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TO
ARTIFICIAL INTELLIGENCE STUDY
BY THE UNITED STATES COPYRIGHT OFFICE

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EXECUTIVE SUMMARY

The Comment responds to the Copyright Office's Questions 18 – 21 concerning Copyrightability raised by the August 30, 2023 Notice of Inquiry on Artificial Intelligence Study, Docket No. 2203-6. The ideas discussed in this Comment are more fully explained in my forthcoming law review article. Edward Lee, *Prompting Progress: Authorship in the Age of AI*, 76 FLA. L. REV. (forthcoming 2024), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4609687 [hereinafter Lee, *Prompting Progress*].

In registering the copyrights of works, the Copyright Office's role is limited. As then-Judge Ruth Bader Ginsburg admonished in a case involving the new technology of video games: "It is *not* the Register's task to shape the protection threshold or ratchet it up beyond the 'minimal creative spark required by the Copyright Act and the Constitution.'" *Atari Games Corp. v. Oman*, 979 F.2d 242, 247 (D.C. Cir. 1992) (quoting *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 363 (1991)) (emphasis added). Instead, "[i]t is the Register's duty, as it is [the federal courts' duty], to heed the unifying and clarifying instruction furnished by the Supreme Court in *Feist*." *Id.* Reaffirming its broad interpretation of "Authors" of "Writings" in *The Trade-Mark Cases*, 100 U.S. 82 (1879) and *Burrow-Giles Lithographic Co. v. Sarony*, 111 U. S. 53 (1884), *Feist* defined how creators qualify as authors by satisfying originality, the *sine qua non* of copyright: the person must contribute, at least, a minimal level of creativity in the origination of a work, which may be satisfied simply by an individual's selection or arrangement of uncopyrightable elements in the work. The requisite level is, as the Supreme Court recognized, "extremely low," with "the vast majority of works mak[ing] the grade quite easily." *Feist*, 499 U.S. at 345.

The bare minimum for authorship. This test for authorship sets forth the constitutional threshold, or the *bare minimum* to qualify as an author. Anyone who meets the bare minimum qualifies as an author, "no matter how crude, humble or obvious" the work is. *Id*. Under the bare minimum, creators using prompt engineering on AI text-to-image generators qualify as authors if they make a minimally creative selection or arrangement of elements in a visual work, just as a photographer does in taking a simple point-and-shoot photograph of facts in the world. Lee, *Prompting Progress*, at 59. But the scope of copyright for works whose originality lies merely in their selection or arrangement is thin, only protecting against identical copies. *Feist*, 499 U.S. at 349; *Atari*, 979 F.2d at 244 n.4. Under this approach, (i) works created with a minimal level of creativity of the creator, such as in the selection or arrangement of elements, are eligible for

copyright, while (ii) works created autonomously and randomly, without human input in the creation, are uncopyrightable.

In imposing more onerous requirements of authorship on AI generated works—such as the exercise of "sufficient control," the avoidance of random elements, the prediction of the final work "ahead of time," and the "dictat[ion] of specific results"—the Office has overstepped its authority. Lee, *Prompting Progress*, at 16-23. These newfound restrictions on the process of authorship do not emanate from the text of the Copyright Clause or Supreme Court precedent. The restrictions eviscerate the bare minimum and potentially exclude millions of creative works from copyright because they were prompt-engineered, with scant attention paid to how that wholesale exclusion of creative works "promotes progress" in the United States. And they render "Authors" at odds with "Inventors" under the Patent Clause, which imposes no restrictions on the process of inventing. The Office's newfound requirements are not evidence-based and lack support of any empirical studies showing they describe what authors do in practice. In fact, studies show the importance of serendipity, randomness, experimentation, iterations, and the lack of control in the creative process—which is dynamic, not rigid. Because the Office has taken its view as its constitutional interpretation of "Authors" in the Copyright Clause, the Office's restrictive view, if embraced by the courts, leaves no room for Congress to adopt a more liberal construction. *Id.* at 10-11.

Judicial avoidance of case-by-case review of expressive works. The Office has devised new rules for all AI-generated works that it says it will apply on a case-by-case basis. But that large undertaking is contrary to the Supreme Court's repeated recognition of a principle of *judicial avoidance* of making case-by-case determinations of whether a work qualifies for copyright "outside the narrowest and most obvious limits." *Feist*, 499 U.S. at 359 (quoting *Bleistein v. Donaldson Lithographing Co.*, 188 U. S. 239, 251 (1903)). Judicial avoidance serves the First Amendment by preventing government officials from making content-based discrimination of expressive works that may result in subjective or arbitrary decisions. As Justice Holmes astutely recognized, "persons trained only to the law" are not suited to make such determinations, especially for new forms of artistic expression, whose "very novelty would make them repulsive until the public had learned the new language in which their author spoke." *Bleistein*, 188 U.S. at 251.

The lesson of photography and the bare minimum. In interpreting the Copyright Clause, "a page of history is worth a volume of logic." *Eldred v. Ashcroft*, 537 U.S. 186, 200 (2003) (quoting *New York Trust Co.* v. *Eisner*, 256 U. S. 345, 349 (1921) (Holmes, J.)). Photography provides an important historical example in which critics lodged the very same objections made against AI-generated works today: that photographs didn't involve any human authorship, but instead, were merely mechanical creations of cameras. Lee, *Prompting Progress*, at 52-55. But, starting with *Burrow-Giles*, the federal courts correctly rejected that misguided view and recognized that nearly all photographs involve authorship, at least based on the photographer's selection or arrangement of elements, including natural scenes in the world they did not stage. This approach adheres to the bare minimum. The same test should apply to prompt-engineered images. The Copyright Clause requires no other test of authorship other than the bare minimum.

I. Returning to the First Principles of Authorship Under the Copyright Clause

To answer Questions 18 – 21,[1] concerning the copyrightability of AI generated works, the Copyright Office and the federal courts should return to the first principles of authorship under the Copyright Clause. These first principles are summarized in Table 1 below. The proper test of authorship examines whether the person contributes a minimal level of creativity in the origination or making of the work, which may be satisfied simply by an individual's selection or arrangement of uncopyrightable elements in the work. The requisite level of creativity is, as the Supreme Court recognized, "extremely low." *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co*., 499 U.S. 340, 345 (1991). This low threshold may be described as the *bare minimum* for authorship. Under this bare minimum, the "vast majority of works … quite easily" pass the test. *Id.* There is no constitutional restriction imposed on the process of authorship, much less any expectation of a set path that all authors must take in lockstep. A new technology does not change these first principles. As then-Judge Ruth Bader Ginsburg admonished in a case involving the copyrightability of "Breakout" during the advent of video games: "It is not the Register's task to shape the protection threshold or ratchet it up beyond the 'minimal creative spark required by the Copyright Act and the Constitution.'" *Atari Games Corp. v. Oman*, 979 F.2d 242, 247 (D.C. Cir. 1992).

