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We Built This City: Generative AI, Copyright, and the Built Environment

Talin Ghazarian

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WE BUILT THIS CITY: GENERATIVE AI, COPYRIGHT, AND THE BUILT ENVIRONMENT

*Talin Ghazarian**

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* J.D. Candidate, 2025, Fordham University School of Law; MPhil, 2017, Darwin College – University of Cambridge; B.A., 2016, Wellesley College. Many thanks to Professor Nestor Davidson and the editors and staff of the *Fordham Urban Law Journal*, especially Amanda Trau and Sophia Slater, for their consistent diligence, care, and guidance throughout this process. I would also like to thank my family and friends for their support, in particular my mom who was always a phone call away. This Note is just one contribution to a growing body of commentary and scholarship reacting to generative AI’s potential impact on the law. It is dedicated to architects and artists; professors, practitioners, and friends who have shaped my thinking and experiences of the architecture field. May you continue to build our world and create with an eye toward our collective future.

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“Architecture should speak of its time and place, but yearn for timelessness.”¹

INTRODUCTION

The Empire State Building, 30 Rockefeller Plaza, and the Freedom Tower each dot New York City's skyline and are so well-known that they are part of the city's identity. They are synonymous with past periods of ingenuity, aspiration, prosperity, and unity in the city.² These sites' value comes from

1. Paul Keskeys, *The 10 Secret Ingredients of Iconic Architecture*, ARCHITIZER (quoting Frank Gehry), <https://architizer.com/blog/inspiration/industry/your-magnum-opus/> [<https://perma.cc/AAF8-8VHR>] (last visited Feb. 21, 2024).

2. When the Empire State Building was unveiled in 1931, it stood as the tallest building in the world, and as a symbol of “vision and faith.” Olivia B. Waxman, *The Empire State Building Opened During the Great Depression. Its Survival Story Holds a Lesson for Today*, TIME (May 1, 2021), <https://time.com/5955419/empire-state-building-history/> [<https://perma.cc/578K-LASD>]. The photograph of workers sitting on a beam high above the city eating lunch during the construction process of Rockefeller Center sparks wonder as a feat of its time. Steel gave “humans the ability to rise as high as elevator and audacity could take them,” and Rockefeller Center, constructed during the Great Depression, stands as a testament to not only the perspiration and determination of the immigrants who built this icon but also to the power of human ingenuity. See Jessica Contrera, *One of the Most Iconic Photos of American Works Is Not What It Seems*, WASH. POST (Sept. 1, 2019), <https://www.washingtonpost.com/history/2019/09/01/one-most-iconic-photos-american-workers-is-not-what-it-seems/> [<https://web.archive.org/web/20231107233301/https://www.washingtonpost.com/history/2019/09/01/one-most-iconic-photos-american-workers-is-not-what-it-seems/>]. The Freedom Tower was New York City's response to the tragedy of 9/11. The construction reclaimed New York's position as a global economic powerhouse, like a phoenix rising from the ashes, asserting its resilience and commitment to unity and liberty in the face of a devastating attack. See *The Remarkable Evolution of One World Trade Center*, VISUALHOUSE (Oct. 13, 2023), <https://visualhouse.com/the-remarkable-evolution-of-one-world-trade-center> [<https://perma.cc/LGY4-5KKD>]; see also *One World Trade Center*, SOM,

their status as tourist attractions and commodities with a built-in cache and brand that can be bought and sold in the commercial real estate market like any other building³ or converted to meet the city's needs.⁴ How does the law protect and incentivize the design of icons so inextricably woven into the fabric and identity of a city? Owners of the buildings have well-established rights through the property law regime.⁵ The intellectual property (IP) regime posits protections for architectural works through copyright and grants rights to the architects who conceive of and design buildings.⁶

Architects imagine, design, and shape cities.⁷ They are the creative and practical minds that bring iconic buildings to life along with housing, office spaces, restaurants, stores, and other infrastructure that individuals interact with daily.⁸ With the inclusion of buildings and architectural works in the copyright regime, in theory architects are supposed to receive a tangible benefit for their creations as an incentive to continue to create.⁹ In a time when populations are swelling,¹⁰ space is becoming more limited,¹¹ and the

<https://www.som.com/projects/one-world-trade-center> [<https://perma.cc/U229-LBY8>] (last visited Mar. 13, 2023). Buildings tell stories and shape our understanding of a city and the lived experiences of its residents.

3. See generally Caroline Hallemann, *New York City's Chrysler Building Is for Sale*, TOWN & COUNTRY (Jan. 10, 2019), <https://www.townandcountrymag.com/leisure/real-estate/a25846684/chrysler-building-is-for-sale/> [<https://perma.cc/68YX-A9YW>].

4. See Christopher Bonanos, *The Flatiron Building's Luxury-Housing Era Is Beginning*, CURBED (Oct. 26, 2023), <https://www.curbed.com/2023/10/flatiron-building-housing-conversion-gural-brodsky.html> [<https://perma.cc/8TAE-3MY9>]; see also WOOLWORTH BLDG., <https://www.woolworthbuilding.com/> [<https://perma.cc/5CGF-2RJ3>] (last visited Feb. 21, 2024).

5. See generally *Ownership Rights in Real Property*, N.Y.C. BAR (Oct. 2017), <https://www.nycbar.org/get-legal-help/article/real-property-law/ownership-rights-in-real-property/> [<https://perma.cc/ELC5-HWMM>].

6. Copyright is the focus of this Note. Architectural works also enjoy protection through trademarks and occasionally through patents. There will be some discussion of these regimes in Part III of this Note.

7. See generally Elif Ayse Fidanci, *The Role of Architects in Shaping Cities and Communities*, ILLUSTRARCH (Apr. 21, 2023), <https://illustrarch.com/articles/15812-the-role-of-architects-in-shaping-cities-and-communities.html> [<https://perma.cc/4FCL-MYQW>].

8. *Id.*

9. See *infra* Section I.B.

10. Denise Chow, *World's Population Could Swell to 10.9 Billion by 2100*, U.N. Report Finds, NBC NEWS (June 17, 2019), <https://www.nbcnews.com/mach/science/world-s-population-could-swell-10-9-billion-2100-u-ncna1017791> [<https://perma.cc/67N2-84DK>].

11. Zaria Gorvett, *How Many People Can Earth Handle?*, BBC (Sept. 5, 2022), <https://www.bbc.com/future/article/20220905-is-the-world-overpopulated> [<https://perma.cc/TH2P-5WXJ>].

climate crisis is top of mind,¹² these incentives might be critical for architects tasked with exploring new sustainable and durable ways to design to effectively house and accommodate the world's population.¹³ As architects respond to evolving crises,¹⁴ their creations and rights have the potential to be caught in the crossfire and consequences of the rise of generative Artificial Intelligence (AI) technologies.

Where certain landmark buildings define our cities, generative AI has quickly positioned itself as the new “it” disruptor technology.¹⁵ Generative AI is starting to define how society interacts with technology,¹⁶ how lawmakers think through regulations in response,¹⁷ and how otherwise-settled law in the IP space is exposed and vulnerable to technological innovations.¹⁸ Generative AI's capacity to respond to user prompts with poems, writings, works of art, music and, other art forms has raised growing concerns within the creative community, particularly among authors and artists.¹⁹ They worry about the construction and training of generative AI models, as well as how the outputs incorporate their proprietary works, posing a threat to their livelihoods.²⁰ Between 2022 and 2023, 16 lawsuits have been filed against generative AI companies.²¹ The allegations largely

12. Umair Irfan, *2023 Was the Hottest Year on Record. It Also Pushed the World over a Dangerous Line*, VOX (Jan. 12, 2024), <https://www.vox.com/23969523/climate-change-cop28-paris-1-5-c-uae-2023-record-warm> [https://perma.cc/8YE5-WDJ7].

