

ARTIFICIAL INTELLIGENCE AND COPYRIGHT: WHY THE UNITED STATES SHOULD GRANT FULL COPYRIGHT PROTECTION TO WORKS PRODUCED USING ARTIFICIAL INTELLIGENCE

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INTRODUCTION

The United States should update its current policy prohibiting the provision of copyright protection for works generated using artificial intelligence because doing so will promote creativity, help ensure reciprocal copyright protections for authors worldwide, and the extension of rights logically follows copyright principles that the

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Supreme Court has recently reaffirmed.¹ The first part of this paper discusses the history of copyright, the Intellectual Property clause of the United States Constitution, and the promotion of the progress of science and the useful arts using artificial intelligence.²

The second part of this paper will discuss how the United States models its copyright laws on international standards and has recently amended the Copyright Act in response to pressure from the European Union to conform to international standards for copyright protection.³ Part two will also discuss the growing worldwide trend toward adopting copyright laws that protect works generated by artificial intelligence.⁴ To ensure reciprocal copyright protections and economic rights in foreign countries, the United States should change its stance on not granting copyrights to works created using artificial intelligence.⁵

¹ Copyright Registration Guidance: Works Containing Material Generated by Artificial Intelligence, 37 CFR § 202 (2023) (discussing the United States Copyright Office’s current policy of only granting copyright protection to portions of works that are not created using artificial intelligence).

² U.S. CONST. art. 1, § 8, cl. 8.

³ JAMES BOYLE & JENNIFER JENKINS, *INTELLECTUAL PROPERTY: LAW AND THE INFORMATION SOCIETY – CASES AND MATERIALS* 279 (Balfour Smith ed., 5th ed. 2021).

⁴ *E.g.*, Nilofour Selvadurai & Rita Matulionyte, *Reconsidering Creativity: Copyright Protection for Works Generated Using Artificial Intelligence*, 15 J. INTELL. PROP. L. & PRAC. 536, 537 (2020); *see also* Bo Zhou, *Artificial Intelligence and Copyright Protection – Judicial Practice in Chinese Courts*, WORLD INTELLECTUAL PROPERTY ORGANIZATION (Nov. 24, 2019), https://www.wipo.int/export/sites/www/about-ip/en/artificial_intelligence/conversationipai/pdf/mschina1en.pdf [<https://perma.cc/2KEV-TTG5>].

⁵ *See generally* Haochen Sun, *Redesigning Copyright Protection in the Era of Artificial Intelligence*, 107 IOWA L. REV. 1213, 1217 (2022) (discussing granting works generated by artificial intelligence *sui generis* rights, which would afford protections for those works while also balancing the uncertainty of artificial intelligence).

Part three of this article will address the legal principles that support the extension of copyright protection to works generated by artificial intelligence. While Congress should amend the Copyright Act to address this technological change, the courts have historically taken the lead in advancing the use of new technology.⁶ Recent copyright cases have reaffirmed the principle that copyright laws should protect the original author's expression and economic incentives for the author's creation.⁷ Although the primary goal of copyright is to provide the public with the author's creative works, the financial incentives that copyright affords encourage authors to produce those works.⁸ The United States should adhere to these principles and extend copyright protection to works generated using artificial intelligence because extending those rights will incentivize creators to use artificial intelligence and create new works for society to enjoy.⁹

Finally, in part four, this paper will discuss two principal concerns regarding the grant of copyright to works generated using artificial intelligence and proposed solutions to those concerns.

Although the arguments in this paper apply to all works generated via artificial intelligence, this paper will use

⁶ See *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 429 (1984) (recognizing that Congress has the task of determining appropriate copyright protections while ensuring that new technology, the Betamax video tape recorder, was not stifled).

⁷ See *Andy Warhol Found. for the Visual Arts, Inc. v. Goldsmith*, 598 U.S. 508, 537–38 (2023) (ruling that the Andy Warhol Foundation could not assert the defense of fair use when art served essentially the same economic purpose as the original photograph in question).

⁸ *Sony*, 464 U.S. at 429 (citing *United States v. Paramount Pictures, Inc.*, 334 U.S. 131, 158 (1948)).

⁹ Zach Naqvi, *Artificial Intelligence, Copyright, and Copyright Infringement*, 24 MARQ. INTELL. PROP. L. REV. 15, 34 (2020) (discussing one type of artificial intelligence program called *Orb Composer* that can generate music after being trained by its user).

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the example of a musician creating new music using artificial intelligence to make its points.¹⁰ This is not an unheard-of scenario.¹¹ Artists, authors for the purpose of copyright, have begun training their artificial intelligence programs to produce new songs that sound like the artist sang them.¹² This paper will discuss a scenario where artists produce music to generate views on websites like YouTube, train their artificial intelligence program to create music that sounds like the artist, and then post that music on those websites to generate views for the artist’s channel.¹³ In scenarios like these, the creator or user of artificial intelligence should be considered the work’s author for copyright purposes, despite the use of artificial intelligence.¹⁴ Because copyright protection aims to “promote the progress of science and the useful arts,” works generated using artificial intelligence should be fully protected by the United States Copyright Office.¹⁵

I. GRANTING COPYRIGHT PROTECTION TO WORKS CREATED USING ARTIFICIAL INTELLIGENCE WILL FURTHER THE GOAL OF COPYRIGHT LAW.

Granting copyright protection to works created using artificial intelligence will promote the progress of science

¹⁰ See Today Explained, *Fake Drake*, VOX MEDIA L.L.C., (Apr. 28, 2023) (explaining how the artist uses artificial intelligence that produced music for YouTube that sounded exactly like that artist and fooled viewers and fans).

¹¹ Naqvi, *supra* note 9 at 34.

¹² Today Explained, *supra* note 10.

¹³ *Id.*

¹⁴ Robert Yu, *The Machine Author: What Level of Copyright Protection is Appropriate for Fully Independent Computer-Generated Works?*, 165 U. PENN. L. REV. 1241, 1259 (2014) (“Allocating rights to the end-user seems to make the most economic sense.”).

¹⁵ U.S. CONST. art. 1, § 8, cl. 8.

and useful arts and further the aim of copyright protection.¹⁶ American copyright law's primary purpose is to promote the [p]rogress of [s]cience and useful [a]rts."¹⁷ While the end goal of copyright law is to encourage the production of more works for the public to enjoy, the primary economic goal of copyright law is to provide an incentive for people to create new art.¹⁸ The United States Copyright Office could further incentivize the progress of science and useful arts if it granted works created using artificial intelligence complete copyright protection because more people would be incentivized to use the new technology in new and unique ways.¹⁹ This would not only create new works for the public to enjoy, but would also incentivize the creation of more advanced forms of artificial intelligence, which would then be able to produce even more new works for the public to enjoy.²⁰

A. *Artificial Intelligence explained.*

Artificial intelligence is a blanket term with multiple definitions, but it is ultimately the use of machines to accomplish something akin to human thought.²¹ Artificial intelligence can be defined as the use of a series of techniques and systems in a machine in an attempt to

¹⁶ See generally, Yu, *supra* note 14, at 1262 (discussing the economic incentives that could be present for end-users of artificial intelligence but acknowledging that they may not always be present).

¹⁷ Feist Publ'ns, Inc. v. Rural Tel. Serv. Co., 499 U.S. 340, 349 (1991).

