CAN CHATGPT KEEP A SECRET?
AN EVALUATION OF THE APPLICABILITY AND
SUITABILITY OF TRADE SECRECY
PROTECTION FOR AI-GENERATED
INVENTIONS

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ABSTRACT

The rising popularity of generative artificial intelligence has sparked questions around whether AI-generated inventions and works can be protected under current intellectual property regimes, and if so, how. Guidance from the U.S. Copyright Office and recent court cases shed some light on the applicability of copyright and patent protection to AI-generated products; namely “authors” and “inventors” are limited to natural persons. But further developments in copyright and patent law are still lagging behind generative-AI’s rapid growth. Trade secrecy emerges as the most viable path forward to protect AI-generated works and inventions because ownership of trade secrets is not limited to natural persons. But trade secrecy has its drawbacks too, primarily inadequate protection outside of misappropriation. Further, trade secrecy precludes disclosure, which hinders greater scientific development and progress. This Note examines the suitability and applicability of copyright, patent, and trade secret protection for AI-generated outputs and proposes alternative protection schemes.

INTRODUCTION

In 2011, a wildlife photographer named Daniel Slater left his camera unattended while photographing a troop of monkeys on a reserve in Indonesia.¹ Naruto, a curious, seven-year-old crested macaque, investigated and peered into the lens.² He then grinned and pressed the shutter button, capturing an iconic image that the world has dubbed “the

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¹ Naruto v. Slater, 888 F.3d 418, 420 (9th Cir. 2018).
² Id.
monkey selfie.” Little did either of them know that this act would also generate a multi-year lawsuit and raise key questions about who, or what, can be an author under the purview of the Copyright Act.

The advent of artificial intelligence (“AI”) tools ChatGPT and DALL-E have reinvigorated, reframed, and broadened this question, prompting consideration of whether AI-generated works and inventions warrant unique consideration in intellectual property law. Operators increasingly use AI models to produce complex output with decreased levels of human intervention. A “creative singularity, in which computers overtake human inventors as the primary source of new discoveries is foreseeable,” if not already upon us. This raises important questions around the notions of ownership and authorship, and how AI fits into these established paradigms.

Due in large part to lightning-fast evolution and development, intellectual property law’s application to the output of generative AI models is opaque. The U.S. Copyright Office has issued some guidance, stating that copyright protection of AI-generated works hinges on the amount of human creativity involved. Yet, it neglected to provide any bright-line rules or workable tests. Similarly, in the recent case Thaler v.

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3 Id.
4 Slater published the monkey selfies, among other photos, in a book in 2014. Id. The book listed Slater as the copyright holder for the images. Id. PETA filed a claim for copyright infringement against Slater on behalf of Naruto. Id.
5 See id. (“[T]he district court did not err in concluding that Naruto—and, more broadly, animals other than humans—lack statutory standing to sue under the Copyright Act.”). Naruto and Slater eventually settled, with Slater agreeing to donate 35% of future revenues from the photo to the Indonesian reserve. Matthew Haag, Who Owns a Monkey Selfie? Settlement Should Leave Him Smiling, N.Y. TIMES (Sept. 11, 2017), https://www.nytimes.com/2017/09/11/us/selfie-monkey-lawsuit-settlement.html.
8 See Haochen Sun, Redesigning Copyright Protection in the Era of Artificial Intelligence, 107 IOWA L. REV. 1213, 1215 (2022) (“Amid this lack of consensus and the complexity and rapidly evolving nature of AI, exploration of how intellectual property (“IP”) systems should protect AI-generated creations remains in its early stages.”).
10 Id.
Vidal, the U.S. Court of Appeals for the Federal Circuit held that the Patent Act requires an “inventor” to be a natural person, and thus an AI cannot be listed as an inventor, but expressly did not address the nature of invention or allocation of rights issues AI-generated inventions pose.\(^\text{11}\) This note argues that due to the lack of clarity surrounding how traditional intellectual property law applies to AI-generated works and inventions, trade secrecy is the most viable path forward to protect the products of generative AI. Trade secrecy alone, however, is not adequate to effectively protect AI-generated inventions without other more robust intellectual property rules.

This argument proceeds in four parts. Part I defines and describes AI-generated inventions and the various forms they can take. Part II considers whether AIs should be able to claim intellectual property protection for their outputs. Proceeding on the assumption that AIs are entitled to some form of ownership, Part III explores why other forms of intellectual property protection are not currently viable, and how trade secrecy can protect AI-generated inventions. Part III also weighs the costs and benefits of trade secrecy protection. Finally, Part IV suggests and examines alternative protection schemes.

I. BACKGROUND: AI-GENERATED INVENTIONS

AI has been around a lot longer than popular culture makes it seem. The term was first coined in the 1950s by a group of academics who endeavored to build a machine that could simulate the human brain.\(^\text{12}\) The researchers wanted to mimic “human” skills like reasoning, solving problems, learning new tasks, and communicating using natural language.\(^\text{13}\) This captures the heart of what AI is: “the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings.”\(^\text{14}\) Though progress was slow,\(^\text{15}\) generative AI researchers achieved a breakthrough in 1966 with the advent of ELIZA, MIT’s chatbot that simulated the experience of talking with a therapist.\(^\text{16}\)

