



Copyright Review Board
United States Copyright Office · 101 Independence Avenue SE · Washington, DC 20559-6000

September 5, 2023

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Re: Second Request for Reconsideration for Refusal to Register Théâtre D’opéra Spatial (SR # 1-11743923581; Correspondence ID: 1-5T5320R)

Dear Ms. Pester:

The Review Board of the United States Copyright Office (“Board”) has considered Jason M. Allen’s (“Mr. Allen”) second request for reconsideration of the Office’s refusal to register a two-dimensional artwork claim in the work titled “Théâtre D’opéra Spatial” (“Work”). After reviewing the application, deposit copy, and relevant correspondence, along with the arguments in the second request for reconsideration, the Board affirms the Registration Program’s denial of registration. The Board finds that the Work contains more than a *de minimis* amount of content generated by artificial intelligence (“AI”), and this content must therefore be disclaimed in an application for registration. Because Mr. Allen is unwilling to disclaim the AI-generated material, the Work cannot be registered as submitted.

I. DESCRIPTION OF THE WORK

The Work is a two-dimensional artwork, reproduced below:



II. ADMINISTRATIVE RECORD

On September 21, 2022, Mr. Allen filed an application to register a two-dimensional artwork claim in the Work. While Mr. Allen did not disclose in his application that the Work was created using an AI system, the Office was aware of the Work because it had garnered national attention for being the first AI-generated image to win the 2022 Colorado State Fair’s annual fine art competition.¹ Because it was known to the Office that AI-generated material contributed to the Work, the examiner assigned to the application requested additional information about Mr. Allen’s use of Midjourney, a text-to-picture artificial intelligence service, in the creation of the Work. Email from U.S. Copyright Office to Tamara Pester (Sept. 28, 2022). In response, Mr. Allen provided an explanation of his process, stating that he “input numerous revisions and text prompts at least 624 times to arrive at the initial version of the image.” Email from Tamara Pester to U.S. Copyright Office (Sept. 30, 2022) (“Allen Sept. Creation Explanation”). He further explained that, after Midjourney produced the initial version of the Work, he used Adobe Photoshop to remove flaws and create new visual content and used Gigapixel AI to “upscale” the image, increasing its resolution and size. *Id.*² As a result of these disclosures, the examiner requested that the features of the Work generated by Midjourney be excluded from the copyright claim. Email from U.S. Copyright Office to Tamara Pester (Oct. 14, 2022). Mr. Allen declined the examiner’s request and reasserted his claim to copyright in the features of the Work produced by an AI system. Email from Tamara Pester to U.S. Copyright Office (Oct. 25, 2022). The Office refused to register the claim because the deposit for the Work did not “fix only [Mr. Allen’s] alleged authorship” but instead included “inextricably merged, inseparable contributions” from both Mr. Allen and Midjourney. Initial Letter Refusing Registration from U.S. Copyright Office to Tamara Pester at 1 (Dec. 13, 2022).

On January 24, 2023, Mr. Allen requested that the Office reconsider its initial refusal to register the Work, arguing that the examiner had misapplied the human authorship requirement and that public policy favored registration. Letter from Tamara Pester to U.S. Copyright Office at 2, 4–8 (Jan. 24, 2023) (“First Request”). After reviewing the Work in light of the points raised in the First Request, the Office reevaluated the claims and again concluded that the Work could not be registered without limiting the claim to only the copyrightable authorship Mr. Allen himself contributed to the Work. Refusal of First Request for Reconsideration from U.S. Copyright Office to Tamara Pester (June 6, 2023). The Office explained that “the image generated by Midjourney that formed the initial basis for th[e] Work is not an original work of authorship protected by copyright.” *Id.* at 6. The Office accepted Mr. Allen’s claim that human-authored “visual edits” made with Adobe Photoshop contained a sufficient amount of original authorship to be registered. *Id.* at 8. However, the Office explained that the features generated by Midjourney and Gigapixel AI must be excluded as non-human authorship. *Id.* at 6–7, 9. Because Mr. Allen sought to register the entire work and refused to disclaim the portions attributable to AI, the Office could not register the claim. *Id.* at 9.