¹⁸ JAMES BOYLE, *THE PUBLIC DOMAIN – ENCLOSING THE COMMONS OF THE MIND* 5 (Yale University Press, 2008).

¹⁹ Sun, *supra* note 5, at 1245 (discussing how protection of economic rights will ensure the holders of copyrights of works generated by artificial intelligence financially gain from their works).

²⁰ *Id.* at 1231.

²¹ Ryan Calo, *Artificial Intelligence Policy: A Primer and Roadmap*, 51 U.C.D. L. REV. 399, 404 (2017).

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approximate human cognition.²² It is also defined as “the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings.”²³ The specific technique that most artificial intelligence is programmed to use now, and the one this paper focuses on, is called “machine learning.”²⁴ Machine learning is the phrase used to describe the ability of an artificial intelligence program to essentially see, study, learn, react, and assist in creating similar to how a human would respond.²⁵

People use different artificial intelligence programs of varying sophistication across various applications.²⁶ Because of the wide range of uses in which people can use artificial intelligence and the different programming involved, artificial intelligence is generally categorized as either weak or strong.²⁷ Weak artificial intelligence is a program humans have developed to provide a predictable outcome.²⁸ This type of artificial intelligence is like a tool a person uses to create, much like a singer would use a microphone or recording system to make music.²⁹ A strong

²² *Id.*

²³ B.J. Copeland, *Artificial Intelligence Definition*, ENCYCLOPEDIA BRITANNICA (June 8, 2023), <https://www.britannica.com/technology/artificial-intelligence> [https://perma.cc/3CKH-BYF7].

²⁴ Calo, *supra* note 21, at 405.

²⁵ *Id.* (discussing various techniques employed by artificial intelligence and noting that machine learning is the most exciting use today).

²⁶ *Id.* at 407 (discussing artificial intelligence being developed for use by entities ranging from the Defense Advanced Research Project Agency to private technology companies because of the computing power artificial intelligence offers).

²⁷ Brian Golger, *Copyright in the Artificially Intelligent Author: A Constitutional Approach Using Phillip Bobbitt’s Modalities of Interpretation*, 22 U. PA. J. CONST. L. 867, 871 (2020).

²⁸ *Id.*

²⁹ *Id.* (“This artificial intelligence would be more akin to the artist’s paintbrush than the artist himself.”).

artificial intelligence is a program that produces results that are not always predictable.³⁰ However, at this point, artificial intelligence is still generally confined to working based on its given instructions, which provides some predictability as to the results, which would be considered weak artificial intelligence.³¹ Although it is easier to immediately apply the reasoning of this paper to weak artificial intelligence because that is much more commonly available, these same principles should apply to strong artificial intelligence as it is developed and becomes more common.³²

A human must train artificial intelligence, as we currently know it, to accomplish the various tasks that it is assigned.³³ Although technology companies program artificial intelligence, artificial intelligence can be, and is often, sold to consumers, where it can be used to produce new works.³⁴ When a consumer uses an artificial intelligence program, that user heavily influences what the artificial intelligence program learns and what it ultimately produces.³⁵ For example, the artificial intelligence music program, *Orb Composer*, can assist composers and bands in creating new music.³⁶ Similarly, single artists can train their artificial intelligence programs to produce songs that sound

³⁰ *Id.*

³¹ Naqvi, *supra* note 9, at 20.

³² See, e.g., Raquel Acosta, *Artificial Intelligence and Authorship Rights*, HARV. J. L. & TECH. DIGEST (Feb. 17, 2012) (discussing differences between strong and weak artificial intelligence and the fact that strong artificial intelligence is still being developed).

³³ Naqvi, *supra* note 9, at 34.

³⁴ *Id.* at 33.

³⁵ *Id.* at 34.

³⁶ *Id.* (“In the music industry, the company Hexachords has a product called Orb Composer, which is advertised as ‘the most accomplished music composition Artificial Intelligence in the world.’ Orb is marketed towards composers, bands, and orchestrators as creating music mock-ups and assist[ing] in creating musical themes.”).

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like the artist sang them.³⁷ Because the consumer is the end-user and trains the programs to create the new works, which would be protected by copyright if not for the use of artificial intelligence, that consumer should receive the copyright for the work that results from using artificial intelligence.³⁸ In these cases, the artificial intelligence program is simply an extension of the human using it, like a microphone or pencil, and the end work should receive full copyright protection.³⁹

B. *A brief history of copyright.*

Granting copyright protection to works that were generated using artificial intelligence would further the goals of United States copyright law.⁴⁰ United States copyright law was influenced by English law, specifically, the Statute of Anne, enacted in 1710.⁴¹ The statute's formal name was "An Act for the Encouragement of Learning, by vesting the Copies of Printed Books in the Authors or Purchasers of Copies, during the Times therein mentioned."⁴² The Statute of Anne was enacted to encourage authors to create more works by breaking the monopoly that printers held on the author's works.⁴³ The United States' founders felt that protecting the author's intellectual property rights was so necessary that the intellectual property clause was one of Congress's enumerated powers in Article I of the

³⁷ Today Explained, *supra* note 10 (discussing artist training artificial intelligence, resulting in the production of music that sounded exactly as if it was sung by the user of the program).

³⁸ Naqvi, *supra* note 9, at 34.

³⁹ Golger, *supra* note 27, at 871 (comparing artificial intelligence to the artist's paintbrush).

⁴⁰ See generally Yu, *supra* note 14, at 1261 (stating that economic incentives may not be the only incentives for artists to create new work but that it could be an incentive).

⁴¹ BOYLE & JENKINS, *supra* note 3, at 277.

⁴² Statute of Anne 1710, 8 Ann. c. 19.

⁴³ BOYLE & JENKINS, *supra* note 3, at 277.

Constitution.⁴⁴ Thomas Jefferson, who helped influence the Constitution, although not in favor of extending copyright protection for longer than necessary, recognized the economic incentives that the grant of copyright protection plays in encouraging the creation and was an influential figure in the intellectual property clause being added to the Constitution.⁴⁵

The United States passed its first copyright law in 1790.⁴⁶ This act was limited in scope but was still designed to promote the progress of science and the arts.⁴⁷ The scope of copyright protection would continue to expand over the following centuries until 1976 when the United States adopted the framework of the current Copyright Act.⁴⁸ This act was primarily adopted to comply with provisions of the Berne Convention for the Protection of Literary and Artistic Works.⁴⁹ The Berne Convention is one of several major international copyright treaties the United States has signed.⁵⁰ These international treaties generally seek to set minimum copyright standards and standardize protection among members to further creativity.⁵¹ By signing these treaties, the United States has attempted to ensure that the economic incentives for creation will not just be present for authors in the United States but will be more readily available globally.⁵²

⁴⁴ U.S. CONST. art. 1, § 8, cl. 8.

⁴⁵ BOYLE, *supra* note 18, at 20.

⁴⁶ BOYLE & JENKINS, *supra* note 3, at 277.

⁴⁷ *Id.*

⁴⁸ *Id.* at 278.

⁴⁹ *Id.* at 279.

⁵⁰ *Id.* at 279.

⁵¹ INTERNATIONAL ISSUES, <https://www.copyright.gov/international-issues/> [<https://perma.cc/X3NX-MXBJ>] (last visited June 8, 2023).

⁵² *See* Eldred v. Ashcroft, 537 U.S. 186, 206–07 (2003) (discussing that Congress adopted standards of the Berne Convention to ensure reciprocal rights and encourage author's dissemination of works).