\(^{11}\) Thaler v. Vidal, 43 F.4th 1207, 1209 (Fed. Cir. 2022).
\(^{13}\) Id.
\(^{15}\) Id.
\(^{16}\) Josh Fruhlinger, What is Generative AI? The Evolution of Artificial Intelligence, INFOWORLD (Mar. 10, 2023, 5:00 AM), https://www.infoworld.com/article/3689973/what-is-generative-ai-the-
Later, in the 1990s, machine learning emerged as a new step in the evolutionary path of AI.\textsuperscript{17} Machine learning ("ML") is a subset of AI.\textsuperscript{18} ML AI can learn and adapt with minimal human interference which takes it a step further than simple AI.\textsuperscript{19} In simple AI, a programmer would have to write out sets of instructions and hard code each "decision" the AI would make.\textsuperscript{20} With ML, the programmers train the AI on large amounts of data and have it use a learning algorithm, or a set of pre-defined rules, to analyze and draw inferences from the data.\textsuperscript{21} Then, the AI autonomously modifies its algorithms over time based on external feedback. A popular example of what ML can accomplish is IBM Watson, a supercomputer best known for defeating Ken Jennings, one of the best human "Jeopardy!” players.\textsuperscript{22} Watson’s programmers fed it examples of correct Jeopardy responses and thousands of question and answer pairs.\textsuperscript{23} After programmers corrected Watson when it got a question wrong, Watson eventually began to modify its own algorithms to produce better results—in effect “learning” from its mistakes.\textsuperscript{24} When Watson faced Ken Jennings, it was able to parse 200 million pages of information and generate a list of possible answers, ranked by likelihood of correctness, in a matter of seconds when faced with a new clue.\textsuperscript{25} IBM then pitched Watson as a paradigm-shifting piece of technology, ready to revolutionize industries.\textsuperscript{26} But the inherent limitations of ML became apparent.\textsuperscript{27} Watson was custom-built to do well on a quiz show, and the process of adapting Watson to other tasks was time-consuming and unrealistic.\textsuperscript{28}
Finally in 2012, a breakthrough revolutionized the field and paved the way forward for the rapid growth and expansion of AI.\textsuperscript{29} A combination of technological developments, special algorithms, and a large training data set ushered in the “deep learning” boom, leading to rapid propagation and expansion of AI capabilities.\textsuperscript{30} Deep learning, a subset of ML, remedies some of ML’s shortcomings through increased adaptability and the ability to train on datasets that include diverse and unstructured data.\textsuperscript{31} The development of a neural network is key to achieving deep learning.\textsuperscript{32} A neural network is a “mathematical system that learns skills by finding statistical patterns in enormous amounts of data.”\textsuperscript{33} Like its name implies, a neural network is modeled on the human brain, and is a biologically inspired computational model.\textsuperscript{34} Processing elements called neurons connect to each other and form a structure.\textsuperscript{35} Training and recall algorithms are attached to the neuronal structure, and incorporate a variety of mathematical techniques that allow for non-linear, multi-layered, and parallel computation.\textsuperscript{36} The process of identifying and studying patterns, relationships, and structures within data to understand the underlying logic is called deep learning, and the unique structure of the neural network allows for these mechanisms to take place much like they would in the human brain.\textsuperscript{37}

Contrast AlphaGo with IBM’s Watson.\textsuperscript{38} AlphaGo is a program that uses deep learning.\textsuperscript{39} It was introduced to the game of Go, a Chinese board game known to be significantly more complex than chess.\textsuperscript{40} AlphaGo began playing against itself thousands of times, learning from its mistakes and adapting in turn.\textsuperscript{41} It became so good that human players


\textsuperscript{30} Id.

\textsuperscript{31} COURSEERA, \textit{supra} note 18.

\textsuperscript{32} Lee, \textit{supra} note 29.

\textsuperscript{33} Id.

\textsuperscript{34} Subana Shanmuganathan, \textit{Artificial Neural Network Modelling: An Introduction}, 628 STUD. COMPUTATIONAL INTEL. 1, 4 (2016).

\textsuperscript{35} Id.

\textsuperscript{36} Id.

\textsuperscript{37} Fruhlinger, \textit{supra} note 16.

\textsuperscript{38} Id.

\textsuperscript{39} Id.

\textsuperscript{40} Id.

\textsuperscript{41} Id.
began to study its inventive moves and strategies. A later iteration of AlphaGo can also master complex games without needing to be told the rules.

The latest leap forward in AI technology is “generative AI,” which is an umbrella term that describes models that are trained on input data, then use algorithms to produce, manipulate, and synthesize output data. Generative AI differs from discriminative AI, which draws distinctions between different types of input. As an example, one might ask discriminative AI “Is this image of an apple or an orange?” while one might ask generative AI to “Draw me a picture of an apple tree next to an orange tree.” Programmers often train generative AI using a technique called a generative adversarial network (“GAN”). Two algorithms compete against each other—one is a discriminative AI and the other is a generative AI. The generative AI is constantly generating text or images with the goal of tricking the discriminative AI, which has been trained to assess whether output is real or AI-generated. The generative AI “passes” when it can trick the discriminative AI consistently. Then the discriminative AI is retrained, and the process begins again.

It is this type of generative AI, built off a neural network with deep learning capabilities, that has captured recent headlines. The most prominent exemplar is ChatGPT, defined as a large language model because it takes in a text prompt and generates a written response. ChatGPT was trained on vast amounts of text from the internet, including content like Wikipedia articles, digital books, and academic papers. By identifying billions of patterns in the input text, large language models can generate text on their own, including things like term papers or computer programs. DALL-E, another generative AI that made headlines, would...

42 Id.
43 Id.
44 Id.
45 Id.
46 Id.
47 Id.
48 Id.
49 Id.
50 Id.
52 Roose & Metz, supra note 12.
53 Cade Metz & Gregory Schmidt, Elon Musk and Others Call for Pause on A.I., Citing ‘Profound Risks to Society’, N.Y. Times (Mar. 29, 2023),
generates images based on text prompts, and can even replicate the expressive styles of certain artists.\textsuperscript{54}

Generative AI has a variety of uses beyond those touted in the media. For example, CarMax has used generative AI to create marketing copy by training it on thousands of customer reviews.\textsuperscript{55} And IBM has been using generative AI to accelerate the drug discovery process.\textsuperscript{56} Generative AIs are trained on unlabeled peptide sequences and can generate new and optimal antimicrobial peptide candidates, simplifying and expediting a process that was time-intensive and challenging for human researchers.\textsuperscript{57} Generative AIs have countless other possible functions. They can design physical products, optimize chip designs, create deepfakes, write emails, and even design new neural networks.\textsuperscript{58} This note will examine two specific use cases: the generation of images or text (including computer code), and the generation of inventions, like physical products or drug candidates. These use cases will be referred to as AI-generated outputs.

II. SHOULD AI-GENERATED INVENTIONS HAVE INTELLECTUAL PROPERTY PROTECTION?

A threshold question is whether AI-generated inventions need to be owned and protected by the AI itself. There are compelling arguments both in favor of and against AI ownership. The value of AI ownership depends on the nature of the generated invention or work. Ultimately, there is no dispositive answer as to whether AIs should or should not be granted ownership of their own inventions, legally or philosophically. As the landscape continues to evolve, new questions and considerations will emerge, hopefully alongside a clearer answer.

\textsuperscript{54} Fruhlinger, supra note 16.
\textsuperscript{55} REUTERS, supra note 51.
\textsuperscript{57} Id.
\textsuperscript{58} George Lawton, What is generative AI? Everything you need to know, TECHTARGET (Mar. 2023), https://www.techtarget.com/searchenterpriseai/definition/generative-AI.
A. Arguments in Favor

One reason to favor recognizing and protecting AI inventorship is that it would make AI more valuable and would incentivize AI development, which would ultimately result in more innovation. Though AI likely cannot appreciate the innovation incentive intellectual property protection provides, the human inventors of the AI systems certainly do. Granting patents or copyrights to the AIs would reflect positively on their human inventors, and measuring a human inventor’s success by the number of patents their AI is able to obtain is a plausible metric.

