note 27, at 2079-2082.

uses, and to require disclosure of information about the data used to train the ‘algorithm’ and the algorithm itself. Such a right addresses the incentive problem without implying authorship or invention and includes additional accountability measures not found in the law. The main criticism against sui generis protection is that it may lead to locking up the big developers while keeping the smaller companies and public domain out of the picture. In case all outputs from AI are protected, the net result will be a massive privatization of information that is available in the public domain for free.

7.2. *Compulsory Licensing Regimes*

A compulsory license is a process whereby a right can be licensed to a third party ‘without’ the consent of the rights owner against a statutory royalty.³¹ In the case of AI technology, there are two different problems where the idea of compulsory licensing can help. The first problem concerns the use of copyrighted material for the training of “AI systems”, while the second issue involves the third-party use of material generated by the AI system.

In the first case, the concept of compulsory licensing means that developers can train their AI system against royalties to compensate copyright owners while overcoming potential transaction cost barriers involved in voluntary licensing. In the latter case, third-party use of copyrighted material will be allowed within a certain context, such as research, education, or development of new AI technology.³²

7.3. *Disclosure and Attribution Obligations*

Regardless of the copyright ownership issue, there is a valid reason for mandating disclosure requirements with regard to AI-created material. Consumers, licensing authorities, and society have a vested interest in knowing whether the work is produced by an AI algorithm or a human. Requirements of transparency in relation to general purpose AI set out in the EU AI Act is one way forward, although it does not take into account the issues of copyright and patent protection.³³ The issue of attribution obligation may help solve the problem of using third-party materials in the training of an AI program. If an obligation were imposed on developers of AI algorithms to disclose sources of their training, that will aid both compensation claims and regulation.

7.4. *Human-Centrism with Enhanced Doctrine*

The other way to tackle the issue of AI and intellectual property rights would be to keep the current provisions for human authorship and human inventors but develop doctrines as to under which circumstances the input of a person qualifies as authorship and/or invention. For copyrights, it would require elaboration of the hybrid approach of the US Copyright Office, specifying to what extent the person must select and organize works generated by artificial intelligence.³⁴ When it comes to patents, this approach would clarify that use of AI by a human inventor is similar to using microscopes and computers in inventions; therefore, even substantial contributions of AI should not disqualify a person from inventorship.

On the one hand, it allows avoiding difficulties related to the sui generis approach and being compatible with international regulations. On the other hand, it may not take

³¹ Cf. “17 U.S.C. § 115 (compulsory mechanical license for musical compositions)”.

³² “James Grimmelmann”, “Copyright for Literate Robots,” 101 “Iowa Law Review 657 (2016)”.

³³ European Commission, Proposal for a Regulation on Artificial Intelligence (Artificial Intelligence Act), COM (2021) 206 final.

³⁴ Peter Menell, “The Trouble with Magic Words: Navigating the Copyright/Innovation Interface,” 107 Iowa Law Review 1775 (2022).

into account the situation in which AI operates without significant human interaction and creates some perverse incentives to invent involvement of a person.

8. The International Dimension

Intellectual property law is, by nature, transnational. Similarly, the question of whether AI can generate intellectual property has a fundamentally international character. AI programs are trained and used in multiple countries; the output produced by such programs can be disseminated worldwide. The creators of the program and its users, whom the law could theoretically confer rights, could be in different countries. In such a world where the United States refused to accord copyright to AI-generated content while the UK recognizes it, and Japan recognized patents on AI inventions but the European Union did not, would lead to regulatory arbitrage, forum shopping, and distortions in competition. Although the TRIPS Agreement mandates minimum levels of IP protection, it does not mandate member countries to provide copyright or patent protection for “AI-generated” works or inventions. Similarly, the Berne Convention requires that only human-created works enjoy copyright protections, although this requirement is not explicitly stated in the Berne Convention.³⁵

While the “World Intellectual Property Organization (WIPO)” has become the most important platform for international discussion of the intersection between “AI and intellectual property”, the process-oriented and consensual decision-making processes at WIPO have been notoriously slow, and the differences among national interest positions are substantial. Wealthier nations, with significant AI sectors, may desire robust protection of AI-derived works; poorer nations, fearing exacerbating IP rents within the developed world, may resist such proposals.³⁶

A more realistic strategy for increasing international harmonization would involve soft law instruments, such as guidelines, model laws, and reciprocity agreements, rather than formal treaties. The WIPO Conversation on “Intellectual Property and Artificial Intelligence” represents an important step toward comparative analysis, which may form the basis for future harmonization.