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C. *Artificial Intelligence and the current United States Copyright Office stance on works generated using artificial intelligence.*

The United States should grant copyrights to works generated using artificial intelligence because it is a tool that end-users can use to promote the sciences and arts.⁵³ The United States Copyright Office does not currently grant copyright protection to works generated using artificial intelligence due to the lack of human authorship.⁵⁴ However, the Copyright Office will grant a copyright to the portion of the work made by a human, as opposed to being created by artificial intelligence.⁵⁵ This protection should be fully extended to the entire work.⁵⁶ Copyright law has historically developed because of significant technological changes and should be further adapted and developed to fit this new technology.⁵⁷

Artists already use artificial intelligence to create new music and other works promoting science and the arts.⁵⁸ To train and develop the artificial intelligence program, the artist must teach the program to produce a work that is like

⁵³ See Kanchana Kariyawasam, *Artificial Intelligence and Challenges for Copyright Law*, 28 INT'L J. L. INFO. TECH. 279, 282 (2020) (discussing that humans are still involved in the creative process and are still present for the purposes of determining authorship).

⁵⁴ Copyright Registration Guidance: Works Containing Material Generated by Artificial Intelligence, 37 CFR § 202 (2023).

⁵⁵ *Id.*

⁵⁶ See Kariyawasam, *supra* note 53, at 282 (“Awarding protection for AI does not rid copyright of its humanist aspect completely.”).

⁵⁷ *Computer Assocs. Int'l v. Altai*, 982 F.2d 693, 696 (2d Cir. 1992) (citing *Sony*, 464 U.S. at 430).

⁵⁸ Today Explained, *supra* note 10 (discussing artist’s artificial intelligence program creating music that sounded exactly as if it was sung by the user of the program).

what the artist would create.⁵⁹ Because the artist still has to exert time and effort into artificial intelligence to produce the result, a human author is still involved in the creation process.⁶⁰ In this regard, the artists use artificial intelligence as a tool to create new works.⁶¹ Although economic incentives are not always why artists create new work, United States copyright laws are based on the idea that they at least help create an incentive.⁶² Even if current copyright laws do not fit works produced using artificial intelligence, the United States should adopt copyright laws that fully protect works generated using artificial intelligence.⁶³

II. THE UNITED STATES SHOULD GRANT COPYRIGHT PROTECTION TO WORKS GENERATED USING ARTIFICIAL INTELLIGENCE TO ENSURE RECIPROCITY WITH FOREIGN NATIONS.

The United States generally bases its modern copyright laws on international standards and should adopt new copyright protections for works generated by artificial intelligence to ensure reciprocal copyright treatment worldwide.⁶⁴ The United States joined the Berne Convention, an international convention that sought to standardize international intellectual property protections, in

⁵⁹ *Id.*

⁶⁰ *Id.*

⁶¹ Golger, *supra* note 27, at 871 (comparing weak artificial intelligence to a paintbrush).

⁶² *Contra* Yu, *supra* note 14, at 1265 (arguing that economic incentives to reach the market first exist independently of copyright protection).

⁶³ *See* Selvadurai & Matulionyte, *supra* note 4, at 542 (discussing that application of current copyright laws to works made using artificial intelligence may not be applicable but suggesting considering *sui generis* rights for artificial intelligence).

⁶⁴ Sun, *supra* note 5, at 1216 (arguing for a copyright protection system that protects works generated by artificial intelligence internationally).

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1989.⁶⁵ Some of the standards imposed by this agreement are “national treatment” and minimum copyright standards among signatories.⁶⁶ These standards require signatories to offer the same application processes and benefits as they offer to their citizens to members of other signatory countries.⁶⁷ In exchange for the United States granting these benefits, the citizens of the United States may receive similar benefits from foreign countries.⁶⁸

Recently, a growing number of countries have started to expand copyright protection to works generated using artificial intelligence, and the United States should expand copyright protections to ensure reciprocal treatment with these nations.⁶⁹ There are several other systems of copyright protection used by Berne Convention members that the United States could look to as potential examples for granting copyrights to works generated by artificial intelligence, including systems implemented by China and the United Kingdom.⁷⁰ Because the United States has amended its copyright laws in the past to make international trade more straightforward, it should do so now.⁷¹

⁶⁵ BOYLE & JENKINS, *supra* note 3, at 279.

⁶⁶ *Id.*

⁶⁷ *Id.*

⁶⁸ *Id.*

⁶⁹ Sun, *supra* note 5, at 1216.

⁷⁰ Selvadurai & Matulionyte, *supra* note 4, at 537.

⁷¹ Kavya Rallabhandi, *The Copyright Authorship Conundrum for Works Generated by Artificial Intelligence: A Proposal for Standardized International Guidelines in the WIPO Copyright Treaty*, 54 GEO. WASH. INT’L L. REV. 311, 323–24 (2023).

A. *China has judicially granted rights to the copyright of works produced by artificial intelligence to the creative minds behind artificial intelligence's creation.*

The Chinese judicial system has recently started recognizing that artificial intelligence developers hold a copyright in the works the programs create because artificial intelligence utilizes the developer's training to produce the resulting work.⁷² In a recent case, *Shenzhen Tencent v. Shanghai Yingxun*, a Chinese court extended copyright protection to an article produced by artificial intelligence after being influenced and trained by the company's developers whose rights were infringed.⁷³ Because China is a member of the Berne Convention, the United States can look at the copyright laws that China has enacted to determine if they would work for the United States.⁷⁴

In *Shenzhen Tencent*, Tencent developed and used an artificial intelligence program called *Dreamwriter* to write a financial article.⁷⁵ Tencent then published this article on the company's securities website and acknowledged that *Dreamwriter* wrote the article.⁷⁶ The same day that Tencent published the original article, the defendant reposted the article to its own website without receiving permission from

⁷² Sun, *supra* note 5, at 1216 (discussing *Dreamwriter* artificial intelligence system).

⁷³ Zhou, *supra* note 4, at 2 (citing *Shenzhen Tencent Comput. Sys. Co. v. Shanghai Yingmou Tech. Co.*, People's Court of Nanshan District, 2019 Guangdong 0305 Minchu No. 14010 (Nov. 24, 2019)).

⁷⁴ Peter K. Yu, *The Long Winding Road to Effective Copyright Protection in China*, 49 PEPP. L. REV. 681, 693 (2022) (discussing China's agreement with the United States on intellectual property protection issues).

⁷⁵ Zhou, *supra* note 4, at 1 (citing *Shenzhen Tencent Comput. Sys. Co. v. Shanghai Yingmou Tech. Co.*, People's Court of Nanshan District, 2019 Guangdong 0305 Minchu No. 14010 (Nov. 24, 2019)).