A. The First Principles of Authorship

Table 1. The First Principles of Authorship in Copyright Clause

The Bare Minimum to Qualify as Author	**Values of the Copyright Clause**
1. Originate or create a work, and don't copy it from other works (**independently create work**)	A. Promote progress and learning in U.S.
2. Work embodied in "all forms … by which the ideas in the mind of the author are given visible expression" (**work embodied in form**)	B. Incentivize people to create works for public by grant of copyright as the "reward[] commensurate with the services rendered"
3. Work has a minimal level of creativity, which can even be satisfied in the selection or arrangement of uncopyrightable elements (**minimal creativity, or bare minimum**)	C. "Writings" of "Authors" liberally construed
4. Judicial avoidance of case-by-case review to determine if works qualify for copyright "outside of the narrowest and most obvious limits." (**judicial avoidance of case by case review)**	

[1] (18) Under copyright law, are there circumstances when a human using a generative AI system should be considered the "author" of material produced by the system? If so, what factors are relevant to that determination? For example, is selecting what material an AI model is trained on and/or providing an iterative series of text commands or prompts sufficient to claim authorship of the resulting output?
(19) Are any revisions to the Copyright Act necessary to clarify the human authorship requirement or to provide additional standards to determine when content including AI-generated material is subject to copyright protection?
(20) Is legal protection for AI-generated material desirable as a policy matter? Is legal protection for AI-generated material necessary to encourage development of generative AI technologies and systems? Does existing copyright protection for computer code that operates a generative AI system provide sufficient incentives?
(20.1) If you believe protection is desirable, should it be a form of copyright or a separate sui generis right? If the latter, in what respects should protection for AI-generated material differ from copyright?
(21) Does the Copyright Clause in the U.S. Constitution permit copyright protection for AI-generated material? Would such protection "promote the progress of science and useful arts"? If so, how?

A first principles approach to constitutional interpretation examines the text, structure, and history of a constitutional provision, and identifies the value it is intended to serve. *See* Akhil Reed Amar, *The Future of Constitutional Criminal Procedure*, 33 AM. CRIM. L. REV. 1123, 1132-33 (1996); *see also Eldred v. Ashcroft*, 537 U.S. 186, 199 (2003) (examining Copyright Clause's text, history, and structure with Patent Clause). The approach considers the practical effects of an interpretation, *see* Amar at 1133, something the Supreme Court has consistently done in copyright cases.[2] These factors all favor a broad understanding of "Authors" of "Writings" to accommodate the future advances in technology. Accordingly, the Court has recognized the constitutional threshold—or bare minimum—to qualify as an author: the person contributes a minimal level of creativity in the origination or making of the work, which may be satisfied simply by an individual's selection or arrangement of uncopyrightable elements in the work. This test applies to AI generated works as it does to all works generally.

1. "Authors" of "Writings" Are Broadly Construed to "Promote Progress"

The Framers chose the general terms "Authors" of "Writings" as the subject matter of the Copyright Clause—and rejected Madison's proposal that was limited to "*literary* authors." *See* Edward C. Walterscheid, *To Promote the Progress of Science and Useful Arts: The Background and Origin of the Intellectual Property Clause of the United States Constitution*, 2 J. INTELL. PROP. L. 1, 46 (1994); Karl Fenning, *The Origin of the Patent and Copyright Clause of the Constitution*, 17 GEO. L.J. 109, 112-13 (1929). The Framers avoided delineating the specific types of works that qualified as writings. Even though the Statute of Anne, England's first copyright act, greatly influenced the Framers' thinking, the Framers did not follow the Statute of Anne's approach in designating the specific works (books, engravings, and prints at the time) eligible for copyright. *See* 8 George 2 c.13: Engraving Copyright Act (1735), at https://statutes.org.uk/site/the-statutes/eighteenth-century/1735-8-george-2-c-13-engraving-copyright-act/; Statute of Anne, 8 Ann, c. 19 (1710), https://avalon.law.yale.edu/18th_century/anne_1710.asp.[3] In choosing instead the general term of "Writings" for the Copyright Clause, the Framers left it to Congress to decide the works eligible for copyright.

The Copyright Clause's grant of power itself— "[t]o promote the Progress of Science and useful Arts"—is likewise written in general terms, giving Congress the power to decide how best to advance learning and innovation through the copyright and patent systems. At the time of the Framing, "promote" meant "[t]o forward, to advance; to elevate, to exalt, to prefer."[4] "Progress" meant "advancement, motion forward; intellectual improvement."[5] "Science" meant "knowledge."[6] *See Goldstein v. California*, 412 U.S. 546, 555 (1973). Thus, to promote progress

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[2] *See, e.g.*, Bleistein v. Donaldson Lithographing Co., 188 U.S. 239, 249-51 (1903) (rejecting proposed copyright restriction that would render many famous works uncopyrightable); Feist Publ'ns, Inc. v. Rural Tel. Serv. Co., 499 U.S. 340, 348 (1991) ('vast majority" of works easily pass the test); Eldred v. Ashcroft, 537 U.S. 186, 200 (2003) (rejecting proposed copyright restriction that would render past copyright term extensions to existing copyrighted works unconstitutional).

[3] *See* Tyler T. Ochoa & Mark Rose, *The Anti-Monopoly Origins of the Patent and Copyright Clause*, 49 J. COPYRIGHT SOC'Y U.S.A. 675, 677 (2002); L. Ray Patterson, *Understanding the Copyright Clause*, 47 J. COPYRIGHT SOC'Y U.S.A. 365 (2000) ("the framers adopted the English solution for the U.S. Constitution").

[4] THOMAS SHERIDAN, A GENERAL DICTIONARY OF THE ENGLISH LANGUAGE (1780), at https://books.google.com/books?id=mCY-AAAAcAAJ&q=science#v=snippet&q=promote&f=false.

[5] *Id.*, at https://books.google.com/books?id=mCY-AAAAcAAJ&q=science#v=onepage&q=progress&f=false.

[6] *Id.*, at https://books.google.com/books?id=mCY-AAAAcAAJ&q=science#v=snippet&q=science&f=false.

is forward-looking: seeking a *future* improvement of society, here, in terms of "science" or knowledge facilitated by the creation and dissemination of new works by authors for the public's benefit. "In other words, *to encourage people to devote themselves to intellectual and artistic creation*, Congress may guarantee to authors and inventors a reward in the form of control over the sale or commercial use of copies of their works." *Id.* (emphasis added). As the Court explained this overarching purpose of the Copyright Clause in *Mazer v. Stein*:

> The economic philosophy behind the clause empowering Congress to grant patents and copyrights is the conviction *that encouragement of individual effort by personal gain is the best way to advance public welfare through the talents of authors* and inventors in 'Science and useful Arts.' *Sacrificial days devoted to such creative activities deserve rewards commensurate with the services rendered*."

Mazer v. Stein, 347 U.S. 201, 219 (1954) (emphasis added).

The Framers' use of general terms in the Copyright Clause was consistent with the approach, advanced by Edmund Randolph, an influential member of the Committee on Detail, "[t]o insert *essential principles only*, lest the operations of government should be clogged by rendering those provisions permanent and unalterable, *which ought to be accommodated to times and events*." Walterscheid, *supra*, at 32 (emphasis added).