13. See *infra* Section III.B.

14. See Nama'a Qudah, *Climatically Climactic: 6 Modern North African Residences Reveling in Their Context*, ARCHITIZER, <https://architizer.com/blog/inspiration/collections/north-african-modernism-climate/> [https://perma.cc/2PFU-JE86] (last visited Feb. 21, 2024).

15. See David De Cremer et al., *How Generative AI Could Disrupt Creative Work*, HARV. BUS. REV. (Apr. 13, 2023), <https://hbr.org/2023/04/how-generative-ai-could-disrupt-creative-work> [https://perma.cc/BY8Q-X23U].

16. Sarah E. Needleman, *How Generative AI Will Change the Way You Use the Web, from Search to Shopping*, WALL ST. J. (Oct. 17, 2023), <https://www.wsj.com/tech/ai/how-generative-ai-will-change-the-way-you-use-the-web-from-search-to-shopping-457c815f> [https://perma.cc/2BCJ-LFU3].

17. See Martin Coulter & Supantha Mukherjee, *Regulators Dust off Rule Books to Tackle Generative AI like ChatGPT*, REUTERS (May 22, 2023, 12:54 PM), <https://www.reuters.com/technology/regulators-dust-off-rule-books-tackle-generative-ai-like-chatgpt-2023-05-22/>; see also Sorelle Friedler et al., *How California and Other States Are Tackling AI Legislation*, BROOKINGS (Mar. 22, 2023), <https://www.brookings.edu/articles/how-california-and-other-states-are-tackling-ai-legislation/> [https://perma.cc/2WWZ-TL3R].

18. See Gil Appel et al., *Generative AI Has an Intellectual Property Problem*, HARV. BUS. REV. (Apr. 7, 2023), <https://hbr.org/2023/04/generative-ai-has-an-intellectual-property-problem> [https://perma.cc/7YEK-D2QA].

19. See *id.*

20. See *id.*

21. See *From ChatGPT to Getty v. Stability AI: A Running List of Key AI-Lawsuits*, THE FASHION L. (Jan. 5, 2024), <https://www.thefashionlaw.com/from-chatgpt-to-deepfake->

focus on IP concerns related to infringement.²² While as of February 2024 no architects have joined any of the class actions or raised a suit of their own, the challenges generative AI poses to the IP regime begs the question: is IP the strongest protective mechanism in the realm of architectural works?²³

Recent Copyright Office decisions regarding authorship in generative AI-assisted works²⁴ and courts' anticipated decisions with respect to the IP claims in the class actions will help instruct architects and their counsel on best practices when using AI technologies. The decisions will likewise guide how and when architects might take action against an infringer that is using generative AI, how the incentives under the IP regime might be impacted, and whether there are more effective legal regimes, like contract law, to protect work product. Architectural works are part of the built environment.²⁵ While IP concerns can sometimes feel amorphous,²⁶ with the inclusion of architectural works in the Copyright Act in 1990²⁷ a litigation risk exists to cities and built environments, which can stunt the pursuit of projects, growth, and development. A successful finding of infringement can result in an injunction.²⁸ Moreover, projects might be enjoined for the duration of the litigation process.²⁹ As the battle over AI plays out in the courts, in the case of architecture it would also play out in

creating-apps-a-running-list-of-key-ai-lawsuits/ [https://perma.cc/D8Q7-ZG4Y] [hereinafter *From ChatGPT to Getty*].

22. *Id.*

23. *See infra* Section I.B. As will be discussed, the IP regime is the primary legal mechanism that protects the work product of creatives. Copyright, specifically, strikes a balance between granting rights in a created artistic work, thus incentivizing creation, with a public benefit derived from the work. As of 1990, architecture gained protections under the copyright regime. However, architecture often blurs the line between something expressive, which is protectable, and functional, which is not. The IP regime protects creators' rights through infringement actions which punish unauthorized copying. The generative AI lawsuits currently confront the standards for determining infringement, like what was copied and how much was copied, and it is in the courts' pending decisions on infringement that could render architecture, among other creative work products, vulnerable to the new technology.

24. *See infra* Section II.B.

25. Built environment "can generally be described as the man-made or modified structures that provide people with living, working, and recreational spaces." *Basic Information about the Built Environment*, U.S. ENV'T PROT. AGENCY (Feb. 8, 2024), <https://www.epa.gov/smm/basic-information-about-built-environment> [https://perma.cc/BV5G-HSF6].

26. Many IP-related cases apply to art, music, literature, sculpture, and dance, which are important but the related infringement actions do not have a consequence on the general public's daily life.

27. 1 MELVILLE NIMMER, NIMMER ON COPYRIGHT § 2A.09 (2023).

28. *Id.*

29. Courts will sometimes assess the construction progress and whether there would be a harm to the public if the building is not completed. In this case, a court may grant some form of monetary damages where they cannot prevent infringement. 5 MELVILLE NIMMER, NIMMER ON COPYRIGHT § 14.06 (2023).

the urban and built environment, as architects and the communities they serve await decisions about their respective rights and plans.

This Note argues that the pending decisions for lawsuits against generative AI companies on the merits of the IP claims should consider broader applicability to fields, like architecture, that are beyond fine arts and literature, the focus of the current litigation. Architecture, though enumerated as a protected category in the current Copyright Act, often has thin protections in practice.³⁰ This leaves it vulnerable to any decision against the plaintiffs, which could further undercut the incentive structure behind copyright that strives to foster creative works while preserving a public benefit. Generative AI poses a danger to the legal protections in place for architectural work products, and an adverse decision could undermine a system that is already weak when applied to the industry.

Part I lays the foundation for understanding the technology and current legal landscape. Section I.A of this Note briefly outlines the rise of generative AI technologies. Section I.B introduces the current legal standards for copyright protections as specifically applied to architectural works. Part II then evaluates the active lawsuits and relevant decisions handed down by the Copyright Office, along with a potential defense available to generative AI companies. Section II.A outlines the claims raised against AI companies and how the cases are trending. Section II.B considers how relevant institutions have defined generative AI-created works in terms of their potential copyrightability. Section II.C evaluates recent changes and developments in fair use analysis, a primary defense available in infringement suits, which have accommodated technological advancements. Part III focuses on the relationship between architects' rights and generative AI. Section III.A exposes the deficiencies of protections available to architects under the copyright regime and how generative AI acutely threatens them. Building on Section III.A, Section III.B outlines the potential consequences for generative AI in architectural practice. Section III.C queries whether viable alternatives to IP protection for architects exist through other legal means available to curb the impacts of generative AI and related litigation to avoid risks to architects' integrity and interest in the work, and risks to the preservation and further development of cities.

I. THE RISE OF GENERATIVE AI AND THE CURRENT LEGAL LANDSCAPE

As generative AI use is on the ascent, so too are the complications this new technology and its applications present to existent legal frameworks,

30. *See infra* Section I.B.

most notably IP doctrine.³¹ This Part gives a basic introduction to AI technology's capabilities. It then focuses on the rationales, principles, and protections of copyright doctrine as applied to architectural works. It is crucial to understand the technology and the settled legal practices to see how the class actions might be resolved and what impact they could have on an industry like architecture that straddles the line of both creative and practical.