Furthermore, AI inventorship is most consistent with the fundamental goal of the Intellectual Property Clause of the Constitution: to promote the progress of science and useful arts. Recognizing AI inventorship would encourage additional innovation under an incentive theory. In addition to rewarding upstream human creativity, it would also incentivize the creation of more creative machines. The development of creative machines, like new AIs, is resource-intensive and highly complex. But because of increased processing power and tremendous access to data, this burden can be lighter for AIs than for human inventors. The incentive structure still exists if AIs are not granted ownership rights, but it would be weaker because of the resource investment, and the constitutional directive would favor picking and protecting the stronger incentive. An additional consideration is that the current intellectual property system’s framework pushes AI-generated inventions into the realm of trade-secrecy and non-disclosure. This would also appear in conflict with the constitutional goal to promote progress. Therefore, any alternative system that promotes disclosure should be favored, and recognizing AI authorship would push toward disclosure.

There are also philosophical considerations within the notion of property as a whole that would counsel towards recognition. John Locke’s labor theory posits that “an inventor has an inherent right to the fruits of

60 *Id.*
62 *See* Abbott, *supra* note 7 at 1104.
63 *Id* at 1082.
64 *Id* at 1104.
65 *Id.*
66 *See infra* Part III.C for a discussion of the benefits and drawbacks of trade secrecy protection.
his labor as he does to the fruits of his mind and soul.” Generative AI is not created in a vacuum. Beyond the AI programmer, there are also trainers, owners, and operators, all of whom have invested their labor in facilitating the output of the generative AI. Recognizing a property right in this output, and the ability to commercialize it, would appropriately credit these investments.

In addition to the moral rights issues discussed above, recognizing only human inventors and authors also has practical ramifications. The use of generative AI to create output is unlikely to slow any time soon. AIs have also begun to produce outputs with minimal human intervention. If AIs cannot protect their own outputs, the humans must recognize when AI-generated output has value and pursue intellectual property protection from there. As a result, the system turns into rewarding “first to understand” or “first to recognize,” instead of rewarding the inventive process itself. The Supreme Court has held that the discovery of naturally occurring products does not warrant a patent. Though AI-generated inventions are obviously not products of nature, the reasoning that mere discovery is not sufficient to obtain a patent could be extrapolated and applied here.

B. Arguments Against

On reason to disfavor protecting AI inventorship is that AI is not yet at the point where it can truly autonomously create. The process still needs a human, whether it is feeding specific training data, setting up a GAN, or otherwise directing the AI. Though perhaps a fully autonomous iteration is not too far off.

Furthermore, there is no reasonable basis for the assertion that AI would somehow be motivated by the acquisition of intellectual property

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68 Id.
69 See supra Part II.A for a discussion of the ethical implications of inventors putting their own names on patent applications instead of disclosing AI involvement.
70 See Abbott, supra note 7 at 1084.
71 Id at 1098.
72 Id.
73 See Association for Molecular Pathology v. Myriad Genetics, 569, 576–77 U.S. 576 (2013) (stating that products of nature are “basic tools of scientific and technological work” and “lie beyond the domain of patent protection.”).
74 Rosen, supra note 59.
75 Id.
Unlike human inventors, the AI will invent regardless of incentive structure. The purpose of intellectual property protection is to incentivize the investment of time and resources into the innovative process. If the incentive is meaningless, then the protection likewise becomes devoid of value. There is also an argument that humans will stop working in certain fields because they believe an AI will preempt all available discoveries.  

Additionally, perhaps an open-source model is most optimal, and would allow the greatest exchange of ideas. Trying to fence in the development of generative AI with intellectual property requirements could ultimately hinder the type of innovation a free and open exchange of ideas could more easily promote. Especially because AI demands a high load of power consumption and processing power, fostering greater collaboration would decrease the strain on mechanical processing systems. However, presumably, this rationale would apply regardless of whether humans or AIs were granted ownership rights.

There are additional practical considerations that counsel against property right recognition. Generative AI can produce works and inventions at a rate much more quickly than humans can. The patent office is already backlogged; currently, the average length of time between patent application filing date and the mailing date of a First Office Action from the U.S. Patent and Trademark Office (“USPTO”) is over 20 months. With the rate at which generative AI could churn out inventions, the already stressed system could become quickly overwhelmed.

The final argument is simply fear of the unknown. If AIs are granted these types of property rights now, what rights could they obtain in the future?

The rest of this note proceeds on the assumption that AI ownership is favored.

III. THE CURRENT FRAMEWORK: TRADE SECRECY

The question of what kinds of intellectual property protection are available for AI-generated innovations has arisen as generative AIs have begun to play a larger role in a variety of industries. Undoubtedly, current

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76 Id.
77 Id.
78 Fruhlinger, supra note 16.
80 Comer, supra note 61, at 484–85.
81 Matthew Kohel, Trade Secrets May Offer The Best Protection For AI Innovation, LAW360 (Feb. 21, 2023, 3:08 PM), https://www-law360-
The regimes as they currently exist are fundamentally incompatible with protecting AI-generated works and inventions. Thus, trade secrecy currently presents the only viable path toward protection. Trade secret protection, however, comes rife with both costs and benefits, and ultimately does not provide sufficient protection to AI-generated works. Furthermore, relying solely on trade secrecy is more likely to hamper innovation than promote it.

A. The Applicability of Other Intellectual Property Protection Regimes

There are two major types of intellectual property protection that typically apply to the types of AI-generated inventions and works considered in this note: patents and copyrights. For AI-generated inventions, specifically physical products, the natural assumption would be to seek patent protection. Similarly, AI-generated works like pieces of text or works of art would seem to fall under copyright protection. However, recent decisions and guidance from the USPTO and U.S. Copyright Office appear to foreclose these avenues for AI-generated inventions. This Note will examine both patent and copyright availability for AI-generated inventions in light of these developments.