Fitting with the general terms of the Copyright Clause, the Supreme Court adopted an expansive interpretation of the "Authors" of "Writings." First, in 1879, the Court recognized that "the word writings may be liberally construed" to go beyond literary works "to include original designs for engravings, prints, &c." *The Trade-Mark Cases*, 100 U.S. 82, 94 (1879). At the same time, "it is only such as are *original* and are founded in the creative powers of the mind. The writings which are to be protected are the fruits of intellectual labor, embodied in the form of books, prints, engravings, and the like." *Id.* (emphasis added). Thus, while Congress has broad power under the Copyright Clause to determine the types of works that constitute the "Writings" of "Authors," it is not unlimited. Copyright is limited to *original* works.

In 1884, the Court next considered whether Congress exceeded its power under the Copyright Clause by granting copyrights to photographs. This case is especially instructive to the controversy over AI generated visual works. The petitioner contended that "that a photograph is not a writing nor the production of an author." *Burrow-Giles Lithographic Co. v. Sarony*, 111 U.S. 53, 56 (1884). According to the petitioner, the camera produced only a mechanical reproduction of existing elements: "a photograph is the mere mechanical reproduction of the physical features or outlines of some object, animate or inanimate, and involves no originality of thought." *Id.* at 59.

The Supreme Court rejected the petitioner's argument, however. The Court adopted "a more enlarged definition" of the "Writings" of "Authors" than simply books—one that broadly included visual works, including photographs. "An author in that sense is '*he to whom anything owes its origin; originator; maker*; one who completes a work of science or literature." *Id.* at 57-58 (emphasis added). "By writings in that clause is meant the literary productions of those authors, and Congress very properly has declared these to include *all forms* of writing, printing, engravings, etchings, etc., *by which the ideas in the mind of the author are given visible expression*." *Id.* (emphasis added). These broad definitions of the "Writings" of "Authors" encompassed the visual

works protected in the Copyright Act of 1790 as amended, "maps, charts, designs, engravings, etchings, cuts, and other prints." *Id.* at 57. Once visual works are recognized as the "Writings" of "Authors," the Court found no principled basis to exclude photographs, which were visual works produced by the then-emerging technology of the camera. The Court interpreted "Writings" of "Authors" to accommodate this new technology, which did not exist at the Framing. *Id.* at 58.

Thus, the key requirement for all works to qualify for copyright is originality. *Id.* ("We entertain no doubt that the Constitution is broad enough to cover an act authorizing copyright of photographs, so far as they are representatives of original intellectual conceptions of the author."). Napoleon Sarony's staged photograph of Oscar Wilde satisfied that requirement. Sarony made a creative selection and arrangement of elements:

> [Sarony] made the same . . . entirely from his own original mental conception, to which he gave visible form by posing the said Oscar Wilde in front of the camera, *selecting* and *arranging* the costume, draperies, and other various accessories in said photograph, *arranging* the subject so as to present graceful outlines, *arranging* and disposing the light and shade, suggesting and evoking the desired expression, and from such disposition, *arrangement*, or representation, made entirely by plaintiff, he produced the picture in suit.

Id. at 60 (quoting findings of fact of trial court) (emphasis added). Although Sarony was an early innovator in staging celebrities for portraits, he had a cameraman who took the actual photographs and assistants to process and print them. Lee, *Prompting Progress*, at 51. Yet Sarony's staging was sufficient, notwithstanding the contribution of others and the camera itself.

Contrary to the Copyright Office's characterization of *Burrow-Giles*,[7] the Supreme Court said it "decide[d] nothing" about "the ordinary production of a photograph," which the petitioner argued should not be copyrightable. *Id.* at 59 ("This may be true in regard to the ordinary production of a photograph, and that in such case, a copyright is no protection. *On the question as thus stated we decide nothing*.") (emphasis added). The federal courts answered the question left open in *Burrow-Giles*. As Judge Learned Hand explained:

> *Burrow-Giles Co. v. Sarony* left open an intimation that some photographs might not be protected, and this possibility was emphasized in *J. L. Mott Iron Works v. Clow*, supra. I think that, even as to these, *Bleistein v. Donaldson Lithographing Co*., supra, rules, because no photograph, however simple, can be unaffected by the personal influence of the author, and no two will be absolutely alike.

Jewelers' Circular Pub. Co. v. Keystone Pub. Co., 274 F. 932, 934 (S.D.N.Y. 1921), *aff'd*, 281 F. 83 (2d Cir. 1922). Echoing Justice Holmes's words in *Bleistein*, Judge Hand concluded that nearly all photographs are copyrightable. *Id.* Justice Holmes's and Judge Hand's approach became the prevailing approach to photography. *See Ets-Hokin v. Skyy Spirits, Inc*., 225 F.3d 1068, 1076-77 (9th Cir. 2000) ("This approach, according to a leading treatise in the copyright area, 'has become

[7] U.S. Copyright Office Letter to Lindberg *re: Zarya of the Dawn* (Registration # VAu001480196) (Feb. 21, 2023), at 3-4, https://www.copyright.gov/docs/zarya-of-the-dawn.pdf [hereinafter *Zarya of the Dawn* decision] ("But the Court explained [in Burrow-Giles] that if photography was a "merely mechanical" process, "with no place for novelty, invention or originality" by the human photographer, then "in such case a copyright is no protection.").

the prevailing view,' and as a result, 'almost any[ ] photograph may claim the necessary originality to support a copyright merely by virtue of the photographers' [sic] personal choice of subject matter, angle of photograph, lighting, and determination of the precise time when the photograph is to be taken.") (quoting 1 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 2.08[E][1], at 2-130 (1999)). The wisdom of the federal courts' broad recognition of photography as a form of authorship has been validated by the tremendous growth of photography as a profession, as a recognized art form, and as a source of creative works that enrich society every single day. *See Occupational Employment and Wages*, May 2022, BLS.gov, https://www.bls.gov/oes/current/oes274021.htm (an estimated 47,380 photographers in U.S. in 2022); *see also* Lee, *Prompting Progress*, 54-55 (discussing history of photography). From Napoleon Sarony to Lynn Goldsmith, professional photographers depend on copyright to sustain their business. *Id.* at 55. Sarony succeeded as a professional photographer because he adopted a business model in which he retained his copyrights. *Id.* That is the same business model that the photographer Lynn Goldsmith successfully used to vindicate her copyright claim in *Andy Warhol Foundation for the Visual Art, Inc. v. Goldsmith*, 143 S. Ct. 1258, 1287 (2023) ("Lynn Goldsmith's original works, like those of other photographers, are entitled to copyright protection, even against famous artists."). Had copyright been denied to photographs in *Burrow-Giles*, it is doubtful that photography would have developed into the profession that it is today.

2. *Feist* Recognizes the Bare Minimum to Qualify as an Author

In *Feist Publications, Inc. v. Rural Telephone Service Co*., the Supreme Court reaffirmed its broad interpretation of "Authors" of "Writings" in *Trade-Mark Cases* and *Burrow-Giles*, enunciated the constitutional test of originality, and explained the threshold—or bare minimum—for authorship. *Feist*, 499 U.S. at 346. A bare minimum approach in constitutional law serves important jurisprudential values, such as concerns for judicial competence and the avoidance of judicial entanglement in case-by-case review. *See* Lee, *Prompting Progress*, at 58-59 (discussing Court's review of Equal Protection and Commerce Clause challenges based on rational basis).