A. Generative AI

Generative AI is a category within AI technologies that encompasses tools for content creation, which includes text, images, music, audio, and videos.³² Some form of generative AI has existed since the 1960s with the advent of chatbots.³³ For example, ChatGPT, developed by OpenAI, takes a user prompt and generates text in response, drawing connections from the large repository of texts, books, articles, and code used to train it.³⁴ The generative AI models use neural networks.³⁵ When a user enters a prompt, the neural networks identify patterns within the mass of data available in the training bank to form connections and generate new content in seconds.³⁶ Many industries both welcome and caution the advent of such a technology. The fashion industry has recognized generative AI's capacity to solve for waste problems, tailoring, and even manufacturing concerns.³⁷ In the film industry, generative AI preserves the image and likeness of actors for use in

31. See Appel et al., *supra* note 18.

32. Damian Brady, *What Developers Need to Know about Generative AI*, THE GITHUB BLOG (Apr. 7, 2023), <https://github.blog/2023-04-07-what-developers-need-to-know-about-generative-ai/> [<https://perma.cc/ABR7-VUHF>].

33. George Lawton, *What Is Generative AI? Everything You Need to Know*, TECHTARGET, <https://www.techtarget.com/searchenterpriseai/definition/generative-AI> [<https://perma.cc/SFF4-8P93>] (last visited Jan. 24, 2024). Even in the early 2000s I remember playing with SmarterChild. It was a favorite pastime of many to taunt the bot with questions and see how it responded. Responses were often uncreative and limited. AI technology has drastically increased in sophistication since. For the earliest iterations of chatbots and early-stage generative AI technologies from the 1960s, responses were rule-based and pre-programmed to a certain degree. See Greg Pavlik, *What Is Generative AI? How Does It Work?*, ORACLE (Sept. 15, 2023), <https://www.oracle.com/artificial-intelligence/generative-ai/what-is-generative-ai/> [<https://perma.cc/2UZJ-E2Y9>].

34. See Brady, *supra* note 32.

35. Brady, *supra* note 32.

36. See Brady, *supra* note 32.

37. See Caen A. Dennis, Note, *AI-Generated Fashion Designs: Who or What Owns the Goods?*, 30 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 593, 611–12 (2020).

posterity.³⁸ Similarly, the music industry has identified preservation capabilities in the use of generative AI technologies.³⁹

Various industries have considered the positives and negatives inevitably associated with the applications of this new technology. If fashion manufacturing moves locally due to AI technology, it stimulates the local economy, but it will naturally leave thousands unemployed abroad who work in factories.⁴⁰ With the use of image and likeness in film and music, film companies and music studios have a new means of preservation but risk depriving actors and musicians of their profits and work as well.⁴¹ While there are concerns in these examples, there are legal solutions through licensing, contracts, or other mechanisms that ensure at the very least that creatives are compensated, as demonstrated most recently by negotiations and resolutions in response to SAG-AFTRA's labor strike.⁴²

38. See Lauren Leffer, *Can AI Replace Actors? Here's How Digital Double Tech Works*, SCI. AM. (July 25, 2023), <https://www.scientificamerican.com/article/can-ai-replace-actors-heres-how-digital-double-tech-works/> [<https://perma.cc/7HDS-E3WY>].

39. Jon Porter, *YouTube Previews AI Tool That Clones Famous Singers – With Their Permission*, THE VERGE (Nov. 16, 2023, 5:17 AM), <https://www.theverge.com/2023/11/16/23963570/youtube-generative-ai-dream-track-music-tools-voice-clone> [<https://perma.cc/69RF-FJHV>].

40. See Dennis, *supra* note 37, at 612.

41. See, e.g., Chris Frawley, *How Generative AI is Moving Into 9 Major Entertainment Sectors*, BACKSTAGE (Aug. 1, 2023), <https://www.backstage.com/magazine/article/generative-ai-entertainment-industry-76360/> [<https://perma.cc/6WFL-APS4>]; see also Howard Weingrad & Paavana Kumar, *Embracing AI's Disruption of the Music Industry: Advantages, Challenges and the Future*, 30 WESTLAW J. INTELL. PROP. 12 (2023) (discussing generative AI's use in the music industry); Louis Menand, *Is A.I. the Death of I.P.?*, NEW YORKER (Jan. 15, 2024), <https://www.newyorker.com/magazine/2024/01/22/who-owns-this-sentence-a-history-of-copyrights-and-wrongs-david-bellos-alexandre-montagu-book-review> [<https://perma.cc/R8RS-4ZSW>]. Beyond individual musicians, Menand addresses how music companies like Sony have invested and profited from vast IP portfolios. For example, Sony purchased the right to Bruce Springsteen's songs. The company disseminates Springsteen's songs, making them available on streaming platforms, and to car companies running commercials for licensing fees in the hopes of recuperating their investment in the portfolio for the duration of the copyright term. The public continues to enjoy Springsteen's music, and Sony profits. Menand calls attention to AI's potential to disrupt companies' economic interests in IP portfolios, a topic outside the scope of this Note.

42. See Charles Pulliam-Moore, *SAG-AFTRA'S New Contract Hinges on Studios Acting Responsibly with AI*, THE VERGE (Nov. 18, 2023), <https://www.theverge.com/2023/11/18/23962349/sag-aftra-tentative-agreement-generative-artificial-intelligence-vote> [<https://perma.cc/SW65-SXMZ>] (“SAG-AFTRA's summary includes a number of new definitions for different kinds of digital replicas [AI-generated] that can be created and details how studios would have to obtain clear and express consent from actors well in advance of having their likenesses captured. In some (but not all) cases, the tentative deal would also require that actors be paid at least the minimum ‘day performer rate (including residuals as applicable)’ for the process of having their faces and bodies scanned.”). The precise legal mechanisms for protection in the entertainment industry are outside the scope of this Note.

Architecture, by comparison, is arguably left more vulnerable to the increased use and growing sophistication of generative AI. While the industry utilizes such technologies to aid with engineering solutions and drafting,⁴³ the legal regime might not be equipped to effectively protect architects and their work product depending on the extent and purpose of their generative AI use. Generative AI exists in tension with the IP regime, and specifically with copyright, because it implicates categories of works protected under the regime.⁴⁴ The next Section reviews the advent of protections available to architectural works under the copyright regime and the courts' treatment of such works to better understand the potential threat generative AI poses.

B. Copyrighted Architectural Works

1. *The Incorporation of Architectural Works in the Copyright Act*

Architecture is a creative form of expression,⁴⁵ but it also has a functional purpose. Expressive and artistic works find protection in the IP regime, which evolved to incorporate architectural works as copyrightable.⁴⁶ The IP Clause of the U.S. Constitution vests Congress with the power “[t]o promote the Progress of Science and useful Arts.”⁴⁷ Congress achieves this objective by granting exclusive rights to works by creators and inventors for a period of time.⁴⁸ In the language of the Clause, there is a cognizable tension between recognizing an achievement worthy of exclusive rights and that

43. See Francesco Iorio, *Generative AI: A Blueprint for Efficiency in Building Design*, FORBES (July 20, 2023), <https://www.forbes.com/sites/forbestechcouncil/2023/07/20/generative-ai-a-blueprint-for-efficiency-in-building-design/?sh=327f6adf1bac> [https://perma.cc/MN5T-CMAC].