⁷⁶ *Id.*

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Tencent.⁷⁷ Tencent then sued the defendant, alleging copyright infringement and unfair competition.⁷⁸

China's copyright law required that a work be "original and reproduced in a tangible form in the literary, artistic [or] scientific fields" to be eligible for copyright protection.⁷⁹ The Court found that the article produced by *Dreamwriter* was an original work that was protected by copyright because it used human inputs to produce the outcome.⁸⁰ Chinese law required that a work be the result of intellectual creation to be protected, and the court ruled that the amount of effort and creation that the developers initially put into *Dreamwriter* satisfied the requisite of being an intellectual creation.⁸¹ As discussed earlier, the court here ruled that artificial intelligence was the artist's tool.⁸² The court ruled that the entire creative team at Tencent assisted in the creation of the article because the whole team helped develop *Dreamwriter*.⁸³ Since *Dreamwriter* could only produce the article due to the creative development team's inputs, the developer, Tencent, held a valid copyright, and the defendant did infringe that copyright.⁸⁴

In a similar case, China recently reaffirmed that some human intervention is the determining factor when assessing whether a work produced using artificial intelligence

⁷⁷ *Id.*

⁷⁸ *Id.*

⁷⁹ Zhou, *supra* note 4, at 2.

⁸⁰ *Id.*

⁸¹ *Id.*

⁸² Golger, *supra* note 27, at 871 (describing artificial intelligence as the artist's paintbrush).

⁸³ Sun, *supra* note 5, at 1219 (stating that the court found *Dreamwriter's* automatic operation as a creation of the entire Tencent team so it would be unfair to regard creation of article as *Dreamwriter's* alone).

⁸⁴ *Id.* at 1234.

assistance is protected by copyright.⁸⁵ In *Gao Yang v. Youku*, the plaintiff alleged copyright infringement over photos that were automatically taken by the plaintiff's camera after the plaintiff attached the camera to a balloon.⁸⁶ The court ruled that the photos were protected by copyright despite the plaintiff not being the one to press the button to capture the photos.⁸⁷ The Chinese court reaffirmed the requirement stated in *Tencent*, as long as there was some human intervention in creating the work, the work was protected by copyright.⁸⁸ At this point, Chinese courts have not directly addressed autonomously generated work created by artificial intelligence, but the courts have consistently held that if there is human intervention at any point in the artificial intelligence training, then the end product is protectable by copyright.⁸⁹

B. The second approach some countries have taken is to grant the copyright to the user necessary for the arrangements of the work generated by the computer program.

The United Kingdom's Copyright, Designs, and Patent Act of 1988 offers another option for the United States to follow, awarding the copyright of a work generated using artificial intelligence to the person who made the creation of the work possible.⁹⁰ This act would appear to

⁸⁵ Zhou, *supra* note 4, at 4 (citing *Gao Yang v. Youku*, Beijing Intellectual Property Court, 2017 Jing 73 Min Zhong No. 797 Civil Judgment (Apr. 2, 2020)).

⁸⁶ *Id.*

⁸⁷ *Id.*

⁸⁸ *Id.*

⁸⁹ Alesia Zhuk, *Navigating the Legal Landscape of AI Copyright: A Comparative Analysis of EU, US, and Chinese Approaches*, AI ETHICS (2023).

⁹⁰ Copyright, Designs and Patents Act 1988 c. 48, § 9(3) (U.K.) (“In the case of a literary, dramatic, musical or artistic work which is computer-

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grant copyright protection to the end-user that used artificial intelligence to create the work, but there is an argument that it could apply to the creator of artificial intelligence.⁹¹ The United Kingdom does currently award copyright protection to works created with assistance from a computer to the party that made the necessary arrangements for the work.⁹² In the past, the United Kingdom High Court has ruled that the human who inputs the information into the computer system was using the system as a tool and awarded copyright protection to that end user.⁹³

In *Express Newspapers Plc v. Liverpool Daily Post & Echo Plc*, the plaintiffs published a competition for its readers that would ultimately be decided based on a series of five rows and five columns of random numbers, with the goal being to obtain a matching card.⁹⁴ A rival newspaper

generated, the author shall be taken to be the person by whom the arrangements necessary for the creation of the work are undertaken.”).

⁹¹ Chintan Bhardwaj & Saakshi Agarwal, *The Dilemma of Copyright Law and Artificial Intelligence in India*, SOCIAL SCIENCE RESEARCH NETWORK (Apr. 2, 2021) (discussing the choice this provision would force the courts to make when works that are entirely generated by artificial intelligence without human input come into existence).

⁹² Oways Kinsara, *Clash of Dilemmas: How Should UK Copyright Law Approach the Advent of Autonomous AI Creations?*, 6 CAMBRIDGE L. REV. 62, 75–76 (2021) (discussing *Nova Productions Ltd. v. Mazooma Games Ltd.*, [2007] EWCA Civ 219; [2007] EMLR 14, 427, in which a player of a videogame allegedly violated the programmer’s copyright. “The player, as per Mr[.] Justice Kitchin, ‘is not, however, an author of any of the artistic works created in the successive frame images. His input is not artistic in nature and he has contributed no skill or labour of an artistic kind . . . All he has done is to play the game.’ Thus, it was held that it is the programmer by whom the necessary arrangements are undertaken and, therefore, who is entitled to authorship.”).

⁹³ Jani Ihalainen, *Computer Creativity: Artificial Intelligence and Copyright*, 13 J. INTELL. PROP. L. & PRAC. 724, 725 (2018) (discussing *Express Newspapers Plc v. Liverpool Daily Post & Echo Plc*, [1985] 3 All E.R. 680).

⁹⁴ *Id.*

published the winning combination before the plaintiff's intended publishing date, and the plaintiff sued for copyright infringement.⁹⁵ The defendants argued that since a computer generated the number sequences, the sequences were not copyrightable.⁹⁶ The court ruled that the defendants did infringe the plaintiff's copyright because the computer was merely a tool that the plaintiff used to generate the sequence.⁹⁷

Although the United Kingdom's policy on granting copyright protection to works utilizing artificial intelligence as an assistant appears straightforward, the United Kingdom still needs to extend similar protections to works generated entirely by artificial intelligence.⁹⁸ In *Thaler v. Comptroller-General of Patents, Designs, and Trademarks*, an inventor filed a patent application for a beverage container and an emergency beacon designed by his artificial intelligence system, *DABUS*.⁹⁹ Thaler's United Kingdom application was ultimately denied because *DABUS* was not a human inventor.¹⁰⁰ At the same time, Thaler also filed similar patent applications with the United States Patent and Trademark Office and the European Patent Office.¹⁰¹ All of

⁹⁵ *Id.*

⁹⁶ *Id.*

⁹⁷ *Id.* (“the computer was no more than a tool”).

⁹⁸ Sun, *supra* note 5, at 1223 (discussing the United Kingdom Intellectual Property Office's rejection of Thaler's patent that was filed and listed *DABUS* as the inventor).

⁹⁹ *Thaler v. Comptroller-General of Patents, Designs, and Trademarks*, [2023] UKSC 49, paras. 3–4, <https://www.supremecourt.uk/cases/docs/uksc-2021-0201-judgment.pdf> [<https://perma.cc/NUQ4-YP5X>].

¹⁰⁰ Sun, *supra* note 5, at 1223.

¹⁰¹ *See* *Thaler v. Iancu*, No. 1:20-cv-00903-LMB-TCBVAED, 2021 WL 659486, (E.D. Va. Jan. 18, 2021)); *See also* EPO Refuses *DABUS* Patent Applications Designating a Machine Inventor, EUROPEAN PAT. OFF. (Dec. 20, 2019), <https://www.epo.org/en/news-events/news/epo-refuses-dabus-patent-applications-designating-machine-inventor#:~:text=EPO%20refuses%20DABUS%20patent%20applications%20designating%20a%20machine%20inventor,->

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these patent applications were denied because *DABUS* did not satisfy the requirement of a human inventor.¹⁰² *Thaler* is worth noting because United States copyright decisions have often used patent laws to support their expansion.¹⁰³ *Thaler* reaffirmed the need for human involvement in the creative process in the United Kingdom, instead of merely letting the machine operate with no human intervention.¹⁰⁴

C. *The United States should follow the logic of foreign courts, grant copyright protection to works made using artificial intelligence, and be willing to extend protection to works entirely generated by artificial intelligence.*

As a member of various international treaties, the United States should expand the works that it covers under

20.12.2019&text=The%20EPO%20has%20refused%20two,type%20of%20connectionist%20artificial%20intelligence”.