The *Feist* Court identified the bare minimum for authorship: one must independently create a work that has a "minimal level of creativity," which may even be satisfied by the person's selection or arrangement of uncopyrightable elements. 499 U.S. at 345, 358-59. This form of authorship, i.e., authorship-by-selection-or-arrangement, is distinct from authorship-by-composition, in which the author creates the underlying elements. The Court stressed this minimal level of creativity is "extremely low; even a slight amount will suffice," and "[t]he vast majority of works make the grade quite easily." *Id.* at 345. This bare minimum is so low that it doesn't require any new creation: "a work may be original even though it closely resembles other works." *Id.* Two poets who independently create the same poem are *both* entitled to copyright. *Id.* at 345-46.

3. The Bare Minimum Serves Judicial Avoidance of Case-By-Case Review of Eligibility

The bare minimum approach to authorship avoids the "danger[]" of entangling courts or government officials in case-by-case review of the eligibility of works of expression for copyright. Starting with *Bleistein* and continuing with *Feist*, the Supreme Court has consistently warned against courts engaging in case-by-case review of expressive works "outside of the narrowest and

most obvious limits." *Bleistein*, 188 U.S. at 251. In *Feist*, the Supreme Court even cited *Bleistein*'s principle of avoidance in explaining why "the vast majority of compilations will pass the test." *Feist*, 499 U.S. at 359. Judicial avoidance is necessary to avoid serious First Amendment problems with government officials' subjective and potentially arbitrary content-based discrimination of expressive works. *See* Lee, *Prompting Progress*, at 49, 58-59. The Supreme Court has repeatedly invoked this principle of judicial avoidance in applying a variety of doctrines in copyright law.[8]

History has borne out the wisdom of this principle of judicial avoidance, first elaborated by Justice Holmes in *Bleistein.* Justice Holmes recognized two dangers to case-by-case review of expressive works:

> It would be a dangerous undertaking for persons trained only to the law to constitute themselves final judges of the worth of pictorial illustrations, outside of the narrowest and most obvious limits. [1] *At the one extreme, some works of genius would be sure to miss appreciation. Their very novelty would make them repulsive until the public had learned the new language in which their author spoke.* It may be more than doubted, for instance, whether the etchings of Goya or the paintings of Manet would have been sure of protection when seen for the first time. [2] At the other end, copyright would be denied to pictures which appealed to a public less educated than the judge.

188 U.S. at 251; *accord Andy Warhol Foundation for the Visual Art, Inc.*, 143 S. Ct. at 1283 n.19. The first danger was that new forms of artistic expression would face public scorn because "[t]heir very novelty would make them repulsive until the public had learned the new language in which their author spoke." The second danger was that the judges would take an elitist view and discriminate against works that did not appeal to their tastes, even if it appealed to the less educated.

The advent of modern art in the early 1900s soon validated Justice Holmes's insight about new art forms. The novelty of Cubism developed by Picasso and Braque, and other styles of modern art that broke from the prevailing artistic conventions, led to tremendous public backlash against modern art as "degenerate" and against the modern artists as mentally ill or "freaks," a view even endorsed by the leading U.S. physicians. Lee, *Prompting Progress*, at 33-34. As the *New York Times* editorial condemned, modern art was a "false art"—"a part of the general movement … to disrupt and degrade, if not to destroy, not only art, but literature and society, too." *Id.* at 33 (quoting *Cubists of All Sorts*, N.Y. TIMES 6 (Mar. 16, 1913)). To borrow Holmes's words, "when seen for the first time," modern artworks were not considered art in the United States because "the public had [not] learned the new language in which their author spoke." For many years, America missed appreciation of some works of genius, even Picasso's, because of their very novelty. Tragically, Nazi Germany later capitalized on the backlash and confiscated thousands of

[8] *See* Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 582-83 (1994) ("The threshold question when fair use is raised in defense of parody is whether a parodic character may reasonably be perceived. Whether, going beyond that, parody is in good taste or bad does not and should not matter to fair use. As Justice Holmes explained, '[i]t would be a dangerous undertaking for persons trained only to the law to constitute themselves final judges of the worth of [a work], outside of the narrowest and most obvious limits. At the one extreme some works of genius would be sure to miss appreciation. Their very novelty would make them repulsive until the public had learned the new language in which their author spoke.'"); Star Athletica, L.L.C. v. Varsity Brands, Inc., 580 U.S. 405, 423 (2017) ("asking whether some segment of the market would be interested in a given work threatens to prize popular art over other forms, or to substitute judicial aesthetic preferences for the policy choices embodied in the Copyright Act"); Andy Warhol Foundation for the Visual Art, Inc., 143 S. Ct. at 1283-84 ("A court should not attempt to evaluate the artistic significance of a particular work.").

modern artworks as "degenerate art" and sold them to fund Germany's campaign in World War II. *Id.* at 34.

The advent of photography produced similar public backlash. *Id.* at 52-53. The debate over photography as a form of authorship foreshadowed today's debate over AI generated works, which has faced similar backlash. *Id.* at 52. Indeed, the arguments against photography are eerily similar to the ones made against AI today. *Id.* at 54-56. That backlash serves as an important reminder of the need to pay heed to the principle of judicial avoidance. The Copyright Office and the courts should refrain from making premature judgments about these new forms and processes of creative expression. To echo Justice Souter's admonition at the advent of the Web, "we should be shy about saying the final word today about what will be accepted as reasonable tomorrow."[9]

B. "Inventors" in the Patent Clause Has No Restrictive Requirements on the Manner of Invention of the Kind the Copyright Office Imposes on "Authors"

A first principles approach examines the structure of the Copyright Clause, which the Framers combined with the Patent Clause in Article I in parallel manner. *See* Amar, *supra*, at 1133; *Eldred*, 537 U.S. at 201-02, 215-16. When interpreting the Copyright Clause, the Supreme Court has often turned to the Patent Clause for guidance.[10] The Patent Clause imposes no restrictive requirements on the process of inventing of the kind that the Copyright Office has imposed on authorship—the elimination of random elements, the exercise of "sufficient human control" to "dictate specific results," and the prediction "ahead of time" of the specific results. Instead, patent law rejects the imposition of any requirement on the manner in which invention occurs.

The Federal Circuit recognizes that an inventor can reduce an invention to practice without conceiving of it during the process, but still satisfy the conception requirement once the inventor later recognizes what the invention is. *See* Amgen, Inc. v. Chugai Pharmaceutical Co., Ltd., 927 F.2d 1200, 1206 (Fed. Cir. 1991); Dan L. Burk, *AI patents and the self-assembling machine*, in THE FUTURE OF INTELLECTUAL PROPERTY 129, 135 (Daniel J. Gervais ed., 2021). Serendipitous inventions may be patented. *See Amgen*, 927 U.S. at 1206. In other words, patent law rejects the type of static, rigid path that the Copyright Office requires of authors. *See* Lee, *Prompting Progress*, at 22-23. Patent law does *not* require that an inventor avoid randomness or follow a rigid, one-way path of (1) conception occurring first at time 1 and then dictating the specific results in (2) reduction to practice at time 2. Such a restrictive view of inventorship would straitjacket inventors and stifle innovation. Citing patent law, the Second Circuit endorsed a similar approach for authorship under copyright law to allow serendipitous creations as acts of authorship. *See Alfred Bell & Co. v. Catalda Fine Arts*, 191 F.2d 99, 104-05 & nn.23, 25 (2d Cir. 1951) (citing patent cases).