44. See Appel et al., *supra* note 18.

45. See Ayushi Samarth, *Expression Through Architecture*, RE-THINKING THE FUTURE, https://www.re-thinkingthefuture.com/architectural-community/expression-through-architecture/#google_vignette [https://perma.cc/DB33-JZ5J]. For an interesting reflection on the rise of technology in architectural practice, see also Michael G. Imber, *Is Architecture Still Considered an Art?*, ARCHITECTURAL DIG. (Apr. 4, 2018), <https://www.architecturaldigest.com/story/is-architecture-still-considered-an-art> [https://perma.cc/DB33-JZ5J].

46. See 17 U.S.C.A. § 101 (West 2010) (defining ‘architectural work’ as “the design of a building as embodied in any tangible medium of expression, including a building, architectural plans, or drawings. The work includes the overall form as well as the arrangement and composition of spaces and elements in the design, but does not include individual standard features.”); see also 17 U.S.C.A. § 102 (West 1990).

47. U.S. CONST. art. I, § 8, cl. 8.

48. *ArtI.S8.C8.1 Overview of Congress’s Power Over Intellectual Property*, CONST. ANNOTATED, https://constitution.congress.gov/browse/essay/artI-S8-C8-1/ALDE_00013060/ (last visited Feb. 18, 2024).

same achievement's benefit to the public at large.⁴⁹ The Supreme Court's copyright jurisprudence interpreting the IP Clause reflects the Court's understanding that the primary purpose of copyright protection is to serve the public good and that incentivizing creators is most effectively achieved through the promise of a reward through the grant of rights.⁵⁰

The law has long recognized literature, musical compositions, paintings, sculpture, and other art forms as eligible for copyright protection.⁵¹ While the 1976 Copyright Act did not explicitly reference architectural renderings, plans, or technical drawings, the House Report reflects Congress' intention that such works be encompassed by "pictorial, graphic, and sculptural works" ("PGS").⁵² In 1990, the Architectural Works Copyright Protection Act (AWCPA) expanded copyrightable subject matter to include architectural works.⁵³ Copyright protection for architectural works is two-fold: (1) two-dimensional architectural plans or drawings;⁵⁴ and (2) the three-dimensional building itself.⁵⁵ This split in protections means that, as a practical matter, architects seeking protections for both the designs of their

49. *See id.*

50. *See* NIMMER, *supra* note 27.

51. 17 U.S.C.A. § 102 (West 1990).

52. *See* NIMMER, *supra* note 27. This came with its own challenges about how to define architectural plans and their copyrightability. *See* NIMMER, *supra* note 27. PGS works enjoy protections when they are not functional. *See* NIMMER, *supra* note 27. However, some composite works, like a lamp with a sculptural base, straddle the line between expressive and functional, not unlike architectural plans or buildings themselves. *See generally* Mazer v. Stein, 347 U.S. 201 (1954). When confronted with "useful articles," something that has use beyond just its appearance or conveying information, the courts apply a separability test to draw out what elements of a work are protectable. *See generally id.* (holding a statuette copyrightable even though it was used as a lamp base). If pictorial, graphic, or sculptural elements of a design are capable of existing independently of the item's utilitarian aspects, either physically or conceptually, it is protectable. *See id.* at 214–20; *see also* Star Athletica, L.L.C. v. Varsity Brands, Inc., 137 S. Ct. 1002, 1004 (2017). Before the passage of the AWCPA, architectural renderings existed in tension with the design of useful article principles because they are arguably inherently functional, but it was determined that they merely convey information and therefore could be copyrightable. *See* NIMMER, *supra* note 27. The AWCPA resolved any ambiguity by clearly defining "architectural works" as inclusive of renderings, drawings, and models in the hopes of avoiding separability inquiries. *See* NIMMER, *supra* note 27. Arguably, however, the confusing application of separability was just replaced with an equally confusing inquiry about the functionality of certain elements of a building's design.

53. *See* NIMMER, *supra* note 27; *see also* 17 U.S.C.A. § 102(8) (West 1990); 17 U.S.C.A. § 101 (West 2010) (defining "architectural work").

54. *See* 17 U.S.C.A. § 101 (West 2010) ("Pictorial, graphic, and sculptural works include two-dimensional and three-dimensional works of fine, graphic, and applied art, photographs, prints and art reproductions, maps, globes, charts, diagrams, models, and technical drawings, including architectural plans."). Note the definition for PGS expressly retains coverage of architectural plans, despite the advent of the AWCPA.

55. *See id.* (definition of "architectural work").

buildings and the buildings themselves need to submit two applications for separate copyright registrations.⁵⁶ To cover any drawings or models, they must submit an application in the PGS class, and to cover the building, they must submit an application in the architectural works class.⁵⁷ Ownership of a valid copyright is required to proceed with an infringement action.⁵⁸

The bifurcated nature of copyright protection in architectural works initially made it seem as though the plans and the physical buildings existed separate from each other.⁵⁹ The presumption was that an architect might have rights in their plans but not in the building until its construction.⁶⁰ *Hunt v. Pasternack*, decided in 1999 by the Ninth Circuit, nine years after the passage of the AWCPA, clarified the two-fold nature of architectural copyright by resolving whether a work must be constructed for the valid copyright to exist.⁶¹ The district court ruled that a valid copyright for architectural works only existed in constructed works.⁶² On appeal, the Ninth Circuit in *Hunt* turned to legislative intent in the passage of the AWCPA.⁶³ Congress drafted the AWCPA specifically to protect unconstructed works.⁶⁴ The court determined that unconstructed works that only existed in the form of architectural plans or drawings could still be infringed upon by a building that copied the design portrayed in those plans.⁶⁵ This decision is an important consideration for architects that will be revisited in Part III.

2. *How the Infringement Standard has been Applied to Architectural Works*

Infringement actions for architectural works apply the same standard as other infringement actions within the copyright regime despite the seeming complexities of qualifications and protections for this class of works.⁶⁶ Just as with any other *prima facie* copyright infringement case, the plaintiff architect must demonstrate that: (1) “[they] ‘owned the copyright to the work that was allegedly copied,’ and (2) ‘the defendant copied protected elements

56. See 5 STEVEN G.M. STEIN, *CONSTRUCTION LAW* 20.03 (2024)

57. See *id.*

58. See *id.*

59. See NIMMER, *supra* note 27 (“At one point, the Ninth Circuit erroneously assumed that the 1990 amendment did not allow for the copyrighting of plans, before later realizing its error.”). There was initial confusion in how to read and interpret the enumerated protections for architectural works under the AWCPA.

