



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

December 11, 2023

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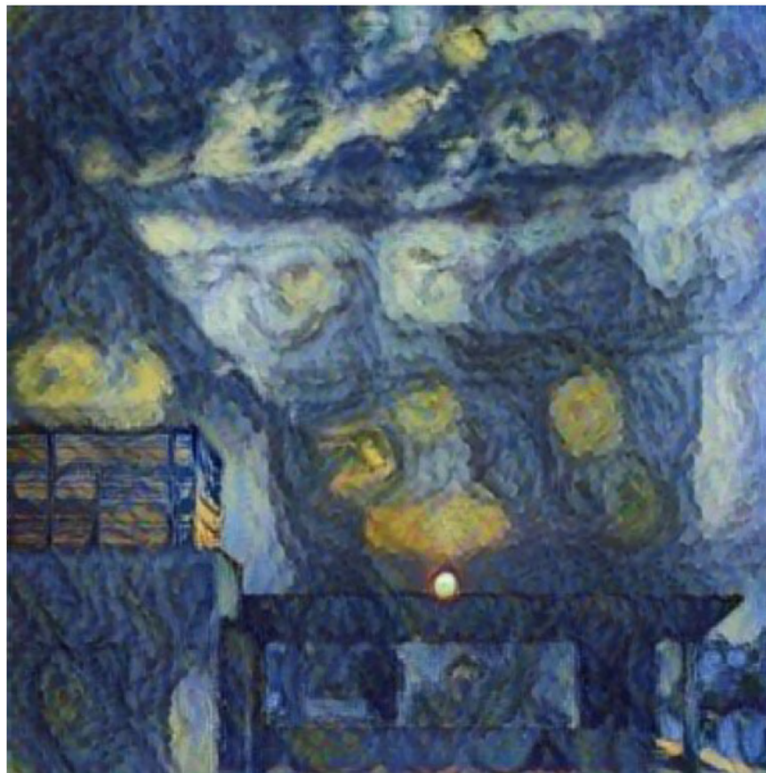
**Re: Second Request for Reconsideration for Refusal to Register SURYAST
(SR # 1-11016599571; Correspondence ID: 1-5PR2XKJ)**

Dear Mr. Garens:

The Review Board of the United States Copyright Office (“Board”) has considered Ankit Sahni’s (“Mr. Sahni”) second request for reconsideration of the Office’s refusal to register a two-dimensional artwork claim in the work titled “SURYAST” (“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.

I. DESCRIPTION OF THE WORK

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



II. ADMINISTRATIVE RECORD

On December 1, 2021, Mr. Sahni filed an application to register a claim in the Work. In the application, he listed two authors: himself as the author of “photograph, 2-D artwork” and “RAGHAV Artificial Intelligence Painting App” (“RAGHAV”) as the author of “2-D artwork.”¹ Mr. Sahni was identified as the sole copyright claimant. Because the application identified an artificial intelligence (“AI”) “app” as an author of the work, the Copyright Office registration specialist assigned to the application requested additional information from Mr. Sahni about his use of the RAGHAV painting app in the creation of the Work. Email from U.S. Copyright Office to Ankit Sahni (Feb. 28, 2022). In response, Mr. Sahni submitted a 17-page document describing how RAGHAV’s technology functions and how he used the technology to create the Work. Email from Ankit Sahni to U.S. Copyright Office, Attach. (Apr. 14, 2022) (“Sahni AI Description”). As explained in the Sahni AI Description, Mr. Sahni generated the Work by taking an original photograph that he authored, inputting that photograph into RAGHAV, then inputting a copy of Vincent van Gogh’s *The Starry Night* into RAGHAV as the “style” input to be applied to the photograph, and choosing “a variable value determining the amount of style transfer.” *Id.* at 10–11. Mr. Sahni further explained that he named RAGHAV as a co-author because its “contribution is distinct, disparate and independent” from his contribution to the Work. *Id.* at 14.