1. Patents

A patent is the grant of a property right to an inventor that establishes a time-limited monopoly and gives the inventor the right to exclude others from “making, using, offering for sale, or selling” the invention in the U.S. This right of exclusion, granted by the Constitution, aims to “promote the progress of science and the useful arts” and serves to compensate inventors for their investment and labor in the creation of these inventions. The Patent Act, first codified by Congress in 1790,


82 Comer, supra note 61, at 452.
83 See Thaler v. Vidal, 43 F.4th 1207, 1209 (Fed. Cir. 2022) (holding that the Patent Act requires an inventor to be a natural person); Brittain, supra note 9 (“[C]opyright protection depends on the amount of human creativity involved, and that the most popular AI systems likely do not create copyrightable work.”).
85 See U.S. CONST. art. 1, § 8, cl. 8 (indicating that Congress shall have the power “[T]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries”).
contains myriad conditions for patentability. One of these conditions was examined at length in the recent Federal Circuit case Thaler v. Vidal.

Stephen Thaler filed two patent applications with the USPTO seeking patent protection for two inventions: a neural flame and a fractal container. The USPTO denied the applications. Thaler challenged the denial in the U.S. District Court for the Eastern District of Virginia, which agreed with the USPTO and granted summary judgment. Thaler then appealed to the Federal Circuit. The basis for the USPTO’s denial, which was upheld by both the District Court and the Federal Circuit, was that the patent applications failed to list any human as an inventor.

Thaler develops AI systems that generate patentable inventions. His system, the “Device for the Autonomous Bootstrapping of Unified Science,” called DABUS, was listed as the sole inventor on Thaler’s patent applications. In place of a last name on the applications, Thaler wrote “the invention [was] generated by artificial intelligence.” Thaler assigned DABUS’ rights as an inventor to himself, but claimed that DABUS was the sole inventor of both inventions in the application and even submitted a statement on DABUS’s behalf in lieu of the sworn oath or declaration required.

Thaler posits that DABUS accomplished the impossible: not only did it autonomously generate two novel inventions, but DABUS also independently appreciated them as novel. Furthermore, DABUS passed something called the “Lovelace Test,” which requires that (1) an AI must originate something novel that it was not engineered to produce, and (2) the AI’s designer must not be able to explain how the original code led to the idea. Thaler notes that while he wrote the original code that created

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86 35 U.S.C. §§ 101-212 (setting forth the conditions for patentability).
87 Thaler v. Vidal, 43 F.4th at 1207.
88 Id. at 1210.
89 Id.
90 Id.
91 Id.
92 Id.
93 Id. at 1209.
94 Id.
95 Id. (alteration in original).
96 Id. at 1209–10.
98 Id. at 458 (citing Jordan Pearson, Forget Turing, the Lovelace Test Has a Better Shot at Spotting AI, VICE (July 8, 2014, 2:30 PM), https://www.vice.com/en_us/
DABUS and understands the process in which DABUS creates, he cannot explain exactly what leads DABUS to conceptualize a novel invention.\textsuperscript{99} DABUS has a unique structure, different from the typical GAN training modality used by many generative AIs.\textsuperscript{100} DABUS was created with a collection of disconnected neural nets that each contain interrelated “memories” with distinct linguistic, visual, or auditory features.\textsuperscript{101} Through a process of association and dissociation between the neural nets, complex concepts are formed and build on each other.\textsuperscript{102} Some structures fade and are replaced, in a manner similar to what humans experience as stream of consciousness.\textsuperscript{103} These interactions allow DABUS to “think” of novel ideas on its own, without direction from Thaler. When DABUS identifies that one of its ideas is “novel,” it alerts Thaler by ringing a bell and conveying the idea through images or text.\textsuperscript{104} There is just one problem—DABUS is not a natural person.

The Federal Circuit’s analysis began by turning to the text of the Patent Act.\textsuperscript{105} The Patent Act expressly provides that inventors are “individuals.”\textsuperscript{106} Though the text of the Patent Act does not define what “individual” means, the Supreme Court has clarified that “individual” ordinarily means a human being or person.\textsuperscript{107} The Supreme Court has also held that, when used in statutes, the default presumption is that “individual” refers to a human being, unless there is some indication Congress intended to depart from the default meaning.\textsuperscript{108} The Federal Circuit found no such indication in the Patent Act.\textsuperscript{109} Therefore, DABUS cannot be an inventor, because it is not a human being.\textsuperscript{110}

This decision provided a clear, bright-line rule: “an ‘inventor’ must be a human being.”\textsuperscript{111} It was consistent with the prior holding that inventors must be natural persons and not corporations or sovereigns.\textsuperscript{112}

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\textsuperscript{99} Id. at 459 (citing Perpetual Motion Podcast, supra note 97, at 18:47).
\textsuperscript{100} Michelle Lavrichenko, \textit{Thaler v. Vidal: Artificial Intelligence—Can the Invented Become the Inventor?}, 44 CARDOZO L. REV. 699, 707 (2022); see discussion supra Part I for an explanation of GAN.
\textsuperscript{101} Id. at 708.
\textsuperscript{102} Id.
\textsuperscript{103} Id.
\textsuperscript{104} Comer, supra note 61, at 460.
\textsuperscript{105} Thaler v. Vidal, 43 F.4th 1207, 1211 (Fed. Cir. 2022).
\textsuperscript{106} Id.
\textsuperscript{107} Id.
\textsuperscript{108} Id.
\textsuperscript{109} Id.
\textsuperscript{110} Id. at 1209.
\textsuperscript{111} Id. at 1212.
\textsuperscript{112} Beech Aircraft Corp. v. EDO Corp., 990 F.2d 1237, 1248 (Fed. Cir. 1993).
This decision also foreclosed the possibility that the generative AI and the generative AI’s creator could be listed as joint inventors.\footnote{See Thaler v. Vidal, 43 F.4th 1207, 1211 (Fed. Cir. 2022) (“The Act similarly defines “joint inventor” and “coinventor” as “any 1 of the individuals who invented or discovered the subject matter of a joint invention.”).} The Federal Circuit decided this case solely through statutory interpretation of the Patent Act, and expressly stated it was not considering an abstract inquiry into the nature of invention or the allocation of rights.\footnote{Id. at 1209.} However, these considerations need further investigation.\footnote{Id. at 1209.}

2. Copyright

The Copyright Act grants copyright protection to “original works of authorship fixed in a tangible medium of expression.”\footnote{See infra Part IV.A for a discussion of alternative patent protection systems, and supra Part II for an examination of whether intellectual property protection is even appropriate for generative AI.} Guidance from the Copyright Office provides examples of the type of original works protected, including literary, dramatic, musical, and artistic works, such as poetry, novels, movies, songs, computer software, and architecture.\footnote{Heather Whitney & Evangeline Phang, Are Outputs Of AI Models Copyrightable?, LAW360 (Feb. 3, 2023), https://assets.contentstack.io/v3/assets/blt5775cc69c999c255/blt6ef0f12eed0d4089/63e2e79814a2b4fa11dfe33/230203-outputs-ai-models-copyrightable.pdf.} Copyright protection does not extend to facts, ideas, systems, or methods of operation, but may protect the way in which they are expressed.\footnote{Id.}