In a letter submitted July 12, 2023, Mr. Allen requested that, pursuant to 37 C.F.R. § 202.5(c), the Office reconsider for a second time its refusal to register the Work. Letter from

¹ Sarah Kuta, *Art Made with Artificial Intelligence Wins at State Fair*, SMITHSONIAN MAGAZINE (Sept. 6, 2022), <https://www.smithsonianmag.com/smart-news/artificial-intelligence-art-wins-colorado-state-fair-180980703/>.

² Mr. Allen provided additional details about this process in further correspondence on October 6, 2023. See Email from Tamara Pester to U.S. Copyright Office (Oct. 6, 2022) (“Allen Oct. Creation Explanation”).

Tamara Pester to U.S. Copyright Office (July 12, 2023) (“Second Request”). The Second Request presented several arguments. First, Mr. Allen argued that, in finding that the image generated by Midjourney lacks the human authorship essential for copyright protection, “the Office ignore[d] the essential element of human creativity required to create a work using the Midjourney program.” *Id.* at 1. Mr. Allen argued that his “creative input” into Midjourney, which included “enter[ing] a series of prompts, adjust[ing] the scene, select[ing] portions to focus on, and dictat[ing] the tone of the image,” is “on par with that expressed by other types of artists and capable of Copyright protection.” *Id.* at 4. He further contended that the fair use doctrine “would allow for registration of the work” because it “allows for transformative uses of copyrighted material.” *Id.* at 1, 9. Mr. Allen argued that, “[i]n this case, the underlying AI-generated work merely constitutes *raw material* which Mr. Allen has transformed through his artistic contributions.” *Id.* at 11 (emphasis in original). Therefore, “regardless of whether the underlying AI-generated work is eligible for copyright registration, the entire Work in the form submitted to the copyright office should be accepted for registration.” *Id.* at 1, 9–11.

Next, he asserted that, by refusing to register content generated via Midjourney and other generative AI platforms, “the Office is placing a value judgment on the utility of various tools,” and that denial of copyright protection for the output of such tools would result in a void of ownership. *Id.* at 6, 9. Finally, he objected to the Office’s registration requirements for works containing AI-generated content, stating that “[r]equiring creators to list each tool and the proportion of the work created with the tool would have a burdensome effect if enforced uniformly.” *Id.* at 7–8.

III. DISCUSSION

After carefully examining the Work and considering the arguments made in the First and Second Requests, the Board finds that the Work contains more than a *de minimis* amount of AI-generated content, which must be disclaimed in an application for registration. Because Mr. Allen has refused to disclaim the material produced by AI, the Work cannot be registered as submitted.

A. *Originality and the Human Authorship Requirement*

The Copyright Act protects, and the Office registers, “original works of authorship fixed in any tangible medium of expression.” 17 U.S.C. § 102(a). Courts have interpreted the statutory phrase “works of authorship” to require human creation of the work. *See Thaler v. Perlmutter*, No. 22-cv-1564, 2023 WL 5333236, at *4 (D.D.C. Aug. 18, 2023) (stating that “human authorship is a bedrock requirement of copyright” in affirming the Office’s refusal to register a work “autonomously” created by AI). For this reason, courts have uniformly rejected attempts to protect the creations of non-humans through copyright. For example, the Ninth Circuit held that a book containing words “‘authored’ by non-human spiritual beings” can only gain copyright protection if there is “human selection and arrangement of the revelations.” *Urantia Found. v. Kristen Maaherra*, 114 F.3d 955, 957–59 (9th Cir. 1997) (holding that “some element of human creativity must have occurred in order for the Book to be copyrightable” because “it is not creations of divine beings that the copyright laws were intended to protect”). Similarly, a monkey cannot register a copyright in photos it captures with a camera because the Copyright Act refers to an author’s “children,” “widow,” “grandchildren,” and “widower,”—

terms that “all imply humanity and necessarily exclude animals.” *Naruto v. Slater*, 888 F.3d 418, 426 (9th Cir. 2018), *decided on other grounds*. Most recently, in *Thaler v. Perlmutter*, the U.S. District Court for the District of Columbia explained:

By its plain text, the 1976 Act . . . requires a copyrightable work to have an originator with the capacity for intellectual, creative, or artistic labor. Must that originator be a human being to claim copyright protection? The answer is “yes.”