The Supreme Court's repudiation of its prior dicta suggesting that the inventive process required a "flash of genius" is instructive. *See Graham v. John Deere Co.*, 383 U.S. 1, 15 (1966). Congress amended the Patent Code to eliminate the imposition of any such requirement on the

[9] Denver Area Educ. Telecomm. Consortium v. FCC, 518 U.S. 727, 777 (1996) (Souter, J.).
[10] *Eldred*, 537 U.S. at 201; Golan v. Holder, 565 U.S. 302, 324 (2012); United States v. Paramount Pictures, 334 U.S. 131, 156-57 (1948).

process of invention. *Id.* at 16 n.8. And the Court renounced its prior dicta as merely "a rhetorical embellishment of language." *Id.* at 15 n.7.

Just as the Patent Clause does not restrict the process by which "Inventors" invent, the Copyright Clause does not restrict the process by which "Authors" create. Indeed, the promotion of "Progress" eschews straitjacketing inventors and authors to a rigid task. *Cf. Eldred*, 537 U.S. at 202 (finding no "constitutional barrier" to extension of existing copyright terms where there was no corresponding constitutional barrier to patent term extensions).

II. Applying the Bare Minimum Test of Authorship to Prompt-Engineered Works

A. How AI Generated Works Can Satisfy Authorship-By-Selection-or-Arrangement

The answer to Question 18 is straightforward.[11] The Copyright Office must not devise a new test or set of requirements or restrictions for authorship, but instead, must apply the bare minimum requirement for authorship enunciated by the Supreme Court. Congress has determined the types of works eligible for copyright, including pictorial and graphic works. 17 U.S.C. § 102(a). Congress did not intend "to freeze the scope of copyrightable subject matter at the present stage of communications technology" in 1976 when Congress enacted the Copyright Act. H.R. Rep. No. 94-1476 (1976), at 51, *reprinted in* 1976 U.S.C.C.A.N. 5659. As a long as a creation falls within a type of work recognized by Congress, it is eligible for copyright if it meets the bare minimum for authorship. *See id.* at 56 (recording of birdcalls can be copyrightable based on producer's contribution); *accord* U.S. Copyright Office, Compendium of U.S. Copyright Office Practices (Third) (Rev. 3d ed. 2021), § 803.3 [hereinafter Compendium]. Under that test, creators using prompt engineering on AI text-to-image generators to create visual works qualify as authors if they make a minimally creative selection or arrangement of elements. But the scope of copyright for works whose originality lies in its selection or arrangement is thin, only protecting against identical copies. *Feist*, 499 U.S. at 349. Under this approach, (i) works created with a minimal level of creativity of the creator, such as in the selection or arrangement of elements, are eligible for copyright, while (ii) works created autonomously and randomly, without human input in the creation, are uncopyrightable.

B. Many AI Generated Works Will Satisfy the Bare Minimum, But Many Others Will Not

As summarized in Table 2 below, the analysis depends on the type of work involved. Some types of works, including visual works, musical works, and compilations of data can qualify for copyright based on an original selection and arrangement of elements. But other works, for example, an article, essay, novel, and nonfiction cannot qualify simply based on a selection or arrangement. Lee, *Prompting Progress*, at 45-46. Because language itself is a selection and arrangement of words, only the composer of the expression in an article is treated as the author. For example, someone who asks ChatGPT to "write an essay on Justice Holmes's influence on

[11] (18) Under copyright law, are there circumstances when a human using a generative AI system should be considered the "author" of material produced by the system? If so, what factors are relevant to that determination? For example, is selecting what material an AI model is trained on and/or providing an iterative series of text commands or prompts sufficient to claim authorship of the resulting output?

copyright law" cannot claim authorship of the essay generated on ChatGPT. *Id.* The person must write the expression in the essay to be its author; an essay cannot be recharacterized as a selection of ideas or compilation without subsuming the copyright for the literary work and potentially undermining the idea-expression dichotomy. *Id.*

Table 2. Application of the Bare Minimum of Authorship to AI Generated Works

Type of AI Generated Work	**Bare Minimum Met?**	**Scope of copyright**
Prompt-engineered visual work	Yes if human made selection or arrangement of elements that is minimally creative.	Thin copyright
Prompt-engineered musical work	Yes if human made selection or arrangement of elements that is minimally creative	Thin copyright
Prompt-engineered chart, table, or other compilation of data	Yes if human made selection or arrangement of elements that is minimally creative	Thin copyright
Prompt-engineered essay, article, novel, or work of nonfiction	No if human did not compose any expression	No copyright
Work generated by simple prompt of one- or two-words (de minimis)	No if human did not make a minimally creative selection or arrangement of elements	No copyright
Randomly and autonomously generated by AI with no human selection or arrangement of elements in the origination of work	No	No copyright

By contrast, courts have long recognized authorship-by-selection-or-arrangement in visual works, including photographs. *See, e.g.*, *Rentmeester v. Nike*, 883 F.3d 1111, 1119 (9th Cir. 2018) ("What *is* protected by copyright is the photographer's selection and arrangement of the photo's otherwise unprotected elements."); *Satava v. Lowry*, 323 F.3d 805, 811 (9th Cir. 2003) ("a combination of unprotectable elements is eligible for copyright protection only if those elements are numerous enough and their selection and arrangement original enough that their combination constitutes an original work of authorship"); *see also* Compendium, at § 905 ("original authorship may be present in the selection, coordination, and/or arrangement of images, words, or other elements, provided that there is a sufficient amount of creative expression in the work as a whole"). Thus, if creators write prompts to make their selection or arrangement of elements in a visual work that satisfies the bare minimum, the creators qualify as the authors of the selection or arrangement.

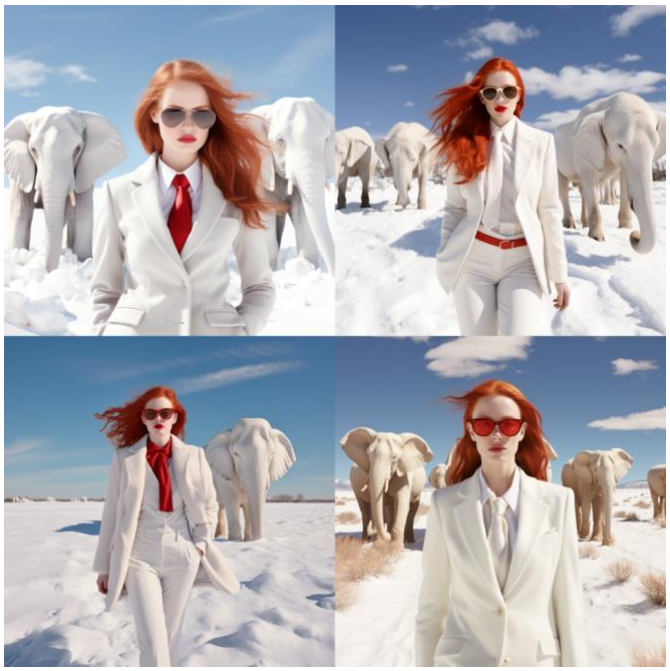
However, as indicated in Table 2, the bare minimum is unlikely to be satisfied if the creator merely uses a simple one- or two-word prompt that generates an image with many elements not contained in the prompt, unless the creator revises the image in a way that manifests the creator's minimally creative selection or arrangement of elements. *See* Lee, *Prompting Progress*, at 44.