60. See *Hunt v. Pasternack*, 192 F.3d 877, 878 (9th Cir. 1999).

61. See *id.* at 878–79.

62. See *id.* at 878.

63. See *id.* at 880.

64. See *id.*

65. See *id.* at 878–79.

66. See NIMMER, *supra* note 27.

of the work.”⁶⁷ The first element simply inquires whether the plaintiff has a valid registration certificate from the Copyright Office and whether the work meets the originality requirement for protections to vest.⁶⁸ For the second element, courts look for substantial similarity and whether such similarities between two works exist because protected elements were copied,⁶⁹ which is different from probative similarity where unprotected elements are primarily copied.⁷⁰ Substantial similarity speaks to the wrongfulness of what was taken.⁷¹

Though it does not concern architecture, *Tufenkian Import/Export Ventures, Inc. v. Einstein Moomjy, Inc.* effectively illustrates the substantial similarity standard.⁷² The case involved James Tufenkian, a carpet designer, who registered a copyright in his “Heriz” design which drew from some public domain motifs, but the Second Circuit found his creative interventions rose to the threshold of originality and therefore merited copyright protections.⁷³ Appellee Bashian retained Tufenkian’s former employee to design the allegedly infringing “Bromley 514” carpet, which was remarkably similar to the “Heriz.”⁷⁴ The Second Circuit applied the “total concept and feel” standard to assess substantial similarity.⁷⁵

The analysis requires that a court first dissect the copyrighted work into its component parts to classify what is original versus what is not.⁷⁶ While

67. See *Thomas M. Gilbert Architects, P.C. v. Accent Builders & Devs., LLC*, 629 F. Supp. 2d 526, 530 (E.D. Va. 2008) (citing *Bouchat v. Balt. Ravens, Inc.*, 241 F.3d 350, 353 (4th Cir. 2001) (determining that the architect as the owner of the copyright in their work sets the parameters for the use of their granted licenses, either expressly or through intent)). The second element can be proved by direct or circumstantial evidence that demonstrates a defendant’s access to, or ability to see, plaintiff’s work before creating the allegedly infringed work which then informs whether the subsequently produced work is substantially similar. *Bouchat*, 241 F.3d at 353–55.

68. See *Thomas*, 629 F. Supp. 2d at 530.

69. See *Attia v. Soc’y of N.Y. Hosp.*, 201 F.3d 50, 55 (2d Cir. 1999).

70. See *id.* at 54, 59–60. Ideas and concepts are elements not protected by copyright law; if the similarities between two works exist because of unprotectable elements in a work, then the subsequent work did not infringe.

71. See *Feist Publ’ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 349–50 (1991). Copyright protects original expression and grants creators rights to that. Therefore, there is a sense of a wrong committed when what was original and protected is taken and used without proper permissions. In contrast, copyright law is cautious of granting an effective monopoly on the use of ideas or elements drawn from the public domain, which is why substantial similarity parses the original work to determine which components merit protection under the regime.

72. See generally *Tufenkian Imp./Exp. Ventures, Inc. v. Einstein Moomjy, Inc.*, 338 F.3d 127 (2d Cir. 2003).

73. See *id.* at 130.

74. See *id.*

75. See *id.* at 134–35.

76. See *id.* at 135–36.

literal copying would be an obvious case of infringement, the Second Circuit recognized that “inexact copies” complicate the analysis.⁷⁷ In such circumstances, a court must then examine the aesthetic decisions made in forming a composition to determine if such aesthetic expressions are protected, and if so, whether they have been infringed.⁷⁸ Idiosyncratic and particular design decisions rise to copyrightability.⁷⁹ In the case at hand, the “Bromley” carpet mimicked the “Heriz” in design decisions, giving the infringing rug a similar overall feel.⁸⁰ Despite Tunfenkian’s use of public domain elements, the court determined his changes to them and innovative ways of combining them rose to the level of originality such that the “Bromley 514” infringed on Tufenkian’s work because it had a similar visual effect.⁸¹

An early Second Circuit case decided in 1999 after the passage of the AWCPA, *Attia v. Society of New York Hospital* applied the substantial similarity standard to assess the alleged infringement of drawings of plans for a proposed hospital expansion project.⁸² The hospital hosted a competition to select the architect to design their expansion.⁸³ Both the plaintiff and the defendant competed, so the defendant indisputably had access to the plaintiff’s drawings and designs.⁸⁴ When engaging in the infringement analysis, the court acknowledged that the idea-expression dichotomy⁸⁵ that underlies much of the substantial similarity analysis is acute when the disputed work is of a functional nature, like an architectural plan.⁸⁶ For example, placement of functional elements like a weight-bearing wall, management of traffic flow into and out of a hospital, and methods of construction are not protected elements in a work because they are necessary for others to be able to use in their own designs.⁸⁷

The plaintiff’s drawings did contain creative ideas for the expansion of the hospital over the F.D.R. Drive in New York City, but the court characterized the drawings as preliminary and generalized, whereas the defendant’s drawings prepared over many years constituted a detailed

77. *See id.* at 133.

78. *See id.* at 134–35.

79. *See id.* at 136.

80. *Id.*

81. *See id.* at 136.

82. *See* 201 F.3d 50, 51 (2d Cir. 1999).

83. *Id.* at 52.

84. *Id.* at 53.

85. This is the notion that ideas are not protectable whereas expressions are. *See* 5 NIMMER ON COPYRIGHT § 19E.04 (LexisNexis 2023).

86. *Attia v. Soc’y of N.Y. Hosp.*, 201 F.3d 50, 54–55 (2d Cir. 1999).

87. *Id.* Again, the idea behind the idea-expression dichotomy is to not grant a monopoly right to something that would not otherwise be protectable.

expression of the mechanics of the expansion.⁸⁸ While the defendant took the placement of the building, technology to transfer weight, floor height, a continuous traffic loop, and other aspects from the plaintiff's drawings, these features, while important, were aspects of the expansion project that ultimately amounted to no more than ideas.⁸⁹ Even among the ideas, the defendant presented them in a different way than the plaintiff, such as by using different sizes and spacing in the floorplans of the wings.⁹⁰ Therefore, the court held there was no error in the lower court's finding of no infringement.⁹¹

Decided 15 years after *Attia* in 2014, *Zalewski v. Cicero Builder Development, Inc.* demonstrates the continued difficulty of the infringement analysis in the context of copyrighted architectural works, and the consequences of architecture's generally thin copyright protection.⁹² The plaintiff architect licensed several of his designs for homes in the colonial style to two construction companies, both of which later hired designers and real estate developers after the expiration of the license to continue to market and build designs based on the plaintiff's.⁹³ The plaintiff alleged one of the hired developers infringed on his designs by using them in a way the license did not permit, especially since the homes were built after the license's expiration.⁹⁴ Consistent with precedent, the Second Circuit evaluated infringement under a substantial similarity standard.⁹⁵

The plaintiff had valid copyrights, defendant possessed copies of plaintiff's works, and there was a strong resemblance between the works indicative of copying, but the analysis turned on the wrongfulness of the copying.⁹⁶ For example, design elements responding to building codes, topography, structures already on the construction site, or engineering necessities effectuate the efficiency of architectural designs and cannot be protected elements.⁹⁷ Likewise, well-established styles like neoclassical

88. *Id.* at 55.

89. *Id.* at 6.

90. *Id.* at 57.

91. *Id.* at 58. There was a second claim that defendant copied freehand sketches of the ground plan for the hospital that plaintiff made, but the court likewise denied a finding of infringement because lines are not copyrightable and their existence to suggest walls or other structural details equate to a visual statement of facts. *See id.*

92. *See generally* 754 F.3d 95 (2d Cir. 2014).

93. *Id.* at 98–99.

94. *Id.*

95. *Id.* at 101.