2023 WL 5333236 at *4 (footnote omitted). Because copyright protection is only available for the creations of human authors, “the Office will refuse to register a [copyright] claim if it determines that a human being did not create the work.” U.S. COPYRIGHT OFFICE, COMPENDIUM OF U.S. COPYRIGHT OFFICE PRACTICES § 306 (3d ed. 2021) (“COMPENDIUM (THIRD)”).

When analyzing AI-generated material, the Office must determine when a human user can be considered the “creator” of AI-generated output. In March 2023, the Office provided public guidance on registration of works created by a generative-AI system. The guidance explained that, in considering an application for registration, the Office will ask “whether the ‘work’ is basically one of human authorship, with the computer [or other device] merely being an assisting instrument, or whether the traditional elements of authorship in the work (literary, artistic, or musical expression or elements of selection, arrangement, etc.) were actually conceived and executed not by man but by a machine.” *Copyright Registration Guidance: Works Containing Material Generated by Artificial Intelligence*, 88 Fed. Reg. 16,190, 16,192 (Mar. 16, 2023) (“AI Registration Guidance”) (quoting U.S. COPYRIGHT OFFICE, SIXTY-EIGHTH ANNUAL REPORT OF THE REGISTER OF COPYRIGHTS FOR THE FISCAL YEAR ENDING JUNE 30, 1965, 5 (1966)); *see also* AI Registration Guidance, 88 Fed. Reg. at 16,192 (asking “whether the AI contributions are the result of ‘mechanical reproduction’ or instead of an author’s ‘own original mental conception, to which [the author] gave visible form.’”) (quoting *Burrow-Giles Lithographic Co. v. Sarony*, 111 U.S. 53, 60 (1884)). This analysis will be “necessarily case-by-case” because it will “depend on the circumstances, particularly how the AI tool operates and how it was used to create the final work.” AI Registration Guidance, 88 Fed. Reg. at 16,192.

If all of a work’s “traditional elements of authorship” were produced by a machine, the work lacks human authorship, and the Office will not register it. *Id.* If, however, a work containing AI-generated material also contains sufficient human authorship to support a claim to copyright, then the Office will register the human’s contributions. *Id.* at 16,192–93. In such cases, the applicant must disclose AI-generated content that is “more than *de minimis*.” *Id.* at 16,193. Applicants may disclose and exclude such material by placing a brief description of the AI-generated content in the “Limitation of Claim” section on the registration application. The description may be as brief and generic as “[description of content] generated by artificial intelligence.” *Id.* Applicants may provide additional information in the “Note to CO” field in the online application. *Id.* Applicants are not required to list the AI tools used in the creation of the work.

Before turning to its analysis of the Work, the Board notes the Office has previously considered the scope of copyright protection of images generated through the use of the tool used by Mr. Allen, *i.e.*, the generative AI system Midjourney. Last year, the Office of Registration Policy and Practice initiated cancellation proceedings for a graphic novel containing images

generated by Midjourney.³ In its final decision reissuing the registration certificate with exclusions, the Office explained its understanding of how the Midjourney service functions and the relevant analysis under copyright law.⁴ In examining the Work here, the Board applies its knowledge of Midjourney and Midjourney’s description of its own service, of which the Office takes administrative notice. *See* COMPENDIUM (THIRD) § 1704.2 (“[T]he Board . . . may take administrative notice of matters of general knowledge or matters known to the Office or the Review Board.”).

B. Analysis

Because the Work here contains AI-generated material, the Board starts with an analysis of the circumstances of the Work’s creation, including Mr. Allen’s use of an AI tool. According to Mr. Allen, the Work was created by 1) initially generating an image using Midjourney (the “Midjourney Image”), 2) using Adobe Photoshop to “beautify and adjust various cosmetic details/flaws/artifacts, etc.” in the Midjourney Image, and 3) upscaling the image using Gigapixel AI. After considering the application, the deposit, and Mr. Allen’s correspondence, the Board concludes that the Work contains an amount of AI-generated material that is more than *de minimis* and thus must be disclaimed.⁵ Specifically, the Board concludes that the Midjourney Image, which remains in substantial form in the final Work, is not the product of human authorship. In reaching this conclusion, the Board does not decide whether Mr. Allen’s adjustments made in Adobe Photoshop would be copyrightable on their own because the Board lacks sufficient information to make that determination.⁶ The Board also does not consider Mr. Allen’s use of Gigapixel AI because he concedes that Gigapixel AI “doesn’t introduce new, original elements into the image” and that “the enlargement process undertaken by Gigapixel AI does not equate to authorship.” Second Request at 5–6.