Generative AI has produced many works that appear to warrant copyright protection, like software, art, and writings.\footnote{Id.} The Copyright Office, however, recently announced that copyright protection depends on whether AI’s contributions are “the result of mechanical reproduction,” or if they reflect the author’s “own mental conception.”\footnote{Id.} This inquiry is fact-dependent, and hinges on “how the [generative AI] tool operates and how it was used to create the final work.”\footnote{Id.} The Copyright Office went on to explain that current generative AI systems operate like commissioned artists, and that users do not “exercise ultimate creative
control over how such systems interpret prompts and generate material.”

The Copyright Office said that creative modifications of AI-created work can still be copyrighted, and that “technological tools [can] be part of the creative process.” However, the generative AI itself cannot be the author of a work protected under copyright.

This guidance is consistent with previous case law, which takes a human-centric view of copyright. In Naruto v. Slater, the U.S. Court of Appeals for the Ninth Circuit addressed whether animals could be identified as authors of works that they create. The Court held that Naruto, a crested macaque that took photographs using an unattended camera, did not have statutory standing, and that the Copyright Act’s language, specifically by including the terms “grandchildren” and “widow,” implied humanity and necessarily excluded animals and other non-human entities. In Burrows-Giles Lithographic Co. v. Sarony, a case dating back to 1884, the Supreme Court considered whether photographs should be copyrightable. The argument against providing copyright protection to photographs was that photographs were merely “reproduction[s] on paper of the exact features of some natural object or of some person” and did not involve authorship. The Court read the Copyright Act to include photographs, concluding that photographs were copyrightable, as long as they represented original intellectual conceptions of the author. These precedents communicate two things: non-human entities cannot be “authors” under the Copyright Act, and the production of a work using technology is allowed as long as a human is directing the creative process. Due to the black-box nature of generative AI and its autonomous character, it is unlikely that a human could play enough of a role in the process of the production of a work to merit copyright protection. And the generative AI itself cannot be named author.

B. Trade Secrecy Protection for AI-Generated Inventions

Unlike patent or copyright law, trade secret law originated as a common law tort doctrine. In 1980, the National Conference of Commissioners on Uniform State Laws promulgated the Uniform Trade

122 Id.
123 Id.
124 Sun, supra note 8, at 1227.
125 Sun, supra note 8, at 1228.
126 Id. at 1227; Burrows-Giles Lithographic Co. v. Sarony, 111 U.S. 53, (1884).
127 Id. at 60.
Secrets Act ("USTA"), which was adopted by the vast majority of states.\textsuperscript{131} In 2016, the Defend Trade Secrets Act ("DTSA") was signed into law.\textsuperscript{132} The DTSA created a federal, private, civil cause of action for trade-secret misappropriation.\textsuperscript{133} This Note will focus on the requirements of the DTSA and will not examine individual state requirements.

The DTSA defines a trade secret broadly, as all forms and types of financial, business, scientific, technical, economic, or engineering information, including patterns, plans, compilations, program devices, formulas, designs, prototypes, methods, techniques, processes, procedures, programs, or codes, whether tangible or intangible, and whether or how stored, compiled, or memorialized physically, electronically, graphically, photographically, or in writing.\textsuperscript{134} Thus, an AI-generated invention can be a trade secret, because virtually any information can be a trade secret.

In order to satisfy the DTSA’s requirements to qualify as a trade secret, the information must derive "independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable through proper means by, another person who can obtain economic value from the disclosure or use of the information" and "the owner thereof [must have] taken reasonable measures to keep such information secret . . . ."\textsuperscript{135} The owner of a trade secret is "the person or entity in whom or in which rightful legal or equitable title to, or license in, the trade secret is reposed[]."\textsuperscript{136} Unlike in the Patent or Copyright Acts, here, Congress has intentionally allowed for persons or entities to own trade secrets. Thus, there is no textual limitation in the DTSA that would prevent a generative AI from owning and protecting its own invention as a trade secret.

C. Benefits and Drawbacks of Trade Secrecy Protection

While the question of whether generative AIs can own trade secrets can be quickly dispatched through textual analysis of the DTSA, the more relevant consideration is whether trade secrecy is an appropriate regime to protect the output of generative AIs. This Note will discuss the multitudes of both benefits and drawbacks to trade secrecy protection. The

\begin{thebibliography}{99}
\bibitem{USTA} Id.
\bibitem{owner} Id.
\bibitem{benefits} 18 U.S.C. § 1839(3).
\bibitem{drawbacks} Id.
\bibitem{limitations} 18 U.S.C. § 1839(4).
\end{thebibliography}
results suggest that, with relevant considerations balanced, trade secrecy protection alone is insufficient to provide the necessary scope of protection required for AI-generated inventions without unduly stifling innovation.

1. The Benefits of Trade Secrecy Protection

One of the primary benefits of trade secrecy protection, especially in comparison to the scope of protection afforded by patents, is the broader array of subjects eligible for protection.\textsuperscript{137} \textsection{101} contains express categories of patentable subject matter, and if the invention is not a “new and useful process, machine, manufacture, or composition of matter,” a patent cannot be granted.\textsuperscript{138} Though upon first read, this language appears to cover substantial ground, subsequent case law has limited the applicability of the patent regime especially regarding software.\textsuperscript{139} In a case now known simply as \textit{Alice},\textsuperscript{140} the Supreme Court unanimously held that claims directed to a computer-implemented scheme were not patent-eligible because they were drawn to an abstract idea, and that requiring computer implementation alone is not sufficient to transform an abstract idea into a patent-eligible invention.\textsuperscript{141} This decision had significant ramifications for software, as many pieces of software are directed to abstract ideas and do not necessarily contain an inventive concept that transcends computer implementation of code.\textsuperscript{142} As a result, copyright protection has become the home for the protection of the literal elements of computer programs, like source and object codes.\textsuperscript{143} But there remains uncertainty around how courts apply the fair use factors or how new platforms might alter the balance and analysis.\textsuperscript{144} Trade secrecy, 

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\textsuperscript{137} See \textit{Kewanee Oil Co. v. Bicron Corp.}, 416 U.S. 470, 483 (1879) (“\textit{T}rade secret law protects items which would not be proper subjects for patent protection under 35 U.S.C. \textsection{101}.”).