96. *Id.*

97. *Id.* at 105–06. If they were protected, architects working with similar spaces or confines would have to either come up with new solutions that would likely be costly or impractical, or license designs which would also add cost. Both would likely stall projects as well.

government buildings, colonial homes, and modern skyscrapers for office buildings have evolved into architectural tropes and are not protectable without some creative interventions that rise to originality.⁹⁸ The Second Circuit found that the defendant copied the plaintiff's designs but that the similarities were functions of standard house design and layout as well as general stylistic attributes of colonial homes, both unprotectable elements.⁹⁹ The court focused on window style and configurations of fireplaces as well as size, shape, and arrangement of rooms, all of which it found to be standard practice.¹⁰⁰ Had the plaintiff innovated upon the well-established colonial design, his copyright interest and protection might have been thicker, but copyright doctrine does not reward creators who work in general modes of creation.¹⁰¹

These precedential cases illustrate the thin nature of copyright protections in architectural works generally, from residential homes to a hospital's expansion project. *Shine v. Childs*, decided in the Southern District of New York in 2005, specifically addresses the copyright interest in skyscrapers.¹⁰² The plaintiff, a Yale student pursuing his degree in architecture, designed a model skyscraper for his studio class on skyscrapers.¹⁰³ His design was tapered with twisting facades such that the building shape resembled a parallelogram.¹⁰⁴ He presented the design to a panel of experts, including the defendant who later designed the allegedly infringing Freedom Tower.¹⁰⁵ As with residences, probative similarity is insufficient on its own to satisfy the substantial similarity inquiry; what was taken or copied must have been copyrightable itself.¹⁰⁶

Unlike with precedent considering residential homes, the court applied the "total concept and feel test" derived from the Second Circuit in *Tufenkian* to see whether ordinary observers could find commonalities between the buildings and thus determine infringement of an artistic expression.¹⁰⁷ The aim is to afford protection to works that combine otherwise unprotectable elements in a unique and copyrightable way.¹⁰⁸ The court found that reasonable observers could disagree on the similarity between plaintiff's and

98. *See id.*

99. *Id.* at 106–07.

100. *Id.* at 106.

101. *Id.* at 107.

102. *See generally* *Shine v. Childs*, 382 F. Supp. 2d 602 (S.D.N.Y. 2005).

103. *Id.* at 605.

104. *Id.*

105. *Id.* at 605–06.

106. *Id.* at 612.

107. *Id.* at 615.

108. *Id.*

defendant's works, despite evidence of access and defendant's copying of unique elements.¹⁰⁹ Where *Zalewski* implemented a high bar of near-total copying for plaintiff to have his rights recognized,¹¹⁰ *Shine* left the infringement analysis largely to the public with the adoption of the "total concept and feel test," which similarly thins an architect's protections in their works.¹¹¹

Part III revisits how these cases, and the treatment of architectural works under copyright as well as infringement disputes, could be impacted by the impending generative AI lawsuit decisions. As demonstrated, however, the precedent has weakened protections for architectural works in practice. With generative AI on the ascent, the courts will have to be mindful of decisions made to accommodate the new technology under the IP regime so as not to render architects' rights, and the Copyright Act's provisions protecting them, completely void.

II. A CASCADE OF CLASS ACTIONS AGAINST GENERATIVE AI COMPANIES

Writers, artists, illustrators, and copyright holders alike are concerned with the rapid rise and use of generative AI platforms that allegedly infringe the copyright interests in their works.¹¹² Over the course of 2022 and 2023, 16 lawsuits were filed against generative AI companies.¹¹³ As of February 2024, the cases remain in their infancy; some have survived motions to dismiss, and others are in a re-pleading stage, but no decisions on the merits of the intellectual property claims have been made.¹¹⁴ As the class actions work their way through the court, the Copyright Office has simultaneously grappled with the question of authorship, which is a threshold question in determining whether a copyright is granted for a creative work.¹¹⁵

In addition to the generative AI lawsuits and the Copyright Office decisions, the Supreme Court in May of 2023 handed down a decision altering the fair use analysis, one of the primary defenses available to alleged infringers.¹¹⁶ It remains to be seen whether the recent decision will usher in a significant change in how fair use analysis is typically applied, even more so with respect to whether it will be helpful or harmful to plaintiffs in the generative AI lawsuits. Copyright law is ever evolving by virtue of the

109. *Id.*

110. *See Zalewski v. Cicero Builder Dev., Inc.*, 754 F.3d 95, 107 (2d Cir. 2014).

111. *See Shine v. Childs*, 382 F. Supp. 2d 602, 615 (S.D.N.Y. 2005).

112. *See generally* Appel et al., *supra* note 18.

113. *See From ChatGPT to Getty*, *supra* note 21.

114. *See generally From ChatGPT to Getty*, *supra* note 21.

115. *See infra* Section II.B.

116. *See infra* Section II.B.

statutory language's recognition that technologies will change,¹¹⁷ but the calculus of determining rights sometimes lags behind those advancements, as evidenced by the tension between generative AI and copyright interest of creatives. This Part explores court and institutional decisions specifically relating to generative AI use in the arts. It also examines recent updates to core IP doctrines that have adapted to accommodate other forms of technological changes that might be instructive with respect to how generative AI use will impact architects' rights in their work product.

A. The Lawsuits

There are 16 cases filed from 2022 to 2023 pending against companies that produce and use generative AI technologies.¹¹⁸ Those brought by members of the general public primarily focus on privacy concerns relating to how personal information is used to train the language learning models.¹¹⁹ Others consider AI's incompatibility with the existent IP regime and accuse the AI companies of infringement on copyright holders' rights and interests in their produced works.¹²⁰ Among those suits is *Andersen et al. v. Stability AI et al.*, the case potentially most consequential to architects given it is about the visual arts, which would implicate architects' drawings and models.

1. *The Initial Complaint in Andersen v. Stability AI*

In *Andersen*, artists challenge Stability AI's Stable Diffusion product, a generative AI tool with text-to-image prompts, effectively as a collage tool.¹²¹ In the original complaint, the plaintiffs alleged that Stability AI used billions of copyrighted images, many of which were scraped from DeviantArt, the platform the artists share and sell their works on, which Stability AI then stores and compresses to train their AI tool without proper permissions from the artists.¹²² A user can then prompt the AI to create a work "in the style of" a specific artist.¹²³ Of primary concern is that in the artists' view, the output work competes directly with artists who sell on

117. 17 U.S.C.A. § 102(a) (West) ("Copyright protection subsists, in accordance with this title, in original works of authorship fixed in any tangible medium of expression, now known or later developed.").

118. *See From ChatGPT to Getty*, *supra* note 21.

119. *From ChatGPT to Getty*, *supra* note 21.

120. *From ChatGPT to Getty*, *supra* note 21.

121. *See generally* Complaint, *Andersen et al. v. Stability AI et al.* (N.D. Cal. Jan. 13, 2023) (No. 3:2023cv00201) [hereinafter Complaint].

122. *Id.* at 1.

123. *Id.* at 1–2.