[<https://perma.cc/Z5QN-6XKH>].

¹⁰² See Sun, *supra* note 5, at 1222–23; see also Justin M. Lange, *Intellectual Infidelity: The United States, Intellectual Property Law, and Thaler v. Iancu*, 49 SYRACUSE J. INT’L L. & COM. 155, 158 (2022) (discussing the USPTO’s rejection of Thaler’s application).

¹⁰³ See *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 439–40 (1984) (noting “historic kinship between patent law and copyright law” and using patent law as a means to expand copyright fair use defense).

¹⁰⁴ Sun, *supra* note 5, at 1228; see also BL O/741/19, Decision, United Kingdom Intellectual Property Office, para. 18 (Dec. 4, 2019) (“Given this, there is a clear expectation that the inventor and person for the purpose of sections 7 and 13 respectively are one and the same, namely a natural person – a human and not an AI machine.”), <https://www.ipo.gov.uk/p-challenge-decision-results/o74119.pdf> [<https://web.archive.org/web/20240118022751/https://www.ipo.gov.uk/p-challenge-decision-results/o74119.pdf>].

copyright to ensure reciprocal protections.¹⁰⁵ The United States can help its authors receive similar treatments worldwide, furthering the goals of United States copyright law.¹⁰⁶

The United States should adopt standards like those that have been put forward by both Chinese¹⁰⁷ and British¹⁰⁸ law and view artificial intelligence as a tool that the human uses.¹⁰⁹ Artificial intelligence, as a tool, still requires input by the end-user input to fully function.¹¹⁰ For example, an artist must still train her artificial intelligence program to function and sound like her when it produces a song.¹¹¹ Although developers are responsible for the initial creation and programming of artificial intelligence, artificial intelligence must still be trained by the end user.¹¹² The end user should be granted the copyright to the work produced because that user serves as the author who helps produce the resulting work.¹¹³

¹⁰⁵ BOYLE & JENKINS, *supra* note 3, at 279 (discussing national treatment among members of treaties).

¹⁰⁶ See *Eldred v. Ashcroft*, 537 U.S. 186, 206 (2003) (discussing that Congress adopted standards of the Berne Convention to ensure reciprocal rights and encourage author's dissemination of works).

¹⁰⁷ See Sun, *supra* note 5, at 1218.

¹⁰⁸ See Richard Hoad & Sarah Martine, *The Authorless Song: Artificial Intelligence and Australia's Copyright Law Regime*, CLAYTON UTZ (May 14, 2020), <https://www.claytonutz.com/insights/2020/may/the-authorless-song-artificial-intelligence-and-australias-copyright-law-regime> [<https://perma.cc/2L9D-W2KP>] (discussing the category of "computer-generated works" in the United Kingdom copyright law as creating the possibility of copyright protection for works generated by AI).

¹⁰⁹ See Golger, *supra* note 27, at 871 (describing artificial intelligence as a paintbrush).

¹¹⁰ Sun, *supra* note 5, at 1238.

¹¹¹ See Today Explained, *supra* note 10.

¹¹² Sun, *supra* note 5 at 1238.

¹¹³ *Contra* Yu, *supra* note 14, at 1262 ("However, under traditional copyright doctrine, it would be difficult for the end-user to secure a

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Similarly, as more independent, strong artificial intelligence becomes available, the United States should grant copyright protections for the works produced using artificial intelligence to the user who was responsible for applying the necessary program that was responsible for the creation.¹¹⁴ Although it appears that artificial intelligence operates completely independently, there still has to be a user who programs the machine to operate and produce results, which satisfies the requirement of a human being the owner of the copyright.¹¹⁵ Granting the copyright to the human who made it possible for the machine to create would fit into the traditional theory that copyright serves as an economic incentive for creation.¹¹⁶

Granting copyright protection to works generated by artificial intelligence does not mean that those works must be protected for the same time that copyright protection currently lasts for humans.¹¹⁷ The United States has adapted the intellectual property rights it grants to particular objects, like ship hull designs, in the past and could do so here.¹¹⁸ Ultimately, artificial intelligence is merely a tool that people use to create new works, and granting protection for these works could incentivize using these programs to create new works.¹¹⁹

Granting copyright protection to the user responsible for artificial intelligence's output would recognize that artificial intelligence is merely a tool created by humans for

copyright because he has contributed very little to the creative process and holds the weakest claim to any copyrightable contribution.”)

¹¹⁴ Sun, *supra* note 5, at 1229 (discussing European Union and United States embracing the human-centric notion of ownership).

¹¹⁵ *Id.*

¹¹⁶ *Id.* at 1226.

¹¹⁷ *Id.* at 1236.

¹¹⁸ *Id.*

¹¹⁹ *Contra* Sun, *supra* note 5, at 1236 (arguing that strong artificial intelligence is different than a tool to be used by humans).

humans to use to create new works.¹²⁰ By viewing artificial intelligence as a tool used by humans, the United States would still require an author and would ensure reciprocal treatment of copyright protections globally.¹²¹

III. GRANTING COPYRIGHT PROTECTION TO WORKS GENERATED USING ARTIFICIAL INTELLIGENCE WOULD ADHERE TO THE TRADITIONAL COPYRIGHT LAW PRINCIPLES AND LOGICALLY FOLLOW SEVERAL RECENT SUPREME COURT RULINGS.

Although the following United States Supreme Court cases were decided based on the affirmative defense of fair use, the Court’s logic for reaching these conclusions supports the argument for granting copyright protection to works created using artificial intelligence.¹²² The following cases show how the Supreme Court has adapted copyright law to changing technology and to address and affirm the underlying principles of copyright law.¹²³ Because the works generated using artificial intelligence are akin to a human using a tool to create the work, the law should use these principles to adapt copyright law and grant copyright protection to works generated using artificial intelligence.

¹²⁰ See Today Explained, *supra* note 10.

¹²¹ See Kanchana Kariyawasam, *supra* note 53, at 282 (“Awarding protection to AI does not rid copyright of its humanist aspect completely.”).

¹²² See Van Lindberg, *Building and Using Generative Models Under US Copyright Law*, 18 RUTGERS BUS. L. REV. 1, 3 (2023) (“Legal opinions start by discussing the relevant facts of a case. Based on these facts, legal principles from previous cases are applied using logic and analogy, extending the law to new circumstances.”).