After considering the deposit, the application, and the Sahni AI Description, the Office refused to register the Work because it “lack[ed] the human authorship necessary to support a copyright claim.” Initial Letter Refusing Registration from U.S. Copyright Office to Ankit Sahni at 1 (June 29, 2022). Responding to Mr. Sahni’s assertion that the Work included some human creative input, the Office explained that “this human authorship cannot be distinguished or separated from the final work produced by the computer program.” *Id.*

On September 27, 2022, Mr. Sahni requested that the Office reconsider its initial refusal to register the Work, arguing that “the human authorship requirement does not and cannot mean a work must be created entirely by a human author.” Letter from Alex Garens to U.S. Copyright Office at 1 (Sept. 27, 2022) (“First Request”) (arguing the Work was registrable because it was “the result of the creative and artistic choices and expressions of [a] human author”).² After reviewing the Work in light of the points raised in the First Request, the Office reevaluated the claim and concluded that the Work could not be registered “because the work deposited is a derivative work that does not contain enough original human authorship to support a registration.” Second Refusal at 1. The Office found that the Work was a “classic example[] of derivative authorship” because it was a digital adaptation of a photograph. *See id.* at 3 (citing U.S. COPYRIGHT OFFICE, COMPENDIUM OF U.S. COPYRIGHT OFFICE PRACTICES § 507.1 (3d ed. 2021) (“COMPENDIUM (THIRD)”); *see also* COMPENDIUM (THIRD) § 909.3(A) (“us[e] of digital editing software to produce a derivative photograph”). The Office analyzes derivative works by

¹ The application listed RAGHAV’s authorship as a work made for hire and RAGHAV’s “year born” as 2020.

² In the First Request, Mr. Sahni requested to amend the application to list only Ankit Sahni as the author of “photograph, 2-D artwork,” and to remove RAGHAV as the work made for hire author of “2-D artwork.” First Request at 1. However, as the Office’s refusal of the First Request noted, even if it had granted this request, doing so “would not alter [the] conclusion that [the Work] does not contain a sufficient amount of human authorship to warrant copyright protection.” Refusal of First Request for Reconsideration from U.S. Copyright Office to Alex Garens at 1 n.2 (Apr. 10, 2023) (“Second Refusal”).

examining whether “the new authorship that the author contributed” meets the statutory requirements for protection. Second Refusal at 4 (citing *Waldman Publ’g Corp. v. Landoll, Inc.*, 43 F.3d 775, 782 (2d Cir. 1994); COMPENDIUM (THIRD) §§ 311.2, 507.1). Because the new aspects of the Work were generated by “the RAGHAV app, and not Mr. Sahni—or any other human author,” the Office found that the “derivative authorship [wa]s not the result of human creativity or authorship” and therefore not registrable. *Id.* at 5.

In a letter dated July 10, 2023, Mr. Sahni 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 Alex Garens to U.S. Copyright Office (July 10, 2023) (“Second Request”). The Second Request presented three arguments. First, Mr. Sahni argued that RAGHAV served merely as an “assistive software tool[,]” subject to creative decisions by Mr. Sahni in selecting his original photo, the *The Starry Night* image as the style input, and setting the variable value for the amount of style transfer. *Id.* at 2. Second, Mr. Sahni pointed to elements in the Work that he claims are human-authored. *Id.* at 3. According to Mr. Sahni, he “provided the traditional elements of authorship for both the original photograph and the Work” by taking the original photograph and “direct[ing] the RAGHAV tool to make changes to the colors, shapes, and style in a particular manner.” *Id.* Mr. Sahni argues that his creation of the initial photograph and subsequent use of RAGHAV gave him control of the work and resulted in the Work containing elements such as a sunset and a building, depicted in a style of his choosing. *Id.* at 3–4. Third, Mr. Sahni argued that the Work is not a derivative work because the Work is not “substantially similar” to the original photograph. *Id.* at 4–5. Rather, the original photograph is “an early stage of what would ultimately become the Work.” *Id.* at 5. Mr. Sahni contended that he “intentionally took the original photograph as part of his process for creating the Work . . . akin to a painter making a sketch before completing a painting, or a sculptor assembling clay before finalizing the form.” *Id.* Therefore, the “human author’s total creative input in both the original photograph and the Work should be considered together, and the Work should be analyzed for all the traditional elements of authorship present therein.” *Id.*

III. DISCUSSION

After carefully examining the Work and considering the arguments made in the First and Second Requests, the Board finds that the Work does not contain sufficient human authorship necessary to sustain a claim to copyright.

A. Legal Background

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, copyright does not protect photographs taken by a monkey because the Copyright Act’s terms “imply humanity and necessarily exclude animals.” *Naruto v. Slater*, 888 F.3d 418, 426 (9th Cir. 2018), *decided on other grounds*. 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.” COMPENDIUM (THIRD) § 306.