\textsuperscript{138} 35 U.S.C. \textsection{101}.

\textsuperscript{139} See Michael K. Henry, \textit{Patenting Software and Beyond: A Guide To Understanding Alice And Its Impact}, HENRY PAT. L. FIRM (Feb. 15, 2021), https://henry.law/blog/understanding-alice/ (“For software and computer-implemented technologies, a much broader range of inventions are now considered ‘abstract ideas’ that are not patent-eligible, regardless of how innovative they may be.”)

\textsuperscript{140} Alice Corp. Pty. Ltd. v. CLS Bank Int’l, 573 U.S. 208 (2014).

\textsuperscript{141} \textit{Id}. at 212.


\textsuperscript{144} Peter S. Menell, \textit{Rise Of The API Copyright Dead?: An Updated Epitaph For Copyright Protection Of Network And Functional Features Of Computer Software}, 31 HARV. J. LAW & TECH. 305, 415 (2018).
\end{flushright}
however, dispenses with much of the ambiguity and applies to a much broader array of subject matter, including software and algorithms, which are frequently the progeny of generative AI.

Furthermore, trade secrecy does not require novelty or utility like patents do.\textsuperscript{145} To be patented, inventions must be useful, and they must be novel.\textsuperscript{146} Trade secrecy does not have the same requirements. This can be helpful to protect outputs like the modification of an algorithm or a generated data set that stores or organizes extant data in a new way. Trade secret protection also applies to information that has \textit{potential} independent economic value. Businesses do not necessarily need to have figured out how to use generative-AI output; they just have to recognize that it can provide a competitive advantage.\textsuperscript{147} Additionally, there is no disclosure requirement in trade secrecy like there is in patent or copyright. With patents, the protected invention needs to be sufficiently described such that one skilled in the art would be able to make and use it.\textsuperscript{148} And patents and patent applications are published.\textsuperscript{149} Ultimately, this results in at least partial disclosure of the protected invention.\textsuperscript{150} For copyright protection, though no disclosure is necessarily required at the outset, to enforce the copyright through a lawsuit, registration (and disclosure) with the U.S. Copyright Office is required.\textsuperscript{151} Conversely, “trade secrets are premised on lack of disclosure.”\textsuperscript{152} In a crowded and fast-moving environment like generative-AI development, being able to keep AI-generated

\begin{itemize}
\item \textsuperscript{145} Kohel, \textit{supra} note 81.
\item \textsuperscript{146} Id.; 35 U.S.C. §§ 101-102.
\item \textsuperscript{147} Kohel, \textit{supra} note 81.
\item \textsuperscript{148} USPTO.GOV, \textit{Section 2164}, https://www.uspto.gov/web/offices/pac/mpep/s2164.html.
\item \textsuperscript{150} But see Gideon Parchomovsky & Michael Mattioli, \textit{Partial Patents}, 111 COLUM. L. REV. 207, 209 (2011) (“At present, patent law imposes a very minimal disclosure requirement: It requires patentees to state how their inventions are enabled by existing technology. . . . [U]nder the existing regime, patentees have every incentive to disclose as little as possible.”).
\item \textsuperscript{151} COPYRIGHT.GOV, \textit{Copyright in General}, https://www.copyright.gov/help/faq/faq-general.html#~:.text=In%20general%2C%20registration%20is%20voluntary,infingement%20of%20a%20U.S.%20work.
\end{itemize}
advancements secret might be very attractive to certain businesses and entities.

Another benefit of trade secret protection is that it is both low-cost and immediately applied. 153 As mentioned previously, there is no application or registration process, and therefore no associated fees or costs. Furthermore, trade secrecy protection is in effect as soon as the DTSA’s criteria are met. 154 Because there is no need to explicitly define the metes and bounds of the trade secret at the outset, trade secrecy protection is maintained even as changes or improvements are made to the AI-generated output. Trade secret protection also does not expire and lasts as long as the information is commercially viable and reasonably protected, unlike patents and copyrights which do expire. 155 Ultimately, there are many benefits to protecting AI-generated inventions as trade secrets. However, there are also substantial drawbacks.

2. The Drawbacks of Trade Secrecy Protection

Businesses and entities might consider the lack of a registration requirement for trade secret protection an attractive benefit. However, lack of formal registration means that trade secrets can be ill-defined. 156 This can present practical challenges to enacting reasonable protective measures. 157 Trade secret holders might also face challenges when enforcement of the trade secret is required. Furthermore, trade secret protection can be lost instantly. As soon as reasonable protective measures lapse or the information is disclosed, even inadvertently, that protection is lost. 158

The scope of protection is also much more limited. Patents give the patent-holder a time-limited monopoly over the scope of the patent. 159 Conversely, trade secrecy only protects information against misappropriation or improper acquisition, use, or disclosure. 160 The DTSA expressly permits the reverse engineering of trade secrets. 161 Therefore, the scope of protection is much narrower than it initially appears. This adds a layer of complexity in the AI context. Much of today’s AI development is open source, which means that much of the AI’s core software and

153 Id.
154 Id.
155 Id.
156 Id.
157 Kohel, supra note 81.
158 Id.
159 Meyers, supra note 152.
160 Id.
161 Kohel, supra note 81.
algorithms are freely and publicly available.\textsuperscript{162} It is more than plausible that, if the same base software, algorithms, and training data are used, AIs could generate similar if not the same output. In that scenario, there would be no trade secret enforcement for the AI-generated output, because there would be no misappropriation. In order to have the most robust protection afforded by the trade secrecy regime, trade secret holders should keep both the AI and its output secret.\textsuperscript{163}

Yet, the lack of disclosure is also a fundamental drawback of trade secrecy. Trade secret law is at odds with patent and copyright law in this sense, as both patents and copyright each reward at least partial disclosure to some extent.\textsuperscript{164} Especially in the patent sphere, many see disclosure as a way to foster and promote innovation, as it allows others to build on extant discoveries and advance technology. Trade secrecy expressly forecloses this benefit, and inventors may duplicate efforts in the same area of study, ultimately slowing progress.\textsuperscript{165} Practically, the lack of disclosure can also hamper regulatory oversight and governmental efforts toward transparency. Ongoing privacy and transparency concerns in AI use center around the potential for bias and discrimination in algorithms.\textsuperscript{166} Legislators have called for increased transparency, including proposing bills that would require online platforms to disclose and describe the types of algorithmic processes they employ.\textsuperscript{167} However, sharing this type of information would likely destroy trade secrecy protection.