DeviantArt's platform causing them to lose both compensation without proper licensing and profits that are diverted to competitive works.¹²⁴

Stability AI's technology uses a diffusion technique to generate output.¹²⁵ The complaint outlines the complexities of the technology and argues that, in essence, the integrity of the source image used to train the model is not substantially altered.¹²⁶ To create a composite image that responds to a user's chosen sequence of words as part of their input, the technology takes source images and in effect collages them together.¹²⁷ Each image used is copyrighted so the complaint alleged that the AI output itself is necessarily an infringing work as a composite of copyrighted works.¹²⁸ Notably, the complaint acknowledged that the output's hybridized image will not be a close match to any source image, though it is comprised of the data from that source.¹²⁹

DeviantArt, the platform many of the plaintiff artists sell their works on, has integrated Stability AI's Stable Diffusion generative AI technology into its own AI platform called DreamUp.¹³⁰ The artists alleged that DeviantArt likewise failed to negotiate licenses with the artists represented on their platform.¹³¹ They named DeviantArt as a co-conspirator and alleged that it is competing with, and displacing the artists from the marketplace, through approval and use of Stability AI's technology.¹³²

The primary intellectual property allegations in the original complaint were as follows: (1) direct copyright infringement under 17 U.S.C. §§ 106, *et seq.*,¹³³ and (2) vicarious copyright infringement under 17 U.S.C. §§ 106, *et seq.*¹³⁴ The direct copyright infringement claim alleged that the defendants had access to the plaintiffs' works.¹³⁵ Without acquiring a license, the defendants used the copied works to train the AI technology by downloading, storing, and distributing plaintiffs' works.¹³⁶ The reproduction of plaintiffs' works for training purposes and the production of

124. *Id.* at 2.

125. *Id.* at 14–15.

126. *Id.* at 14–22.

127. *Id.* at 14–22.

128. *Id.* at 20. Composite copyrighted works are explored in some of the architectural work cases, but it is outside the scope of this Note.

129. *Id.* at 21.

130. *Id.* at 24–25.

131. *Id.* at 25.

132. *Id.*

133. *Id.* at 30–32.

134. *Id.* at 32–33.

135. *Id.* at 30–31.

136. *Id.* at 31.

alleged derivative works infringes their copyright interests.¹³⁷ For the vicarious copyright infringement claim, plaintiffs raised their concerns about users of the defendants' AI technology to create works that are then passed off as originals by the artists themselves.¹³⁸ The prompt tool is responsive to the input of specific artists' names to generate output.¹³⁹ Plaintiffs claimed defendants are profiting from generation of these alleged fakes.¹⁴⁰

2. *The District Court's Initial Decision in Andersen*

The AI companies in *Andersen* responded with a motion to dismiss.¹⁴¹ In October 2023, Judge William Orrick in the Northern District of California granted the motion as to all allegations against Midjourney and DeviantArt, the co-defendants, without prejudice and granted leave to amend.¹⁴² Judge Orrick also dismissed claims brought by several of the class members who did not register their works prior to the suit.¹⁴³ As discussed above, registration is a mandatory prerequisite to bring any form of infringement claim.¹⁴⁴ With respect to 16 of Andersen's registered works, though she could not identify the specific works the AI technology trained on, a search of the website "ihavebeentrained.com" confirmed sufficient use of some of her works to support an inference of copying.¹⁴⁵ The defendants can test the validity of those inferences in discovery.¹⁴⁶ The identification of infringed works plays a role in any infringement analysis because it will speak to what the defendants copied and whether copyrighted elements of the work were used in the output.¹⁴⁷ Judge Orrick ruled that plaintiffs' direct infringement claim against Stability AI was sufficient and therefore denied the motion to dismiss.¹⁴⁸ However, whether the copying of works used in the training set, and specifically Andersen's works, was in violation of the Copyright Act will be determined later.¹⁴⁹

137. *Id.* at 32.

138. *Id.*

139. *Id.*

140. *Id.* at 33.

141. *See generally* *Andersen v. Stability AI Ltd.*, No. 23-cv-00201, 2023 U.S. Dist. LEXIS 194324 (N.D. Cal. Oct. 30, 2023).

142. *Id.* at *3.

143. *Id.* at *9–10.

144. *See supra* Section I.B.

145. *See Andersen*, 2023 LEXIS 194324, at *11–12.

146. *Id.* at *12.

147. *See supra* Section I.B.

148. *Andersen*, 2023 LEXIS 194324, at *12–13.

149. *Id.* at *13.

Judge Orrick dismissed the direct infringement claim against DeviantArt with leave to amend.¹⁵⁰ The scraping, copying, and creation of the training bank was done by Stability AI, while DeviantArt is just a source for users to access the technology which does not support direct infringement.¹⁵¹ Part of the direct infringement claim against DeviantArt related to the outputs produced by the AI technology on its platform, characterizing those outputs as infringing derivative works.¹⁵² However, Judge Orrick noted that he could not resolve the copyright claims in Andersen’s favor unless she produces evidence of substantial similarity between the output works and her own.¹⁵³ With respect to the vicarious infringement claims, Judge Orrick required an allegation that specific works by Andersen were used to generate the “fakes” instead of a reliance on the diffusion process to suggest use of her works.¹⁵⁴ As protections for architectural works hinge on determinations of substantial similarity, Judge Orrick’s ruling on the merits of the direct infringement claim could impact the future of litigation and rights for architects in their works. Moreover, if the plaintiffs are unable to show with specificity how their works were used to create the derivative works, architects might similarly be at a loss to protect any of their works that get added to a training set.

In November 2023, the plaintiffs amended their pleading, unwavering in their attack against AI outputs: “AI image products are primarily valued as copyright-laundering devices, promising customers the benefits of art without the costs of artists.”¹⁵⁵ The amended pleading outlines in greater detail the type of data training set used by Stability AI, pinpoints the open network organization LAION that makes learning models and datasets available to the general public as the source of that data, and shows an example of one of the plaintiff’s works used in that LAION set.¹⁵⁶ The plaintiffs reference a 2023 publication proving AI’s ability to imitate the style of specific artists.¹⁵⁷ Turning to the text-to-image prompts and outputs specifically, plaintiffs demonstrate how Stability AI’s product generates images in an artist’s style when the artist’s name is included in the prompt.¹⁵⁸ The AI products also respond to image prompts of the artists’ works with

150. *Id.* at *3.

151. *Id.* at *14–15.

152. *Id.* at *19–20.

153. *Id.* at *22–23.

154. *Id.* at *28.

155. Amended Complaint, Andersen et al. v. Stability AI et al., at 4 (N.D. Cal. Nov. 29, 2023) (No. 3:2023cv00201) [hereinafter Amended Complaint].

156. *See id.* at 13–20.

157. *Id.* at 33.

158. *Id.* at 36–37.

evidence of the similarity between the original work input into the prompt and the resulting AI-generated work.¹⁵⁹ Whether the amendments will be sufficient to prove copying and of the type in contravention of the Copyright Act remains to be seen. However, the impacts of this case are already far-reaching as a list of artists included in Midjourney's data set went viral provoking increased frustrations within the creative community over the lack of regulation of AI outputs and the unfairness of AI's ability to profit from artists' works without fair compensation and potentially displace them in the market.¹⁶⁰

B. Copyright Office Decisions

The Copyright Office has similarly had to confront how to treat generative AI use when granting copyright registrations in works entirely and partially generated by AI. A threshold question for any copyright infringement analysis is whether the work itself is copyrightable.¹⁶¹ Generative AI has complicated this threshold inquiry as it produces text, images, films, and music, all of which are traditionally subject matter eligible for copyright.¹⁶² However, copyright interests also hinge on the question of authorship, which is to say human creation.¹⁶³ Both the D.C. District Court reviewing an appeal from a Copyright Office decision and the Copyright Office itself have grappled with determinations of copyrightability and authorship in some recent decisions.