9. Discussion and Analysis

As the preceding discussion demonstrates, there are no doctrinal solutions to the problem of AI authorship and inventorship. Human authorship and inventorship criteria cannot simply be adjusted because their use in copyright and patent law reflects fundamental values and underlying rationales of IP protection. Any change should therefore grapple with them head-on. The incentive argument in favor of copyright or patent protection for works created by an AI is more nuanced than it may seem on the surface. Once trained, an AI generates outputs with almost zero marginal costs. It follows that investment in training the AI can or cannot pay off via IP protection of its output, depending on the business model. In certain industries, including pharmaceutical research, the cost of AI-supported discovery is astronomical, and the path from development to commercialization can take many years, in such cases, exclusionary protection may be necessary. However, in industries where AI-created works are becoming more and more commoditized, incentives for protection are lacking.³⁷

It is important to give special attention to the accountability issue. AI-generated content that may infringe existing copyrights, defame actual individuals, or spread disinformation will raise liabilities that current legal norms handle inadequately. Where there is no

³⁵ “TRIPS Agreement, arts. 27-34, Apr. 15, 1994, 1869 U.N.T.S. 299”.

³⁶ “WIPO Standing Committee on the Law of Patents”, “Artificial Intelligence and Emerging Technologies, SCP/30/4 (2020)”.

³⁷ Merges, *supra* note 17, at 22-29.

author of an AI-“generated output”, it becomes uncertain who is accountable for its content. The reformed IP approach needs to resolve this issue, making protection dependent upon transparency and accountability rather than just ownership.

Lastly, the problem of training data cannot be considered apart from the issue of ownership. Outputs generated by AI that are derived from copyrighted training data create value partly by using other people's creative content without permission. This will lead to the same sort of injustice that the copyright system aims to rectify, unless it provides any form of redress for those whose creations are used for training purposes.³⁸

10. Conclusion

The era of generative AI requires a radical reassessment of intellectual property law. Traditional doctrines, based on the premise that the creator or inventor was a human, are incompatible with AI-produced material in that they require either a misapplication of their core principles or an abandonment of large portions of commercially important output to legal limbo. Neither option is desirable.

As this paper has contended, the solution lies in an instrumentalist approach, which recognizes that protection is needed only to the extent and in areas where it induces socially beneficial investments in artificial intelligence research; and in a social planning approach, which demands that any protection scheme include provisions for compensating data contributors, avoiding monopolization, and safeguarding the public domain.

Three specific reforms arise from this analysis. The first is a sui generis approach to protecting AI-generated outputs, in which rights would be granted to the developers or deployers of the output for a limited period of time, provided that certain requirements related to transparency and disclosure have been fulfilled. This would solve the incentivization problem without creating distortions in existing doctrines regarding authorship. Another proposal would entail a system of compulsory licenses for both the training of AI and any subsequent uses of the AI-generated outputs, thus striking a balance between the two opposing interests.

At the international level, the need for consistency will be critical in avoiding regulatory arbitrage and distortion of competition. WIPO will be the proper venue for these harmonization efforts; however, the rate of international negotiations is far outpaced by the speed of developments in AI technology. In the meantime, national jurisdictions ought to adopt a flexible interpretation of existing treaties such that no unintended results occur, and the temptation to codify a solution into law that conflicts with any possible international standard should be resisted.

What the AI and intellectual property really are is a matter of test with the intention of the law itself. Law as an instrument is geared towards human well-being. With the rise of technology whereby machines are already participating in activities that were previously considered only by human beings like creation and invention, the law is needed to lay its priorities-priorities that must not just preexamine former responses without due diligence.

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³⁸ "Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417 (1984); Authors Guild v. Google, Inc., 804 F.3d 202 (2d Cir. 2015)".

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