³ *See* Letter from U.S. Copyright Office to Kris Kashtanova at 14 (Oct. 28, 2022), <https://www.copyright.gov/docs/zarya-of-the-dawn.pdf>.

⁴ U.S. Copyright Office, *Cancellation Decision re: Zarya of the Dawn (VAu001480196)* at 6–8 (Feb. 21, 2023), <https://copyright.gov/docs/zarya-of-the-dawn.pdf>.

⁵ The Board notes that there may be cases in the future where the application of the *de minimis* standard is a closer call. Here, however, the significance of the AI-generated material to the final work is apparent.

⁶ Mr. Allen used Photoshop to erase “[u]ndesired visual elements” from the image generated by Midjourney, such as “a crack on the floor next to the central subjects’ feet, a deformed looking tower structure in the landscape’s background, a dark scar in the cityscape, and a dark blemish in the sky of the background.” Allen Oct. Creation Explanation. He then “used Photoshop to paint in those [deleted] areas with content aware tools,” before using other Photoshop features such as brush tools, and blur and sharpening tools. *Id.* According to Adobe, Photoshop’s content fill feature fills empty spaces in with little or no input from a user, which suggests a lack of human authorship of filled material. *See* Meredith Alexander Kunz, *Leveraging Deep Learning to Fix Images*, ADOBE RESEARCH (Feb. 8, 2018), <https://research.adobe.com/news/leveraging-deep-learning-to-fix-images/> (explaining that an older version of content fill “pick[ed] patches in the surrounding area to copy in” and a newer version employs machine learning techniques “to actually create new content for an image”). And the Board would need more information to know whether Mr. Allen’s use of Photoshop rose to the level of copyrightability. *See* COMPENDIUM (THIRD) § 909.3(A) (“Typical technical alterations that do not warrant registration include . . . repairing faded print and visual content; and sharpening and balancing colors, tint, tone, and the like.”). Were Mr. Allen willing to disclaim AI-generated material in the Work, he would be able to file a new application and explain why his modifications to the image rise to the level of copyrightable authorship.



Midjourney Image



The Work

In his Second Request, Mr. Allen asserts a number of arguments in support of his claim. He argues that his use of Midjourney allows him to claim authorship of the image generated by the service because he provided “creative input” when he “entered a series of prompts, adjusted the scene, selected portions to focus on, and dictated the tone of the image.” *Id.* at 4. As explained in his correspondence, Mr. Allen created a text prompt that began with a “big picture description” that “focus[e]d on the overall subject of the piece.” Allen Sept. Creation Explanation. He then added a second “big picture description” to the prompt text “as a way of instructing the software that Mr. Allen is combining two ideas.” *Id.* Next, he added “the overall image’s genre and category,” “certain professional artistic terms which direct the tone of the piece,” “how lifelike [Mr. Allen] wanted the piece to appear,” a description of “how colors [should be] used,” a description “to further define the composition,” “terms about what style/era the artwork should depict,” and “a writing technique that Mr. Allen has established from extensive testing” that would make the image “pop.” *Id.* He then “append[ed] the prompt” with various parameters which further instruct[ed] the software how to develop the image,”⁷ resulting in a final text prompt that was “executed . . . into Midjourney to complete the process” and resulted in the creation of the Midjourney Image above. *Id.*⁸

In the Board’s view, Mr. Allen’s actions as described do not make him the author of the Midjourney Image because his sole contribution to the Midjourney Image was inputting the text prompt that produced it. Although Mr. Allen describes “input[ing] numerous revisions and text prompts at least 624 times” before producing the Midjourney Image, Allen Sept. Creation Explanation, the steps in that process were ultimately dependent on how the Midjourney system processed Mr. Allen’s prompts. According to Midjourney’s documentation, prompts “influence” what the system generates and are “interpret[ed]” by Midjourney and “compared to its training data.”⁹ As the Office has explained, “Midjourney does not interpret prompts as specific instructions to create a particular expressive result,” because “Midjourney does not understand

⁷ Midjourney permits users to add “parameters” to a text prompt to control aspects of what is generated, such as an image’s aspect ratio or how much computing time is spent to generate the image. See MIDJOURNEY, *Parameter List*, <https://docs.midjourney.com/docs/parameter-list> (last visited Sept. 5, 2023).