There is also a lack of clarity on what reasonable protective measures look like for AI-generated inventions.\textsuperscript{168} Without any case law on point, entities are left to make this determination for themselves. The most likely interpretation is that reasonable protective measures could involve, for example: “storing such information in a secure location with password protection and dual-factor authentication; providing access to the information on a need-to-know basis; implementing confidentiality policies and procedures; requiring employees, vendors, and business


\textsuperscript{163} Kohel, \textit{supra} note 81.

\textsuperscript{164} Meyers, \textit{supra} note 152.

\textsuperscript{165} \textit{Id.}


\textsuperscript{167} \textit{Id.}

\textsuperscript{168} See Weibust & Pelletier, \textit{supra} note 148 (discussing whether reasonable protective measures would require protecting the generative AI as well).
partners to execute confidentiality agreements; and electronically monitoring access to and other activity involving the information.”

Protective measures might also require something like the AI automatically encrypting anything it generates. However, a stricter interpretation might require protection of the generative AI itself. Especially in an open-source regime, failing to properly protect the generative AI might render any attempts to protect its output futile, as others may simply be able to copy or reverse-engineer the AI itself, which would not run afoul of trade secret law. The safest approach for businesses and entities currently is to adopt a “zero-trust” approach, which requires any algorithms or AI to be stored in a virtual vault, with the least number of users granted the least number of privileges required to keep the AI adequately functioning and contained.

As a result, trade secrecy protection is not the best avenue for AI-generated inventions. Not only is the lack of disclosure problematic for advancing innovation, but the limited scope and ambiguity over threshold requirements also makes this regime ultimately untenable.

IV. ALTERNATIVE APPROACHES

If trade secrecy protection is not the best approach for AI-generated inventions, and patents and copyrights cannot provide protection, then what is? Unfortunately, it does not appear that any existing framework sufficiently navigates the complexities implicit in AI-generated inventions. This note proposes four potential approaches, moving from least to most disruptive of the current system.

A. Operating Within Current Intellectual Property Regimes

Calling this first approach a “solution” is a misnomer. It simply would involve optimizing the interactions between patent, copyright, and trade secrecy to provide the best possible protection. When working with businesses and other entities using generative AI, intellectual property lawyers could take a strategic approach to mix-and-match regimes to try to obtain the most robust protection possible. However, this would not address the key deficits implicit in each system and discussed in turn throughout this Note, especially since trade secrecy would remain the driving form of protection.

Another approach, one which operates in the current system too, is for the inventor of the generative AI to simply claim ownership of any

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169 Id.
170 Id.
171 Greer, supra note 166, at 264–65.
AI-generated output in either applying for a patent or registering a copyright. This would provide a higher degree of protection for AI-generated output and avoid having a non-human inventor or author listed. However, this approach is problematic. There are significant moral and ethical implications for what is essentially plagiarism or stolen inventorship. When applying for a patent application, an inventor must sign an oath or declaration that they are the one who made the invention, and originality is named “the bedrock principle of copyright” such that a work must be original to the author. The accuracy of these assertions when the inventor of a generative AI claims ownership of the output depends heavily on the structure of the AI itself. If the AI is more of the ML or simple AI variety, where the AI’s own algorithms play a direct role in determining the output, then perhaps the author is using the AI like a computer or a camera-like tool. However, if the AI is more like DABUS, where the inventor is unable to articulate exactly what entails the AI’s conceptualization of an idea, then the notion that the inventor should take credit is fraught with ethical ramifications. In the latter case, the inventor would run into challenges sufficiently meeting the enablement standard when applying for a patent, as the “black box” nature of many of these more complex generative AIs might prevent the inventor from being able to adequately describe the “manner and process” of making the invention.

However, legal scholars speculate that this has already been taking place for decades, and that there is an unknown number of granted patents for inventions that were actually generated by AI, where the AI’s inventor filed for the patent under their own name and did not disclose the use of AI. For example, Thaler claimed that DABUS’s predecessor generated a patent and Thaler listed himself as the inventor. Inaccurate disclosure and representations do not provide appreciable benefits, and the system as a whole should strive for a higher standard of integrity, making maintenance of the status quo an untenable solution.

B. Agency-led Changes

Another approach is for the USPTO to make changes within its purview to recognize AI contributions. Though the USPTO could not

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172 Comer, supra note 61, at 470.
175 Comer, supra note 61, at 459.
177 Comer, supra note 61, at 456.
178 Id.
change the Patent Act itself or overrule the Federal Circuit’s interpretation that a human inventor is necessary, it could promulgate procedural rules to alter the current system. The USPTO issued a request for comments regarding artificial intelligence and inventorship, and laid out a series of questions for public comment that revealed some potential avenues it could pursue. One question posited whether 35 U.S.C. §§ 101 and 115 could be interpreted to require only natural persons who invent to be listed as inventors, "such that inventions with additional inventive contributions from an AI system [could] be patented as long as the AI system is not listed as an inventor." Alternatively, the USPTO could allow for the AI’s inventor to claim inventorship, but require an explanation or thorough disclosure of the contribution which the AI made. The USPTO has requested further feedback, including stakeholder engagement sessions, collaboration with academia, and additional public comment.

The U.S. Copyright Office has yet to issue further guidance or open a forum for public comment, unlike the USPTO. Senators have called on the USPTO and the Copyright Office to create a national commission on AI to consider how existing law could be revised to facilitate future AI-related innovations and creations. Similar calls to action in the European Union (“EU”) have emerged as well. The EU has embraced a more aggressive, human-centered approach to AI. In the EU, the European Parliament is assessing whether the copyright holder of the AI software should automatically obtain the copyright to AI-generated. The U.S. could take a similar approach.

The solutions outlined in this subsection, which involve adaptation of existing rules to the changing technological landscape, are ultimately the most likely to succeed. Though they do not fully solve many of the issues outlined in this note, these solutions would be a large step in the right direction—providing a greater scope of intellectual property protection to AI-generated inventions.

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179 The Federal Circuit has held that the USPTO does not have any general substantive rulemaking authority. Tafas v. Doll, 559 F.3d 1345, 1352 (Fed. Cir. 2009).
181 Id.
182 Id.
183 Id.
184 Id.
185 Sun, supra note 8, at 1215.
186 Id.
187 Id.
The USPTO and the U.S. Copyright Offices are also uniquely positioned to suggest legislative alterations to Congress, which form the foundation of the next two subsections.