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 registration guidance to the public for works created by a generative-AI system. The guidance explained that, in considering an application for registration, the Office will ask:

[W]hether 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) (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 id.* (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 is “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.” *Id.*³

To enable the Office to conduct such an analysis, registration applications 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 the Claim” section on the registration application. The description may be as brief and generic as “[description of content] generated by artificial intelligence.” *Id.*

If all of a work’s “traditional elements of authorship” are generated by AI, the work lacks human authorship, and the Office will not register it. *Id.* If, however, a work containing AI-

³ This case-by-case analysis yields varying outcomes. In 2023 to date, the Copyright Office has granted approximately 100 applications to register works containing AI-generated material, where the AI-generated contributions are disclaimed.

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.

When examining claims for derivative works, the Office focuses on whether “[t]he new authorship that the author contributed” meets the statutory requirements for protection. COMPENDIUM (THIRD) § 311.2. A derivative work is “a work based upon one or more preexisting works, such as . . . abridgment, condensation, or any other form in which a work may be recast, transformed, or adapted, . . . which, as a whole, represent[s] an original work of authorship.” 17 U.S.C. § 101 (defining “derivative work”). Accordingly, a derivative work contains “two distinct forms of authorship:” the authorship in the preexisting work that was recast, transformed, or adapted, and the new authorship as a result of recasting, transformation, or adaptation. COMPENDIUM (THIRD) § 507.1. The Office’s examination of derivative works focuses on the new authorship that the derivative author contributed to that work — rather than the authorship from the preexisting work that may have been incorporated into the derivative work, *see id.* § 311.2, because copyright “in a compilation or derivative work” is “independent of . . . any copyright protection in the preexisting material.” 17 U.S.C. § 103(b).

B. Application of Legal Standards to the Work

Under the Copyright Act, Mr. Sahni’s original photograph is a separate work of authorship because it was fixed separately from the Work. *See id.* § 101 (“a work is ‘created’ when it is fixed in a copy or phonorecord for the first time”); COMPENDIUM (THIRD) § 512 (similar). Because the Work here contains AI-generated material, the Board starts with an analysis of the Work’s creation, including Mr. Sahni’s use of RAGHAV. According to Mr. Sahni, RAGHAV is an “AI-powered tool” that uses machine learning to perform “Neural Style Transfer,” which entails “generat[ing] an image with the same ‘content’ as a base image, but with the ‘style’ of [a] chosen picture.” Second Request at 2; Sahni AI Description at 4, 6.⁴ According to Mr. Sahni, RAGHAV was created⁵ by training a neural network for image recognition using a dataset of 14 million images, called ImageNet,⁶ and then training the neural network on another dataset of “content and style images” so that it learns how to transfer styles from the latter to the former. Sahni AI Description at 7. Mr. Sahni informed the Office that the model operates by taking two image inputs—one image in the desired style (the “style image”),

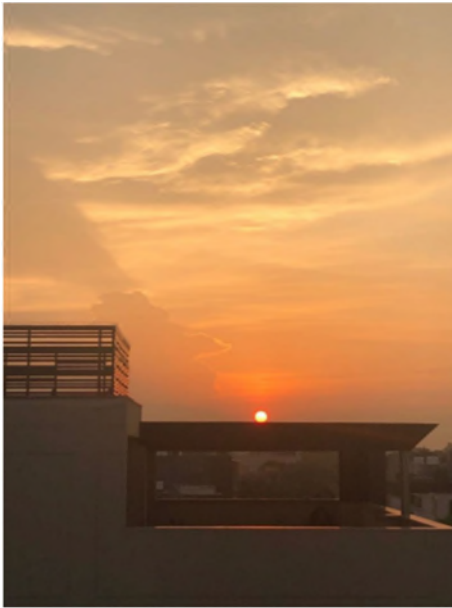
⁴ RAGHAV was built based on a method described in a Google Brain research paper titled “Exploring the structure of a real-time, arbitrary neural artistic stylization network.” *See* Sahni AI Description at 6 (citing Golnaz Ghiasi et al., *Exploring the structure of a real-time, arbitrary neural artistic stylization network* (Aug. 2017), <https://arxiv.org/abs/1705.06830>). The Sahni AI Explanation includes a number of figures from the underlying research paper to illustrate the technology. *See generally id.*

⁵ There is no evidence in the administrative record as to the details of how RAGHAV was created or by whom and whether Mr. Sahni was involved in that process. While Mr. Sahni has stated that RAGHAV was “built with a variant of Neural Style Transfer using [a] research paper” from Google, *id.* at 6, he does not claim to have developed RAGHAV. For this reason, the Board does not consider the development of RAGHAV or selection of the materials it was trained on as bases for Mr. Sahni’s creative control over the Work. *Cf.* Defs.’ Resp. to Pls.’ Mot. for Summ. J. and Cross-Mot. for Summ. J. at 5 n.1, Thaler v. Perlmutter, No. 1:22-cv-1564 (D.D.C. Feb. 7, 2023), ECF No. 17 (explaining that the Office could not determine whether AI-generated work was sufficiently original to receive copyright protection because “among other potentially relevant facts, the Office does not know what preexisting works the Creativity Machine was trained on”).