¹²³ See *id.*

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A. *Sony Corp. of America v. Universal City Studios, Inc.*

The Supreme Court has ruled that changes in technology do not change the fundamental purpose of the Copyright Act, which is to promote creativity that will benefit the general public.¹²⁴ In *Sony*, Universal and Disney filed suit against Sony for infringing their copyrights of television shows and movies by selling the Betamax video tape recorder.¹²⁵ The Betamax was a new technology that, when used as a tool, allowed users to record television shows that they would have otherwise missed.¹²⁶ This enabled the viewers to copy the copyrighted works without needing permission from either Universal or Disney.¹²⁷ Although the Respondents filed suit against one Betamax user, the focus of the Supreme Court's decision was on Sony's production of the Betamax and fair use.¹²⁸

The Court stated that copyright law has developed based on significant technological changes since the beginning of the copyright grants.¹²⁹ The Court noted that copyright protections were first codified into law because of the invention of a new technology, the printing press.¹³⁰ Applying that principle in this case, the Court ruled that if the Betamax was capable of substantial noninfringing uses then it should be protected against the claim of copyright infringement.¹³¹ Ultimately, the Betamax served a

¹²⁴ *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 432 (1984).

¹²⁵ *Id.* at 420.

¹²⁶ *Id.* at 422–23

¹²⁷ *Id.* at 421.

¹²⁸ *Id.* at 420.

¹²⁹ *Sony*, 464 U.S. at 430 (“From its beginning, the law of copyright has developed in response to significant changes in technology.”).

¹³⁰ *Id.*

¹³¹ *Id.* at 442.

beneficial purpose which necessitated its protection.¹³² Not only did the Betamax serve a useful purpose by allowing families to record and watch shows together, but the Court found that the Betamax could also benefit broadcasters of shows by making it possible for more people to watch their shows.¹³³ However, the Copyright Act did not directly address the issue of contributory infringement or vicarious liability, so the Court adapted copyright laws to encourage the use and production of this new, useful technology that people were using.¹³⁴

The Court expanded the copyright doctrine of fair use to fit the changing technological landscape and found that the Betamax was “capable of commercially significant noninfringing uses.”¹³⁵ Because copyright law was not suitably adapted for the technology change, the Court expanded the copyright doctrine of fair use to allow Sony to continue benefitting economically.¹³⁶ The majority in *Sony* understood that copyright law needed to stay current with technological changes.¹³⁷ The majority also recognized that the underlying purpose of copyright law is to provide economic incentives to authors so that they will create new works that will benefit the public.¹³⁸ The Court ruled that since the Betamax could be used for legitimate purposes that benefitted the public, Copyright law should adapt to accommodate the new technology.¹³⁹

¹³² *Id.* at 454.

¹³³ *Id.*

¹³⁴ *Sony*, 464 U.S. at 439.

¹³⁵ *Id.* at 442.

¹³⁶ William Henslee, *You Can't Always Get What You Want, But If You Try Sometimes You Can Steal It and Call It Fair Use: A Proposal To Abolish The Fair Use Defense For Music*, 58 CATHOLIC U. L. REV. 663, 680 (2009) (“The majority in *Sony* abused the fair use doctrine in an effort to justify an economic decision.”).

¹³⁷ 464 U.S. at 442.

¹³⁸ *Sony*, 464 U.S. at 454.

¹³⁹ *Id.* at 442.

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B. *Google L.L.C. v. Oracle America, Inc.*

The Supreme Court has also ruled that a company that used an application programming interface (API) to create a new and transformative work was not liable for copyright infringement because it furthered the goals of copyright law.¹⁴⁰ In *Google*, Google took a portion of the Java SE program without permission to help create its Android phones.¹⁴¹ Google asserted that its taking of Oracle's Sun Java API constituted a fair use because its use of the program was new and benefitted the public.¹⁴²

The Sun Java API was the code, or tool, that allowed users to interact with a given computer system more efficiently.¹⁴³ When it created the Android line of phones, Google aimed to create a platform that allowed users to use it and develop new apps or works easily.¹⁴⁴ The Sun Java API was one of the most widely used APIs at the time, which about six million programmers had learned to use.¹⁴⁵ The API is the foundation for building and creating new works within a computer program.¹⁴⁶ The prewritten code allowed users to create new programs without learning a new computer program.¹⁴⁷ Essentially, the API was the tool that programmers could use to create new works on the platform, and the creation of these works was facilitated by avoiding making programmers learn to operate on a brand new API.¹⁴⁸ Although Google wrote most of the code for Android devices, Google copied much of the Sun Java API

¹⁴⁰ *Google L.L.C. v. Oracle Am., Inc.*, 141 S. Ct. 1183, 1209 (2021).

¹⁴¹ *Id.* at 1191.

¹⁴² *Id.* at 1207.

¹⁴³ *Id.* at 1191.

¹⁴⁴ *Id.*

¹⁴⁵ *Google L.L.C.*, 141 S. Ct. at 1190.

¹⁴⁶ *Id.*

¹⁴⁷ *Id.*

¹⁴⁸ *Id.*

because it was already widely known and used, and would facilitate the creation of new works¹⁴⁹

The Court ruled that Google's use of the Sun Java API was fair because it was consistent with the fundamental constitutional objective of copyright - to further creative progress.¹⁵⁰ Although Google copied a significant number of lines for the Android API, Google's purpose was to create a system that would "stimulate creativity for public illumination."¹⁵¹ The Court recognized the need to adapt current copyright laws to a new technology to further the purpose of copyright, and they did so in this case.¹⁵²

C. Andy Warhol Foundation for the Visual Arts v. Goldsmith

The Supreme Court recently ruled that the defense of fair use was not available to an artist when the allegedly infringing work served a similar commercial nature as the photograph the artist used for inspiration, which is consistent with the economic incentive copyright provides.¹⁵³ In *Andy Warhol Foundation*, a photographer sued the Andy Warhol Foundation (Foundation) after she found out that Andy Warhol allegedly exceeded the scope of the license granted to him by the photographer.¹⁵⁴ In 1984, the photographer granted Andy Warhol a license to use her photograph of the

¹⁴⁹ *Id.*

¹⁵⁰ *Google L.L.C.*, 141 S. Ct. at 1203.

¹⁵¹ *Id.*

¹⁵² *Id.* at 1208–09 (“Rather, we here recognize that application of a copyright doctrine such as fair use has long proved a cooperative effort of Legislatures and courts, and that Congress, in our view, intended that it so continue. As such, we have looked to the principles set forth in the fair use statute, § 107, and set forth in our earlier cases, and applied them to this different kind of copyrighted work.”).

¹⁵³ *Andy Warhol Found. for the Visual Arts, Inc. v. Goldsmith*, 598 U.S. 508, 536 (2023).

¹⁵⁴ *Id.* at 517–18.

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singer Prince as a reference for a silk screen painting that Warhol would make for Vanity Fair.¹⁵⁵ The work that Warhol created appeared on the cover of Vanity Fair in 1984 and was known as “Purple Prince.”¹⁵⁶ Vanity Fair used Purple Prince on the magazine cover to illustrate a story about Prince.¹⁵⁷

Unbeknownst to the photographer, Warhol produced fifteen other similar Prince pieces of art, which exceeded the scope of Goldsmith’s license.¹⁵⁸ The photographer discovered Warhol’s other creations in 2016 when Vanity Fair published a similar piece of Warhol’s art, “Orange Prince,” on the magazine cover to illustrate an article about Prince.¹⁵⁹ The photographer sued the Foundation for copyright infringement, and the Foundation asserted the affirmative defense of fair use because Warhol’s creation was transformative and did not serve the same purpose as the original photograph.¹⁶⁰ The district court granted summary judgment for the Foundation, but the appellate court reversed, finding that the purpose and character of Warhol’s art made the first factor of fair use weigh in favor of the photographer.¹⁶¹

The Supreme Court ruled on the first statutory factor of fair use and found that the Foundation could not assert an affirmative defense of fair use in this case because of the similar commercial nature of the photograph and Warhol’s art.¹⁶² Although the Foundation argued that Warhol’s art was transformative and should be protectable under the doctrine of fair use, the court ruled that both uses of a

¹⁵⁵ *Id.*

¹⁵⁶ *Id.* at 518.