C. Examples of Selecting and Arranging Elements in AI Generated Images

I created several examples to show how creators can make at least a minimally creative selection or arrangement of elements in images by using prompt-engineering of a series of images on Midjourney, Adobe's Generative Fill, and DALL-E 3. Lee, *Prompting Progress*, at 57-67.

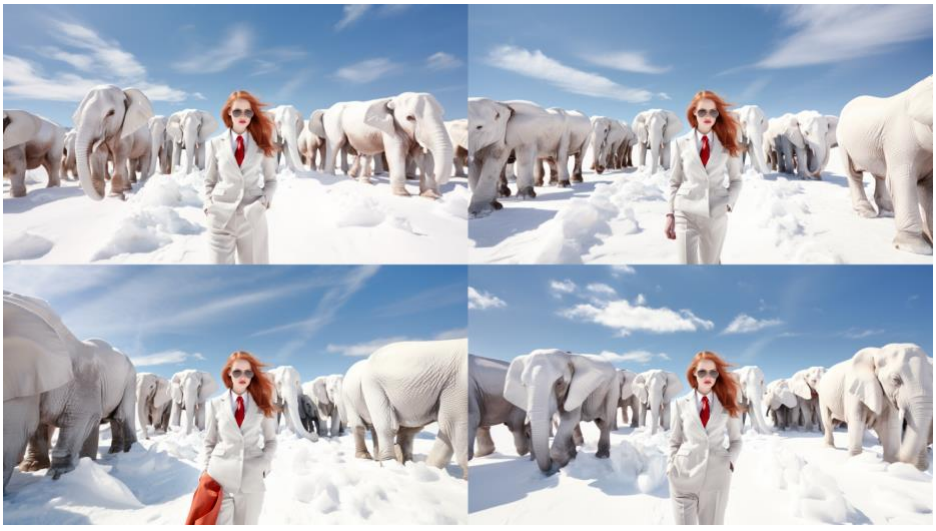
For this Comment, I prepared a new set of images by my selecting the following elements for a composition: “photograph of a woman with long red hair, wearing an all-white suit and red necktie, black sunglasses, while walking in a snow covered field with a white elephant.” Using Midjourney, I created the following set of images, as shown in Figure 1:

Figure 1. First Set of Images I Generated Based on My Selection of Elements



I selected the top left image to edit, zoomed out by a factor of 2, and changed the aspect ratio of the image to 16:9 to show a larger background, as shown in Figure 2 below:

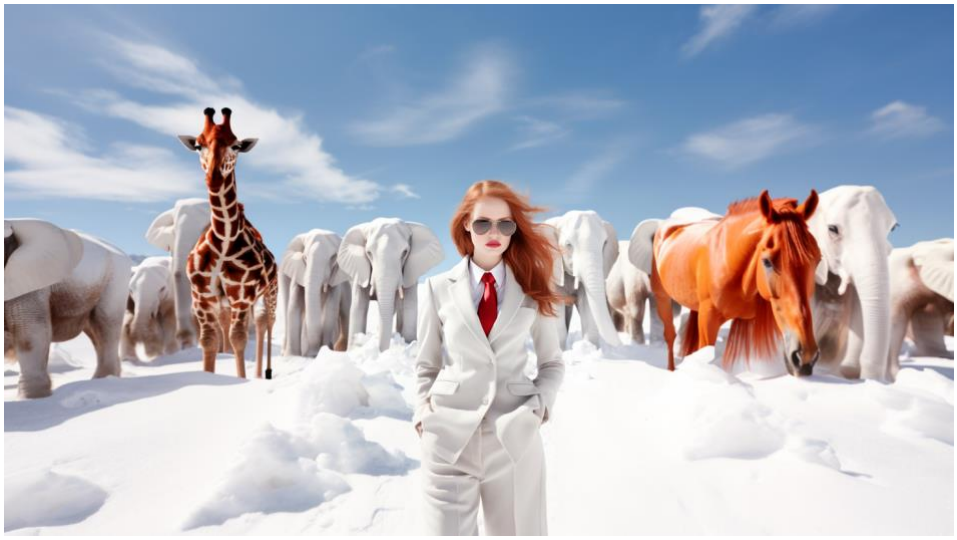
Figure 2. I Changed the Perspective to 16:9 Ratio to Create Larger Background



From these iterations, I selected the top left version in Figure 2 to further edit. Using inpainting (or “vary region” on Midjourney), I selected the first elephant on the left and changed it into a

"giraffe," and I changed an elephant on the right to a "brown horse." Inpainting gives the creator the ability to edit or change any element in the image.[12] My changes are shown in Figure 3:

Figure 3. Using Inpainting, I Changed Elephants to a Giraffe and a Horse



For comparison, I used Adobe Photoshop's Generative Fill, a form of inpainting, to add and arrange several new elements—a "unicorn," a "golden doodle," and a "white bunny"—within the image by selecting the precise area to modify and then using text prompts to add the three new elements. I could have added and arranged many new elements. My selection and arrangement of elements in this fanciful scene meets the bare minimum. Lee, *Prompting Progress*, at 57 (tbl. 3).

Figure 4. Using Adobe's Generative Fill, I Added and Arranged New Elements

[12] *See* Keisha Oleaga, *Inpainting in Midjourney: A Comprehensive Guide*, NFTNOW.COM (Aug. 30, 2023), https://nftnow.com/ai/inpainting-in-midjourney-a-comprehensive-guide/; Bryson Masse, *Midjourney adds new 'vary (region)' feature to rival Photoshop Generative Fill*, VENTUREBEAT.COM (Aug. 23, 2023, 9:40 AM), https://venturebeat.com/ai/midjourney-adds-new-vary-region-feature-to-rival-photoshop-generative-fill/.

As shown by these examples, creators are able to create, alter, and edit images or visual works in near unlimited ways through prompt engineering on AI platforms. The inpainting function enables one to change nearly every aspect of an image, including the selection and arrangement of elements, the background, and the rendition or style. The inpainting functionality has been aptly called a "game-changer."[13] Perhaps not surprisingly, *Time Magazine* selected Adobe's Generative Fill as one of the best inventions of 2023.[14] The inpainting function is only likely to get more powerful, along with other new capabilities, enabling creators to reimagine any image or photograph to their heart's desire. Lee, *Prompting Progress*, at 80-81.

D. Harmonization with the Recommended Approach in the EU

The bare minimum approach is consistent with the approach recommended in the European Union by a report commissioned by the European Commission, jointly prepared by the Institute for Information Law (IViR) and the Joint Institute for Innovation Policy (JIIP).[15] Although the report is not a law, the European Commission agreed with the study's view that that "the current EU IP framework … appear[s] broadly suitable to address the challenges raised by AI-assisted … creations."[16] The Commission sought "European excellence to blossom in AI."