⁸ Mr. Allen declined to disclose any specific prompt on the grounds that “specific string of prompts and inputs are confidential.” Allen Sept. Creation Explanation. Mr. Allen has not sought copyright protection for his prompts and inputs. Nor could the Board consider whether the prompts themselves were sufficiently creative to be independently protected by copyright since Mr. Allen has not disclosed them.

⁹ See MIDJOURNEY, *Prompts*, <https://docs.midjourney.com/docs/prompts> (last visited Sept. 5, 2023).

grammar, sentence structure, or words like humans.”¹⁰ It is the Office’s understanding that, because Midjourney does not treat text prompts as direct instructions, users may need to attempt hundreds of iterations before landing upon an image they find satisfactory. This appears to be the case for Mr. Allen, who experimented with over 600 prompts before he “select[ed] and crop[ped] out one ‘acceptable’ panel out of four potential images ... (after hundreds were previously generated).” Allen Sept. Creation Explanation. As the Office described in its March guidance, “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.” AI Registration Guidance, 88 Fed. Reg. at 16,192. And because the authorship in the Midjourney Image is more than *de minimis*, Mr. Allen must exclude it from his claim. *See id.* at 16,193. Because Mr. Allen has refused to limit his claim to exclude its non-human authorship elements, the Office cannot register the Work as submitted.

The Board finds that Mr. Allen’s remaining arguments regarding elements of authorship in the Work are unpersuasive. First, he argues that the Office’s position “ignores the essential element of human creativity required to create a work using the Midjourney program,” and that his creative choices in operating Midjourney make him the author of resulting output. Second Request at 1, 4 (citing *SHL Imaging Inc. v. Artisan House, Inc.*, 117 F. Supp. 2d 301, 308 (S.D.N.Y. 2000) (holding human authorship requires that “an author must imbue the work with a visible form that results from creative choices”)). The Board acknowledges that the process of prompting can involve creativity—after all, “some prompts may be sufficiently creative to be protected by copyright” as literary works. AI Registration Guidance, 88 Fed. Reg. at 16,192 n.27. But that does not mean that providing text prompts to Midjourney “actually form[s]” the generated images. *See Sarony*, 111 U.S. at 61; *see also Thaler*, 2023 WL 5333236, at *3 (the “key” to copyright protection is “[h]uman involvement in, and ultimate creative control over, the work at issue”). Instead, Mr. Allen is closer to the plaintiff in *Kelley v. Chicago Park District* who sought to claim copyright in a “living garden.” 635 F.3d 290 (7th Cir. 2011). In that case, the court rejected the authorship claim because, as is true here, the plaintiff’s actions did not amount to creative control of the claimed elements of the work.¹¹ As the Seventh Circuit further explained, while “copyright’s prerequisites of authorship and fixation are broadly defined, ... the law must have some limits.” *Id.* at 304.

Second, the Board rejects Mr. Allen’s policy argument that denying copyright protection to AI-generated material leaves a “void of ownership troubling to creators.” Second Request at 9. The Constitution and the Copyright Act define the works that are entitled to copyright

¹⁰ U.S. Copyright Office, *Cancellation Decision re: Zarya of the Dawn (VAu001480196)* at 1 (Feb. 21, 2023), <https://www.copyright.gov/docs/zarya-of-the-dawn.pdf> (quoting MIDJOURNEY, *Prompts*, <https://docs.midjourney.com/docs/prompts>).

¹¹ In the case of gardens, “a garden owes most of its form and appearance to natural forces, though the gardener who plants and tends it obviously assists,” such as by “determin[ing] the initial arrangement of the plants in a garden.” *Kelley*, 635 F.3d at 304. And in the case of images generated by Midjourney, most of the form of the image will be determined by outside forces such as Midjourney’s training data and the initial “noise” that serves as a starting point for the diffusion process that generates a final image. *See* MIDJOURNEY, *Prompts*, <https://docs.midjourney.com/docs/prompts> (explaining that prompts are converted to tokens that are then “compared to [Midjourney’s] training data”) (last visited Sept. 5, 2023); MIDJOURNEY, *Seeds*, <https://docs.midjourney.com/docs/seeds> (explaining that Midjourney creates “a field of visual noise, like television static, as a starting point to generate the initial image grids”) (last visited Sept. 5, 2023).

protection, and expressly exclude certain subject matter. To be copyrightable, a work must qualify as an “original work of authorship,” which excludes works produced by non-humans. The fact that not all works will satisfy this standard does not create a “troubling” void of ownership. The Office administers the copyright laws as enacted by Congress and cannot exceed the bounds set by Congress and the Constitution.