⁶ ImageNet is a large collection of images commonly used for training AI systems. *See* Dave Gershgorn, *The data that transformed AI research—and possibly the world*, QUARTZ (July 26, 2017), <https://qz.com/1034972/the-data-that-changed-the-direction-of-ai-research-and-possibly-the-world>.

and a second image to which the style will be applied (the “base image”), as well as a numerical value indicating the amount or strength of style transfer. *See id.* at 10–12. RAGHAV then produces an output based on its interpretation of these three inputs. *Id.* at 8. In other words, according to Mr. Sahni, RAGHAV does not simply layer the style image on top of the base image like a visual filter applied to a photograph. RAGHAV instead generates a new image based on the features it learns from the base and style images. *Id.* at 6 (RAGHAV uses a technique that “allows us to *generate* an image with the same ‘content’ as a base image, but with the ‘style’ of our chosen picture”) (emphasis added).⁷

Turning to creation of the Work here, Mr. Sahni states he provided RAGHAV with a base image (Mr. Sahni’s original photograph), a style image (Vincent van Gogh’s *The Starry Night*), and an undisclosed numerical value for the strength of the style transfer. *Id.* at 9–12. RAGHAV then generated the Work, and Mr. Sahni does not claim to have modified the Work after it was generated. Each of the image contributions are depicted below alongside the resulting output image:

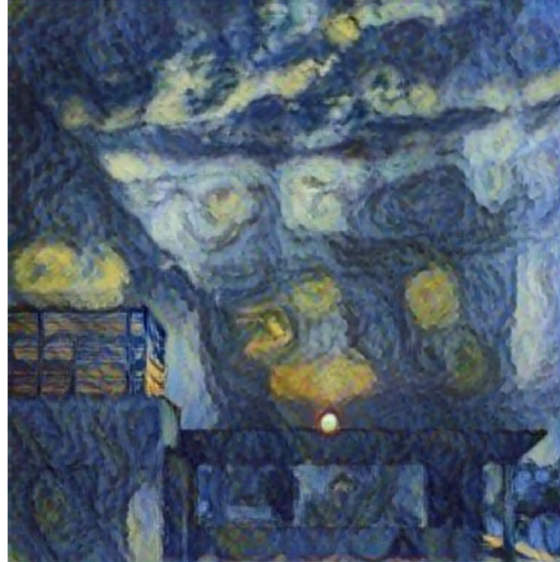


**Mr. Sahni’s Original
Photograph
(base image)**



**Vincent Van Gogh’s *The Starry Night*
(style image)**

⁷ The Second Request describes the RAGHAV tool as a “filter” tool, which contradicts Mr. Sahni’s initial description. As discussed below, even if the Board accepted the Second Request’s description of RAGHAV, the Board’s conclusion would be the same because selecting the strength of a visual filter, by itself, is not sufficiently creative to be protected by copyright.



**The Work
(output)**

Mr. Sahni argues that the decisions he made are sufficient to make him the “author” of the Work in its entirety. The Second Request asserts that “conceiving, creating and selecting an original [base] image,” “selection of the style image,” and “selecting a specific variable value determining the amount and manner of style transfer” “cumulatively resulted in the [Work], which is the direct outcome of [Mr. Sahni’s] creative expression and contribution.” Sahni AI Description at 11–12; *see also* Second Request at 4. As evidence of his creative control, Mr. Sahni claims his decisions resulted in the Work containing 1) “a sunset,” 2) “clouds,” 3) the “contours of a building,” 4) a composition in which “the sky accounts for the upper two thirds of the work,” and 5) “a precise and deliberate style of Van Gogh’s [The] Starry Night.” Second Request at 3–4.