¹⁵⁷ *Id.*

¹⁵⁸ *Andy Warhol Found. for the Visual Arts*, 598 U.S. at 515.

¹⁵⁹ *Id.* at 519.

¹⁶⁰ *Id.* at 515–16.

¹⁶¹ *Id.*

¹⁶² *Id.* at 546.

representation of Prince served a commercial nature; therefore, fair use was not applicable.¹⁶³ The Court recognized that one of the essential purposes of copyright law is to provide an economic incentive for authors to create works and that a ruling in favor of fair use in this situation would be adverse to that purpose.¹⁶⁴

D. Application of Case Law Principles

Although copyright law for works generated using artificial intelligence may differ slightly from each of these cases, the principles used to support the Court's decisions in each of these cases can be applied to copyright protections for works generated by artificial intelligence.¹⁶⁵ These three cases all involve rulings on fair use, a concept that was initially developed by the courts and was only codified into law after the courts applied copyright concepts and principles to new situations.¹⁶⁶ Copyright law can be adapted using these principles because artificial intelligence is a new technology that can further the purpose of copyright law, to provide an economic incentive to authors to create new works for the public to enjoy.

Like *Sony*, artificial intelligence presents lawmakers with a new technology that can create new works that would benefit the public.¹⁶⁷ Although copyright protections have

¹⁶³ *Andy Warhol Found. for the Visual Arts*, 598 U.S. at 547.

¹⁶⁴ *Id.* at 549–50.

¹⁶⁵ See Lindberg, *supra* note 122, at 7 (“In short, the successful law student has a mental model of how the law is “supposed” to work based upon her analysis of the many cases studied during the class. Unlike the second student who just memorized facts, she can predict how courts would analyze new facts and new situations. She has learned to “think like a lawyer.””).

¹⁶⁶ *Google L.L.C. v. Oracle Am., Inc.*, 141 S. Ct. 1183, 1199–1200 (2021).

¹⁶⁷ 464 U.S. at 429 (quoting *United States v. Paramount Pictures, Inc.*, 334 U.S. 131, 158 (1948)) (“The sole interest of the United States and

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expanded for copyright holders since this case¹⁶⁸, United States copyright laws should adapt using the same principles expressed in *Sony*. Artificial intelligence can be used by artists, like the Betamax, as a tool that benefits the user by providing the ability to create new works.¹⁶⁹ Additionally, unlike the Betamax, users of artificial intelligence are actively creating new works for the public to enjoy, which furthers the purpose of copyright law.¹⁷⁰

Like *Google*, the user of artificial intelligence is taking an existing program and using it to create these new works that benefit the public.¹⁷¹ Although the programmer initially makes it possible for the artificial intelligence to function, the end user ultimately trains the artificial intelligence and makes it possible for the program to create a new work for the public to enjoy.¹⁷² Much like *Google*, the end user of the artificial intelligence program is taking a

the primary object in conferring the monopoly lie in the general benefits derived by the public from the labor of the authors.’ It is said that reward to the author or artist serves to induce release to the public of the products of his creative genius.”)

¹⁶⁸ See generally *Realnetworks, Inc. v. DVD Copy Control Ass’n*, 641 F. Supp. 2d 913, 941 (N.D. Cal. 2009).

¹⁶⁹ See Naqvi, *supra* note 9, at 34.

¹⁷⁰ At the time of this paper’s writing, the *Beatles* announced that the group would be releasing a new song using artificial intelligence to provide John Lennon’s voice for the song. See generally Riddhi Setty, *John Lennon AI Revival Adds to Debate Over IP Rights of the Dead*, BLOOMBERG LAW (June 15, 2023, 5:10 AM), [¹⁷¹ *Id.*](https://www.bloomberglaw.com/bloomberglawnews/exp/eyJpZCI6IjA wMDAwMTg4LWJhNDctZGU0Mi1hZGRmLWJmYzcyMzdjMDAw MSIsImN0eHQiOiJCVU5XIiwidXVpZCI6IkZhT3Y5cWh0bzltOFUz MkxVWVWpIL3c9PVFwcXN4RWU2V2pZMI1hNQTE4WXZ4c2c9PSIs InRpbWUiOiIxNjg2ODMyMjA0OTYxIiwic2lnIjoisUFtTTdlSWdZcH ZMSHVBNlFDUHJCVRlYQjJBPSIsInYiOiIxIn0=?isAlert=false&ite m=read-text®ion=digest&source=newsletter&udvType=Alert. [https://perma.cc/Y9S7-9PJU].</p></div><div data-bbox=)

¹⁷² Naqvi, *supra* note 9.

previously created program and using that program to further the user's own creativity and create more works for the public to enjoy.¹⁷³ The programmer should only receive the copyright that protects the final product if there is no end-user because the end user uses artificial intelligence to create the works.¹⁷⁴ Additionally, granting copyright protection to the end-user who uses artificial intelligence would extend the incentive to create new works to a much broader portion of the population and further the fundamental goals of copyright laws to generate new works for the public.¹⁷⁵

Similarly, the principles the Court relied on in *Andy Warhol Foundation* reaffirmed the necessity of providing an economic incentive for the creators of works.¹⁷⁶ However, unlike *Andy Warhol Foundation*, artificial intelligence is used to produce new works that do not serve as substitutes for the original work on which the program was trained.¹⁷⁷

When an artist produces music for her YouTube channel, she does so for commercial reasons, to generate views.¹⁷⁸ When the artist has trained her artificial

¹⁷³ See Jani Ihalainen, *supra* note 93, at 725 (discussing *Express Newspapers Plc v. Liverpool Daily Post & Echo Plc*, 1 W.L.R. 1098 (1985) (describing the computer as a tool)).

¹⁷⁴ *Id.*

¹⁷⁵ Lindberg, *supra* note 122, at 51–52 (“Generative ML models make artistic creation accessible to a broad portion of the population—and it is evident that new works are being created every hour of every day. This fulfills the ‘basic constitutional purpose’ of copyright to an unprecedented degree.”).

¹⁷⁶ 598 U.S. at 535 (“Such licenses for photographs or derivatives of them, are how photographers like Goldsmith make a living. They provide an economic incentive to create original works, which is the goal of copyright.”).

¹⁷⁷ Lindberg, *supra* note 122, at 50–51 (“The *Warhol* court found that both Orange Prince and Goldsmith’s original photograph were licensed for magazine covers, showing that the two works were substitutes in that market. However, an ML model is not viewable or intelligible in the same way as the works used to train the model.”).

¹⁷⁸ Today Explained, *supra* note 10.