The EU AI Report of IViR and JIIP concluded that AI-assisted works *can* qualify as works eligible for copyright if the work is the result of human creative choices in at least one of three stages of the creative process: (1) conception (design and specifications), (2) execution (producing drafts), and (3) redaction (editing, finalization).[17] Relying on the CJEU's *Painer* decision that recognized a portrait photographer's authorship can exist in the preparation phase, the taking of the photograph, or the post-processing phase,[18] the report adopted a flexible approach that allowed an author to show human creative choices in at least one of these three stages of the creative process. The report rejected any requirement that the human must be able to predict ahead of time the precise work generated:

> Due to the "black box" nature of some AI systems, persons in charge of the conception phase will sometimes not be able to precisely predict or explain the outcome of the execution phase. This however need not present an obstacle to the "work" status of the final output, assuming that such output stays within the ambit of the person's general authorial intent.

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[13] *Id.*

[14] Pranav Dixit, *Photo Editing Outside the Box*, TIME (Oct. 24, 2023, 7:00 AM), https://time.com/collection/best-inventions-2023/6326984/adobe-photoshop-generative-expand-and-generative-fill/.

[15] The Joint Institute for Innovation Policy & IViR, *Trends and Developments in Artificial Intelligence Challenges to the Intellectual Property Rights Framework: Final report* (2020), https://op.europa.eu/en/publication-detail/-/publication/394345a1-2ecf-11eb-b27b-01aa75ed71a1/language-en [hereinafter EU AI Report of IViR and JIIP]

[16] *See* European Comm'n, Commun. from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions (Nov. 25, 2020), https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52020DC0760.

[17] EU AI Report of IViR and JIIP, *supra*, at 7-8.

[18] Eva-Maria Painer v. Standard VerlagsGmbH, Case C-145/10 (2011) ECLI:EU:C:2011:798, ¶¶ 91-92 ("In the preparation phase, the photographer can choose the background, the subject's pose and the lighting. When taking a portrait photograph, he can choose the framing, the angle of view and the atmosphere created. Finally, when selecting the snapshot, the photographer may choose from a variety of developing techniques the one he wishes to adopt or, where appropriate, use computer software.").

> Authorship status will be accorded to the person or persons that have creatively contributed to the output. In most cases, this will be the user of the AI system, not the AI system developer, unless collaboration between the developer and user on a specific AI production indicates co-authorship.[19]

By focusing on whether a creator has contributed the requisite creativity at any point during the creative process, the report divides AI works into two: (i) AI-assisted works, which may contain such human contribution that qualifies for copyright, versus (ii) autonomously generated AI works, which do not qualify.[20]

Given the important trade interests of the United States, a copyright rule that achieves harmonization with the European Union helps to promote progress for U.S. authors, as Congress and the Supreme Court have both recognized in the past. *See Eldred*, 537 U.S. at 205-06 (discussing benefits of U.S. copyright term harmonized with EU); Shira Perlmutter, *Participation in the International Copyright System as a Means to Promote the Progress of Science and Useful Arts*, 36 LOYOLA (LA) L. REV. 323, 330 (2002) ("[M]atching the] level of [copyright] protection in the United States [to that in the EU] can ensure stronger protection for U. S. works abroad and avoid competitive disadvantages vis-a-vis foreign rightholders.").

As Shira Perlmutter explained: "it should be recognized that given the realities of current technologies and markets, U.S. copyright policy cannot be wisely formulated in an insular manner; optimal progress *requires* responsiveness to the broader international context of evolving norms." Perlmutter, *supra*, at 323 (emphasis added); *id.* at 330 (U.S. copyright protection "makes the U.S. market inviting, providing incentives to both nationals and foreigners to create and disseminate their works here"). Here, the evolving norm with respect to AI favors a return the first principles of authorship that require a human contribution in the origination of a work to meet the bare minimum. The focus on originality is in harmony with the recommended approach in the EU.

III. The Copyright Office Should Revise Its Current Approach to Prompt-Engineered Works

A. The "Traditional Elements of Authorship" Is Not a Legal Test

No federal court has ever used the term "traditional elements of authorship" in a copyright decision. But the Copyright Office has now elevated that term into an onerous set of legal requirements for authorship, discussed in the next part. *See* Compendium, at § 313.2; Copyright Registration Guidance: Works Containing Material Generated by Artificial Intelligence, 88 Fed. Reg. 16,190, 16192 (Mar. 16, 2023) (to be codified at 37 C.F.R. Part 202) [hereinafter AI Registration Guidance].

Even the original source of that term, the 1965 Annual Report of Register of Copyrights Abraham Kaminstein, was tentative in its phrasing of what "appears to be the crucial question." U.S. Copyright Office, *Sixty-Eighth Annual Report of the Register of Copyrights for the Fiscal Year Ending June 30, 1965*, at 5 (1966). Moreover, Register Kaminstein's terse statement in the

[19] EU AI Report of IViR and JIIP, *supra*, at 8.
[20] *Id.* at 28.

1965 Annual Report referred to two distinct forms of authorship: (1) authorship by creating or composing the expression ("literary, artistic, or musical expression") and (2) authorship by selecting or arranging the elements ("or elements of selection, arrangement, etc."). *Id.* For authorship-by-selection-or-arrangement, one does not need to create the expression or the elements to qualify as the author.

Yet the Copyright Office's denial of the copyrightability of the images of Kristina Kashtanova and Jason Allen ignored the respective creator's selection or arrangement of elements in the images they created. Lee, *Prompting Progress*, at 16-20. That omission is puzzling. The Compendium itself recognizes authorship by selection, authorship by arrangement, and authorship by coordination as distinct forms of authorship, including for visual works. Compendium, at § 618.6 (recognizing selection authorship, coordination authorship, and arrangement authorship as separate kinds of authorship); *id.* § 905 ("Likewise, original authorship may be present in the selection, coordination, and/or arrangement of images, words, or other elements, provided that there is a sufficient amount of creative expression in the work as a whole."). The Office has routinely allowed registrations of other pictorial or graphic works, such as simple logos involving basic shapes, based on their minimally creative selection or arrangement.[21] And the Guidance on AI Works even recognizes: "For example, a human may select or arrange AI-generated material in a sufficiently creative way that 'the resulting work as a whole constitutes an original work of authorship.'" AI Registration Guidance, 88 Fed. Reg. at 16,192. If simple logos can be copyrighted based on a minimally creative selection and arrangement, prompt-engineered images should be, too.

B. Restricting the Process of Authorship Does Not Promote Progress

In the Copyright Office's 2023 *Copyright Registration Guidance: Works Containing Material Generated by Artificial Intelligence* and two recent decisions denying registrations of prompt-engineered images created respectively by Kashtanova and Allen, the Office imposed a new set of requirements to deny the copyrightability of AI-generated images.[22] But these newfound requirements—sufficient control, avoidance of random elements in the creative process, prediction of the final work ahead of time, or dictation of specific results—are not based in the text of the Copyright Clause or Supreme Court precedent. And they eviscerate the bare minimum of authorship with a heightened set of requirements. If these requirements are applied to other works,

[21] *See, e.g.*, Copyright Review Board, Second Request for Reconsideration for Refusal to Register Hexagon Shaped Logo (Correspondence ID: 1-4MNB8KH; SR # 1-8882877581) (Apr. 14, 2022), https://www.copyright.gov/rulings-filings/review-board/docs/hexagon-shaped-logo.pdf; Copyright Review Board, Second Request for Reconsideration for Refusal to Register Rack Stack (Correspondence ID: 1-40JUZY5; SR # 1-7905314536) (Jun. 29, 2021), https://www.copyright.gov/rulings-filings/review-board/docs/rack-stack.pdf; Copyright Review Board, Second Request for Reconsideration for Refusal to Register Dead Kennedys "DK" Logo; Correspondence ID: 1-3M8QY9R; SR 1-7294661771 (May 7, 2020), https://www.copyright.gov/rulings-filings/review-board/docs/dead-kennedys-dk-logo.pdf.