After considering the information provided by Mr. Sahni regarding his creation of the Work, including his description of RAGHAV, the Board concludes that the Work is not the product of human authorship. Specifically, the Board finds that the expressive elements of pictorial authorship were not provided by Mr. Sahni. As Mr. Sahni admits, he provided three inputs to RAGHAV: a base image, a style image, and a “variable value determining the amount of style transfer.” Sahni AI Description at 11. Because Mr. Sahni only provided these three inputs to RAGHAV, the RAGHAV app, not Mr. Sahni, was responsible for determining how to interpolate the base and style images in accordance with the style transfer value. The fact that the Work contains sunset, clouds, and a building are the result of using an AI tool that “generate[s] an image with the same ‘content’ as a base image, but with the ‘style’ of [a] chosen picture.” *Id.* at 6. But Mr. Sahni did not control where those elements would be placed, whether they would appear in the output, and what colors would be applied to them—RAGHAV did.⁸

⁸ While not the basis for our conclusion, the Board notes that Mr. Sahni has stated elsewhere that “Raghav chooses and creates the brush strokes and colour palette.” Govind Kumar Chaturvedi, *A.I. Paintings: Registrable*

The Board is not convinced by Mr. Sahni’s description of RAGHAV as “an assistive tool” that works similarly to “a camera, digital tablet, or a photo-editing software program.” Second Request at 2–3. In his Second Request, Mr. Sahni now describes RAGHAV as merely “mechanically appl[ying] the colors, shapes, and style as directed, which is not any different from, for example, Adobe Photoshop applying red and blue shades to a photograph based on a user’s command.” *Id.* at 4. This description inaccurately minimizes RAGHAV’s role in the creation of the Work and conflicts with other information in the record. As Mr. Sahni stated in his initial explanation, RAGHAV operates by “generat[ing]” a new pictorial image based on features learned from user-provided images. *See* Sahni AI Description at 8 (operation of RAGHAV causes “new stylizations [to] be generated”). The underlying research that RAGHAV was built on is premised on the same functionality: it is the AI model, not its user, that “predict[s] stylizations for paintings and textures never previously observed,” and that predictive function is tied to “the proximity of the [style image] to styles trained on by the model.” Golnaz Ghiasi et al., *supra* note 4 at 5, 9. Here, RAGHAV’s interpretation of Mr. Sahni’s photograph in the style of another painting is a function of how the model works and the images on which it was trained on—not specific contributions or instructions received from Mr. Sahni. While Mr. Sahni selected the numerical variable for the “strength” of the style, that choice alone is insufficient to warrant copyright protection. As noted above, selecting a single number for a style filter is the kind of *de minimis* authorship not protected by copyright. *See Feist Publ’ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 359 (1991) (copyright does not protect “works in which the creative spark is utterly lacking or so trivial as to be virtually nonexistent”); *see also* COMPENDIUM (THIRD) § 909.3(A) (providing example of digital edits that “improve[] the color, tone, and temper” of a photograph and remove noise as ineligible for copyright protection).

Mr. Sahni’s remaining arguments do not alter the Board’s conclusion. While Mr. Sahni emphasizes his specific choices of image inputs and filter strength as one choice “from nearly infinite permutations and possibilities of specific inputs,” these choices only constitute an unprotectable idea for the Work, that is: an altered version of his photograph in the style of *The Starry Night*. Second Request at 2. But copyright does not protect the concept reflected in a work—“protection is given only to the expression of the idea—not the idea itself.” *Mazer v. Stein*, 347 U.S. 201, 217 (1954); *see also, e.g., Herbert Rosenthal Jewelry Corp. v. Kalpakian*, 446 F.2d 738, 742 (9th Cir. 1971) (copyright in bee jewelry was not infringed by other bee jewelry because “[a] jeweled bee pin is ... an ‘idea’ that defendants were free to copy”). Nor does the Board agree with Mr. Sahni that his original photograph was “not a preexisting work” and that its expressive elements that also appear in the Work are therefore a basis for registration. Mr. Sahni is welcome to apply to register his photograph, assuming it meets all statutory requirements, but he cannot register the AI-modified version before the Board.⁹ Because Mr. Sahni exerted insufficient creative control over RAGHAV’s creation of the Work, he cannot register it.

Copyright? Lessons from Ankit Sahni, IP OSGOODE (Mar. 31, 2023), <https://www.iposgoode.ca/2023/03/a-i-paintings-registrable-copyright-lessons-from-ankit-sahni/>.

⁹ To register the original photograph, Mr. Sahni would need to submit the photograph as the deposit along with an application claiming that photographic authorship. *See* 17 U.S.C. § 408(b)(1), (2) (registration deposits must consist of at least one “complete copy”); 37 C.F.R. § 202.20(b)(2)(1), (2) (depending on a work’s publication status, the “complete copy” must “represent[] the entire copyrightable content of the work” or “include[] all elements comprising the applicable unit of publication of the work”).

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.



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
Mark T. Gray, Assistant General Counsel