C. Alterations through Legislative Enactment

A more radical approach would be for Congress to change the Patent Act and Copyright Act to recognize AI inventorship or authorship. This might involve changing the relevant language to “individual or entity,” as seen in the DTSA.\textsuperscript{188} This type of radical shift in the notion of authorship and inventorship would shock the system but would resolve many of the current challenges impeding the protection of AI-generated inventions. Congress could also do away with the inventorship or authorship requirement entirely—although this might ultimately introduce more challenges than it would fix. Alternatively, Congress could provide a different designation, perhaps assigning inventorship or authorship to the person or entity exercising control over the AI. This solution is likely the most attractive in this category, as it would adequately recognize the contributions of AI while maintaining a human-centered focus.

However, these legislative changes create potential constitutional problems. The Intellectual Property Clause of the Constitution grants Congress the enumerated power “[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries.”\textsuperscript{189} Congress is thus bound by the constitutional interpretations of the terms “inventor” and “author” when drafting related legislation. The Patent Act’s current definition of an inventor is rife with language suited for natural persons, and § 115 of the act uses the terms “himself” and “herself” when referring to the individual’s oath or declaration alleging that he or she is the original inventor of a claimed invention.\textsuperscript{190} In \textit{Thaler v. Vidal}, the Federal Circuit used these textual signals to determine that the Patent Act was unambiguous and restricted only to humans.\textsuperscript{191}

However, because the Intellectual Property Clause merely contains the word “inventor,” its outer ambit could be broader than how Congress has defined it in the Patent Act. Through scholars’ use of traditional tools of statutory interpretation, their consensus has trended toward the notion that AI cannot be considered an “inventor” in the

\begin{footnotesize}
\begin{enumerate}
\item U.S. CONST. art. 1, § 8, cl. 8.
\item Thaler v. Vidal, 43 F.4th 1207, 1211 (Fed. Cir. 2022).
\end{enumerate}
\end{footnotesize}
constitutional sense. Under an originalist analysis, the original public meaning of “inventor” at the time of the drafting was likely akin to “the first person to conceive of an invention,” which would exclude AI from being considered an “inventor.” Similarly, “author” was defined as “he to whom anything owes its origin; originator; maker; one who completes a work of science or literature,” which Congress interpreted as modalities by “which the ideas in the mind of the author are given visible expression.” This interpretation similarly excludes AI and maintains a human-centered interpretation.

Another argument, however, is that the Constitution still allows for AI-generated inventions to be protected, even if the AI cannot be named the inventor. At the time of the ratification of the Intellectual Property Clause, the English tradition of granting patents of importation allowed an individual to obtain a patent simply by being the first to introduce an invention “not known or used” in the realm. Thus, a natural person could be an “inventor” if they were the first to introduce an AI-generated invention into the public domain. The current incarnation of the Patent Act would prevent this arrangement, but if Congress were to amend the Patent Act to permit this interpretation, it could pass constitutional muster. However, the historical record surrounding patents of importation and the Constitution is “historically ambiguous,” and it is possible the Framers and the First Congress did not intend to allow the Intellectual Property Clause to permit patents of importation. Scholars have argued that prudential, doctrinal, and textual considerations counsel in favor of Congress’s ability to grant patents of importation, and that this is likely a viable avenue for legislative enactment. Copyright may be a

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192 See Schwartz & Rogers, supra note 190, at 536 (“[T]he Constitution does not permit an AI system to be deemed an inventor.”); see also Kelly R. Knutson, Anything You Can Do, AI Can’t Do Better: An Analysis of Conception as a Requirement for Patent Inventorship and a Rationale for Excluding AI Inventors, 11 CYBARIS 1, 8–9 (2020) (arguing that AIs cannot be “inventors” under the relevant statutory language).

193 See Inventor, A DICTIONARY OF THE ENGLISH LANGUAGE (6th ed. 1785) (defining “inventor” as a “finder out of something new.”). This definition comes from Samuel Johnson’s Revolutionary-era dictionary and is contemporaneous to the drafting of the Constitution.


196 Schwartz & Rogers, supra note 189, at 549 (citing OLIVER EVANS, EXPOSITION OF PART OF THE PATENT LAW BY A NATIVE BORN CITIZEN OF THE UNITED STATES 60–61 (1816)).

197 Id.

198 Id. at 558–60.

199 Id. at 560–77.
thornier issue, as the historical record contains no analogous copyright of importation. However, even if patents or copyrights of importation could be granted by Congress, constitutional constraints on Congress’s power would not allow an AI to obtain intellectual property rights to an invention in its own right.

D. Something New?

The final and most radical solution is to create an entirely new intellectual property regime. For example, software has poorly fit both the patent and copyright regimes. A sui generis software protection regime would alleviate issues of fitness and could be as strong as Congress wanted it to be. Scholars have proposed a number of market-oriented legal regimes aimed at providing enough protection to ensure the original developer benefits from lead time while also recognizing that the speed of software development necessitates shorter periods of protection to foster innovation. For example, there could be a set period of anti-cloning protection lasting for, at most, a couple of years.

Registration could also provide for a longer protection period or compensation under a standard licensing arrangement. Registration could focus on disclosing only aspects of the software, like specific functional considerations or a new algorithm, without having to reveal the entirety of the code. The registration process might involve light examination, without the kinds of rigorous requirements in patent examination. This is simply one of many possible approaches. A sui generis regime could provide protection while retaining flexibility and requiring some level of disclosure. Congress could also entitle entities to the protection, instead of individuals, which would provide an AI with protection of its own software output.

Regardless of which solution is implemented, any improvement over the current system would be favorable—both to increase innovation and provide adequate protection.

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200 See discussion supra Section III.C and accompanying text.
202 Id. at 2419.
203 Id. at 2417–18.
204 Id.
205 Id.
CONCLUSION

The rapid evolution of AI-generated inventions has raised questions about the applicability and suitability of various intellectual property protection regimes. Case law and administrative guidance currently foreclose patents and copyrights from consideration. As a result, trade secrecy remains the only viable path forward—for now. But trade secrecy protection is ultimately insufficient to meet the needs of generative AI, especially in the realms of disclosure and collaboration. The stage is primed either for a new regime or an alteration of existing frameworks. Of course, these considerations hinge on the threshold determination of whether AI should be entitled to protect its own output. Maybe it is time to expand our conception of who, or what, is an inventor or creator. And perhaps Naruto should be able to obtain a copyright for his selfie, too.