[22] AI Registration Guidance, 88 FED. REG. at 16192 ("when an AI technology receives solely a prompt from a human and produces complex written, visual, or musical works in response, the 'traditional elements of authorship' are determined and executed by the technology—not the human user"); U.S. Copyright Office Letter to Lindberg *re: Zarya of the Dawn* (Registration # VAu001480196) (Feb. 21, 2023), https://www.copyright.gov/docs/zarya-of-the-dawn.pdf [hereinafter *Zarya of the Dawn* decision]; U.S. Copyright Office Review Board, Second Request for Reconsideration for Refusal to Register Théâtre D'opéra Spatial (SR # 1-11743923581; Correspondence ID: 1-5T5320R) [hereinafter Théâtre D'opéra Spatial decision]; *see also* Lee, *Prompting Progress*, at 17-20 (summarizing Copyright Office decisions denying registration to Kashtanova's and Allen's prompt-engineered images).

many existing works, including works of great renown would be ineligible for copyright. Lee, *Prompting Progress*, at 71-75.

The Office's newfound requirements straitjacket authorship with a very narrow, rigid, and highly contestable view of authorship that is not evidence-based or supported by any empirical studies. The Office takes a simplistic view of authorship as two static acts of (1) conception at which point the creator must be able to predict ahead of time the specific results, followed by (2) the production of a work that is identical with the prior conception. *Id.* at 22-23. But this simplistic view of authorship does not comport with the Court's test of authorship in *Feist.* And it ignores how authorship can exist simply in a minimally creative selection or arrangement of elements.

In fact, researchers in art, neuroscience, and psychology have identified the important role of serendipity, randomness, accident, iterations, experimentation, and the lack of control in the creative process. *Id.* at 69-71. According to the cognitive psychologist Wendy Ross, a researcher who studies creativity and cognition, "[t]he notion that a mental blueprint is drawn up and imposed on inert matter … is not upheld by any observational or qualitative data of which I am aware and so reflects creativity as we wish it were rather than as it actually is." Wendy Ross, *Heteroscalar Serendipity and the Importance of Accidents*, *in* THE ART OF SERENDIPITY 77 (Wendy Ross & Samantha Copeland eds., 2022) (emphasis added). Instead, the creative process "unfolds incrementally and recursively along multiple timescales and in coordination with the material." *Id.*; Lee, *Prompting Progress*, at 69-75 (summarizing research literature and examples of works of authorship involving unplanned, uncontrolled, unscripted, random, or serendipitous elements). As Vlad Glăveanu, a psychologist who studies creativity, explains, creation is not a static or linear task, but instead, is dynamic involving serendipity and surprise, with the creator embracing unexpected developments in the process, which often involves "multiple versions," or iterations. Vlad Glăveanu, *What's 'Inside' the Prepared Mind? Not Things, but Relations*, in THE ART OF SERENDIPITY, at 26. The Copyright Act itself expressly contemplates such a dynamic creative process of authorship, with the creation of different versions—or iterations—of a work, each of which constitutes a separate work. 17 U.S.C. § 101 (definition of "fixed": "where a work is prepared over a period of time, the portion of it that has been fixed at any particular time constitutes the work as of that time, and where the work has been prepared in different versions, each version constitutes a separate work").

C. The Wholesale Exclusion of Millions of Works from Copyright Does Not Promote Progress

In considering the soundness of a proposed copyright rule, the Supreme Court has considered the practical effect the rule will have. In *Bleistein*, Justice Holmes was especially concerned about adopting any copyright rule that would be exclusionary. For every potential rule that had an exclusionary effect, in denying copyright to artistic works, the Court rejected it. *Bleistein*, 188 U.S. at 249-52 (rejecting proposed useful requirement, proposed "fine arts" requirement, proposed limitation to works appealing to the educated class, proposed disqualification of advertisements, and proposed disqualification of depictions of existing things,). As Holmes pithily stated, "A rule cannot be laid down that would excommunicate the paintings of Degas." *Id.* at 251.

The bare minimum approach to authorship can be understood as an *inclusive* rule for the United States. It avoids discriminating against some creators by making it easy for everyone to reach the "extremely low" threshold to be an author, "no matter how crude, humble or obvious" the work is. By contrast, the current approach of the Copyright Office to deny the copyrightability of all prompt-engineered works is a rule that excludes vast amounts of works and vast numbers of creators—potentially in the millions—just because of their use of the new technology of AI. How that wholesale exclusion of creative works advances progress in the United States is not apparent.

CONCLUSION

The Copyright Office should return to the first principles of authorship under the Copyright Clause and its overriding objective to "promote progress." As the Supreme Court elaborated in *Feist*, the proper test of authorship examines whether the person contributes, at least, a minimal level of creativity in the origination of the work, which may be satisfied simply by a person's selection or arrangement of elements in the work. The requisite level is, as the Court recognized, "extremely low," or the *bare minimum* to qualify as an author. There are no other tests for authorship, much less any restrictions on the process of authorship. However, the scope of copyright for works whose originality lies in their selection and arrangement of elements is thin, protecting against only identical copies. Not only is this bare minimum approach more faithful to the Copyright Clause and Supreme Court precedent, but it also preserves Congress's power to decide how best to promote progress in the twenty-first century. And it stands in greater harmony with the recommended approach in the EU, a result that further promotes progress.

As summarized in Table 2 above, the application of the bare minimum test differs depending on the type of work. Some works, such as articles, essays, and works of fiction and nonfiction, typically require authorship-by-composition, meaning the creator composes the words and sentences in the work; for such prose-only works, authorship-by-selection-and-arrangement is reserved for collective works comprised of a number of individual works, such as in an anthology. Thus, one cannot claim to be the author of an essay simply based on writing the prompt to ChatGPT: "Write an essay about Justice Holmes's influence on copyright law." Instead, the person must compose expression or sentences in the essay to be its author. By contrast, visual works, musical works, charts, compilations of data, and potentially other types of works may involve authorship-by-selection-and-arrangement. Thus, one *can* be the author based on prompt engineering that effectuates the person's minimally creative selection or arrangement of elements in the origination of such work. That human contribution satisfies the bare minimum for authorship articulated by *Feist*. But, if the only originality of the author lies in the bare minimum of selection or arrangement, the work receives only a thin copyright protecting against only identical copies.

BIOGRAPHY

Professor Edward Lee is a professor of law and co-director of Illinois Tech Chicago-Kent College of Law's Center for Design, Law, and Technology. He co-authored casebooks in *The Law of Design* and *International Intellectual Property.* He wrote *Digital Originality*, 14 VANDERBILT J. ENT. & TECH. L. 919 (2012). An accomplished photographer, Lee has shown his works at group exhibitions and art fairs in New York City, Chicago, Miami, Amsterdam, and Dubai.