Third, the Board rejects Mr. Allen’s argument that requiring AI-generated material to be excluded from the application for the Work improperly “plac[es] a value judgment on the utility of various tools.” Second Request at 6–7. The disclosure of AI-generated material is “information regarded by the Register of Copyrights as bearing upon the preparation or identification of the work or the existence, ownership, or duration of the copyright.” 17 U.S.C. § 409(10). As the Office’s guidance on works containing AI-generated material explained, the Copyright Act permits the Register to identify such information and require its disclosure in copyright applications. AI Registration Guidance, 88 Fed. Reg. at 16,191. This requirement is not a value judgment; it is a recognition of the fact that “[h]uman authorship is a bedrock requirement of copyright.” *Thaler*, 2023 WL 5333236, at *4.

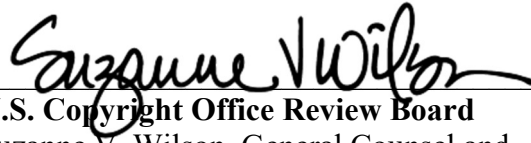
Fourth, the Board rejects Mr. Allen’s suggestion that the doctrine of “fair use” is relevant to the determination of whether a work is copyrightable. *See* Second Request at 1, 9–11 (arguing that AI-generated material “merely constitutes raw material which Mr. Allen has transformed”) (citing *Cariou v. Prince*, 714 F.3d 694 (2d Cir. 2013)). Fair use is a legal doctrine that permits the unauthorized use of copyright-protected works in certain circumstances; it does not address copyrightability, but rather use. To the extent Mr. Allen argues by analogy that his visual edits are “transformative,” and thus, copyrightable, the Board agrees that human-authored modifications of AI-generated material may protected by copyright. *See* AI Registration Guidance, 88 Fed. Reg. at 16,192–93 (explaining that in many cases, “a work containing AI-generated material will also contain sufficient human authorship to support a copyright claim” because a human author may select, arrange, or modify AI-generated material in a sufficiently creative way). But the Office cannot register Mr. Allen’s human contributions if he does not limit his claim with respect to the AI-generated material.

Finally, the Board dismisses Mr. Allen’s argument that “[r]equiring creators to list each tool and the proportion of the work created with the tool would have a burdensome effect.” Second Request at 8. The Office does not require a detailed disclosure of the specific identity and creative process behind the AI-generated material in a work. The Office’s guidance merely requires applicants to provide a “brief statement” in the application, such as the text “generated by artificial intelligence.” *See* AI Registration Guidance, 88 Fed. Reg. at 16,193. The Office does not intend this requirement to be burdensome, and it does not call for a detailed list of the tools used or the precise proportions of the work that were created by each one.¹²

¹² The Office illustrated the simplicity of this requirement in a webinar designed to assist applicants whose works contain material generated by artificial intelligence. *See* U.S. Copyright Office, *Webinar: Registration Guidance for Works Containing AI-Generated Content* (June 28, 2023), <https://copyright.gov/events/ai-application-process/>; *see id.*, Tr. at 11.

IV. CONCLUSION

For the reasons stated herein, the Review Board of the United States Copyright Office affirms the refusal to register the copyright claim in the Work. Pursuant to 37 C.F.R. § 202.5(g), this decision constitutes final agency action regarding Mr. Allen's September 2022 application.¹³



U.S. Copyright Office Review Board
Suzanne V. Wilson, General Counsel and
Associate Register of Copyrights
Maria Strong, Associate Register of Copyrights and
Director of Policy and International Affairs
Jordana Rubel, Assistant General Counsel

¹³ This decision does not foreclose Mr. Allen's ability to file a new application for registration of the Work in which he disclaims the Work's AI-generated material. In such a case, the Office could consider whether the human-authored elements of the Work can sustain a claim for copyright, an issue we have not decided here.