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intelligence program to use her voice to create new music, that artificial intelligence program is taking the artist's work and helping produce a work that will have the same purpose and character as the artist's original work and satisfy the same niche in the market as the artist's other videos.¹⁷⁹ Through his process, the artist has invested time and energy into training artificial intelligence to produce this new work.¹⁸⁰ Providing copyright protection to these works will provide an economic incentive to artists to continue to exert the time and energy necessary to train artificial intelligence programs and produce new works.¹⁸¹

Although this paper has focused on weak artificial intelligence, these fundamental copyright principles can and should, be applied to strong artificial intelligence as it becomes more widely available. The person who uses artificial intelligence as a tool to create new works should receive copyright protection so that she benefits from the economic incentives that copyright protection provides.¹⁸² Although there is not currently one perfect answer for solving the problem of assigning copyright to works generated using artificial intelligence, these basic principles

¹⁷⁹ *Id.*

¹⁸⁰ *Id.*

¹⁸¹ Naqvi, *supra* note 9, at 42 (“However, removing copyright protection will discourage growth in AI technology. While AI on its own has no interest in owning the work it creates, the AI producers and end-users want copyright protection for the fruits of their AI-created work. Just like author’s motivation to create work will be diminished if he or she knew anyone could use and exploit their artwork, writing, or song once completed, AI producers and end-users’ motivations will be diminished if their AI’s work simply entered public domain.”)

¹⁸² *Id.* at 31 (“Therefore, while the programmers are the ones who create the AI, they do not have any rights in the subsequent work that the AI produces. Agency rules allows the principal that hires the programmer to create the AI to also be the copyright owner of work produced by AIs.”).

of copyright law can be used to help solve the issue moving forward.¹⁸³

IV. ADDRESSING TWO CONCERNS ABOUT GRANTING COPYRIGHT TO WORKS CREATED USING ARTIFICIAL INTELLIGENCE.

Two primary arguments are often raised by opponents of granting copyright protections to works generated using artificial intelligence. First, using artificial intelligence infringes on the copyrights of others by using previously created work.¹⁸⁴ Second, granting copyrights to works generated using artificial intelligence would allow technology companies that use artificial intelligence programs to create a monopoly on works and the following licensing.¹⁸⁵ The first issue is avoidable by classifying the use of prior works by artificial intelligence as fair use.¹⁸⁶ The second issue can be solved by granting the copyright for the final work to the end user who used artificial intelligence to create that work.¹⁸⁷

First, there are concerns that artificial intelligence is trained using the copyrighted works of others and infringes on those copyrights.¹⁸⁸ This concern can be alleviated by

¹⁸³ Sun, *supra* note 5, at 1251 (“AI technologies can produce novel breakthroughs that improve the quality of human life and will usher in the Fourth Industrial Revolution. However, concerns about the potential adverse effects of AI are mounting. Against this backdrop, IP protection in the era of AI must be shaped in ways that are beneficial to humanity.”).

¹⁸⁴ Lindberg, *supra* note 122, at 2.

¹⁸⁵ Raj Shekhar, *Artificial Creations: Ascription, Ownership, Time-Specific Monopolies*, INST. PUB. POLICY, NAT’L L. SCH. INDIA U., BENGALURU 1, 5 (2020).

¹⁸⁶ Lindberg, *supra* note 122, at 23 (“A comparison of cases and authorities with the actual mechanics of ML training suggests that in most cases, inputting copyrighted works into an ML model is a fair use, if it implicates copyright at all.”).

¹⁸⁷ Naqvi, *supra* note 9.

¹⁸⁸ Lindberg, *supra* note 122.

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noting that the use of prior works is a fair use by artificial intelligence.¹⁸⁹ Artificial intelligence takes these prior works and creates a new work after training from the end user.¹⁹⁰ The works that artificial intelligence creates are often quite different in nature and purpose from the works that were used to program artificial intelligence.¹⁹¹ Because the works produced using artificial intelligence are transformative, using the older works to train artificial intelligence should be a fair use.¹⁹² As Justice Kagan pointed out in her dissent in *Andy Warhol Foundation*, new knowledge, and new creations always build on existing works.¹⁹³

The second concern often raised is that technology companies that produce artificial intelligence could have artificial intelligence create many works, copyright those works, and have a monopoly on licensing and new creations.¹⁹⁴ This is one of the primary reasons that this

¹⁸⁹ *Id.* at 23.

¹⁹⁰ *Id.* at 47 (“When copyrighted material is used for research purposes, courts are more likely to find that it is fair use, as it supports the advancement of knowledge and serves the greater public good.”).

¹⁹¹ *Id.* at 38 (“The mass of statistical probabilities that make up a generative ML model are so different from the training material that there is no question it is ‘different in purpose, character, expression, meaning, and message’ from any (or all) of the works that were used as input.”).

¹⁹² *Id.*

¹⁹³ 598 U.S. at 568 (Kagan, J., dissenting) (“That is because creative work does not happen in a vacuum. ‘Nothing comes from nothing, nothing ever could,’ said songwriter Richard Rodgers, maybe thinking not only about love and marriage but also about how the Great American Songbook arose from vaudeville, ragtime, the blues, and jazz. This Court has long understood the point—has gotten how new art, new invention, and new knowledge arise from existing works.”).

¹⁹⁴ Shekhar, *supra* note 185 (“With the likely increase in the usage of artificial creators in the creative and innovation industries, artificial creations would proliferate. If artificial creations ought to be granted the status of intellectual property in some form, the need to strike an optimal

paper argues the end user should receive copyright protection. The end user is the creator who used artificial intelligence as the tool to create the new work.¹⁹⁵ A producer of machinery who then sells that machinery to an auto manufacturer for use in making automobiles cannot extend her intellectual property rights beyond the machine and claim an ownership interest in the product the machine helps create.¹⁹⁶ Similarly, the end user who uses the tool should receive copyright protection, not the initial producer of the artificial intelligence.¹⁹⁷ This will require congressional action because technology companies utilize end-user agreements to retain rights in software they sell.¹⁹⁸ However, Congress has the express authorization in the Constitution to regulate copyrights and should do so to ensure the tool's user receives copyright protection.¹⁹⁹

balance between private monopoly over these creations and public access to these creations (like for creative products) cannot be overemphasized — towards securing and maximizing public welfare.”)

¹⁹⁵ Naqvi, *supra* note 9.

¹⁹⁶ See 17 U.S.C. § 106 (listing the bundle of rights that copyright protection confers: 1) right to reproduce copyrighted work, 2) right to prepare derivative works, 3) right to distribute the protected work, 4) right to publicly perform work, and 5) right to publicly display work. The Copyright Act does not suggest that an initial owner of a copyright can extend these rights beyond the initial copyrighted work to all other works made using the original work unless the works are derivatives of the original work.).

¹⁹⁷ Naqvi, *supra* note 9 (“Treating AI as tools that consumers use can be applied to different industries. In the music industry, the company Hexachords has a product called Orb Composer, which is advertised as ‘the most accomplished music composition Artificial Intelligence in the world.’”).

¹⁹⁸ Golger, *supra* note 27 (“While there may be constitutional limits to extending copyright protection, Congress has consistently found the best way to encourage progress is by expanding copyright protection.”).

¹⁹⁹ See generally U.S. CONST. art. 1, § 8, cl. 8.

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V. CONCLUSION

The United States Copyright Office should extend copyright protection to works generated either in part or in whole by artificial intelligence because it will further the goal of copyright by promoting creation and creativity. Protection of these works will also ensure reciprocal treatment of copyright protections with foreign nations. The copyright should be awarded to the artificial intelligence user, not the artificial intelligence's original producer, because this will encourage users to create new works. Finally, the principles copyright laws have historically used to expand and adapt to changing technology should be applied to this new technology.