1. *The Question of Authorship as Applied to AI-Generated Works*

In August 2023, the District Court for the District of Columbia in *Thaler v. Perlmutter* addressed the question of authorship in a work completely created by a generative AI system.¹⁶⁴ The plaintiff, Stephen Thaler, challenged the Copyright Office's refusal to grant him a copyright interest in his work titled *A Recent Entry to Paradise*.¹⁶⁵ Thaler owns and developed a computer system, a form of generative AI, that ran an algorithm to

159. *Id.* at 41–50.

160. See Angela Yang, *A List Going Viral Reveals Famous Artists Whose Work Was Used to Train AI Generator*, NBC (Jan. 4, 2024), <https://www.nbcnews.com/tech/tech-news/famous-artists-trained-ai-generator-viral-list-rcna131995> [<https://perma.cc/A7MN-KF6E>].

161. 17 U.S.C.A. § 102 (West).

162. *Id.*

163. See *Burrow-Giles Lithographic Co. v. Saroni*, 111 U.S. 53, 61 (1884) (expanding copyright protections to photographic works because humans retained creative control and discretion in the photography process, and that a photograph is not simply a mechanical work).

164. See generally *Thaler v. Perlmutter*, No. CV 22-1564, 2023 WL 5333236 (D.D.C. Aug. 18, 2023).

165. *Id.* at *1.

autonomously generate the work of art.¹⁶⁶ He attempted to register the work, listing the computer system as the author and stating that ownership of the rights should be transferred to him as owner of the machine under a form of work-for-hire arrangement between him and the machine.¹⁶⁷ Thaler insisted that generative AI should be considered an author “where it otherwise meets authorship criteria, with any copyright ownership vesting in the AI’s owner.”¹⁶⁸ The Copyright Office rejected his registration attempt, asserting that human authorship is essential to the validity of copyright.¹⁶⁹

The court affirmed the Office’s decision that *A Recent Entry to Paradise* did not qualify for valid copyright.¹⁷⁰ It acknowledged that while the Copyright Act itself baked in flexibility to accommodate advancements in technology that impact how a work is created and in what medium it is displayed, precedent has always dictated that human creativity is still at the core of copyrightability.¹⁷¹ For example, photography, once a new technology, fell within the bounds of copyright because a human conceived of the final image in their mind and exercised control over the technology to achieve that desired result.¹⁷² Human control over the creative expression is paramount.¹⁷³ Thaler’s work was created autonomously by a machine.¹⁷⁴ The court acknowledged that a variation in the facts, such as Thaler claiming he had some direction and control over the AI, could have led to a different outcome.¹⁷⁵ Ultimately, the court was unwilling to part with the well-settled core of copyright that authors must be human.¹⁷⁶

Thaler answered the authorship question¹⁷⁷ as the administrative and legal systems confront the increased use of generative AI technologies among the artistic community. However, the court remarked that generative AI could complicate the authorship inquiry.¹⁷⁸ With Thaler, his machine autonomously created a work, and copyright doctrine currently only

166. *Id.*

167. *Id.*

168. *Id.*

169. *Id.*

170. *Id.* at *7.

171. *Id.* at *3 (“Copyright is designed to adapt with the times. Underlying that adaptability, however, has been a consistent understanding that human creativity is the *sine qua non* at the core of copyrightability, even as that human creativity is channeled through new tools or into new media.”).

172. *Id.* at *3.

173. *Id.* at *3.

174. *Id.* at *6.

175. *See id.* at *6.

176. *Id.* at *5–7.

177. *See generally id.*

178. *Id.* at *6.

recognizes human authors, a fairly straightforward case for the court.¹⁷⁹ In cases where generative AI is just one tool in the artist's box, the court was less sure of how the authorship analysis and resultant copyright analysis would resolve.¹⁸⁰ The court suggested the extent of human input could impact the question of authorship, raised issues of the scope of protection over the artwork, and how to assess originality when AI is trained on pre-existing works.¹⁸¹ The Copyright Office has addressed the practicalities of registering works created with generative AI and the scope of protections for complex works that are hybrids of independent human creation and generative AI use in two recent decisions.

2. How Rights are Allocated in Works Created with the Assistance of Generative AI

In 2022, Kristina Kashtanova created a comic book entitled *Zarya of the Dawn* in which the words were the author's own, but the images for the comic were generated entirely through Midjourney's AI technology.¹⁸² The Copyright Office granted Kashtanova a copyright over the text.¹⁸³ It also granted her copyright over the coordination and arrangement of the comic book's visual and written elements, noting that there was an expressive element to it.¹⁸⁴ However, the Office refused to extend copyright to the images generated by AI technology, asserting a human did not produce them.¹⁸⁵ In assessing the images produced by Midjourney for the comic book, the Office analyzed the process of text-to-image generation to justify their decision.¹⁸⁶ While an individual using the generative AI platform sets parameters to describe their desired output, that person lacks control over the images produced in response as it is impossible to predict what the technology will create.¹⁸⁷ Both the randomness and production via a mechanical process undermined any potential copyrightability.¹⁸⁸ While a human creator, in this case Kashtanova, produced the prompts and could arguably guide the output, there is no way for her to control the underlying

179. *Id.* at *5–7.

180. *See id.* at *6.

181. *Id.*

182. *See generally* Re: *Zarya of the Dawn* (Registration # VAu001480196) (Feb. 21, 2023) [hereinafter Re: *Zarya*].

183. *Id.* at 1.

184. *Id.* at 1. This is consistent with precedent, including as applied to architectural works, where uncopyrightable elements can become copyrightable with some form of original expression or intervention into the work.

185. *Id.* at 8–10.

186. *Id.* at 6–8.

187. *Id.* at 8.

188. *See id.* at 9–10.

technology or creatively intervene.¹⁸⁹ Prompts influence the generated result, but in writing a prompt, a human is not actively creating the image or acting as the creative mastermind.¹⁹⁰

The Office rationalized its decision concerning the Midjourney-produced images by likening the process of text-to-image generation to the more familiar process of commissioning a work of art.¹⁹¹ The default creator of the commissioned work, and therefore owner of the copyright interest, is the author.¹⁹² This was established in *Community for Creative Non-Violence et al. v. Reid*.¹⁹³ The Community for Creative Non-Violence (the CCNV) hired and commissioned artist James Reid to produce a sculpture for a Christmas pageant.¹⁹⁴ Both the CCNV and Reid filed competing copyright registrations for the work, with the CCNV asserting that Reid was their employee and therefore the rights and interest in the work transferred to the organization.¹⁹⁵ The lower court reasoned that Reid was an independent contractor and therefore retained his rights in the sculpture.¹⁹⁶ The transfer of ownership of a copyright interest is made possible under the work-for-hire doctrine.¹⁹⁷ The Supreme Court confirmed the general rule that the author is usually the creator of a work and owns the copyright unless there is an agreement to the contrary.¹⁹⁸ While the case was primarily about work-for-hire ambiguities,¹⁹⁹ the Court ultimately determined Reid was the author for copyright purposes as he retained control over the production of the sculpture and he did not fit the common law definition of an employee.²⁰⁰

189. *Id.* at 9–10.

190. *See id.* at 9–10.

191. *Id.* at 10.

192. *Cnty. for Creative Non-Violence v. Reid*, 490 U.S. 730, 744–51 (1989). For a discussion of the differences between work-for-hire and commissions under the statutory language of the Copyright Act and the legislative history that supports such distinction. The opinion notes that with commissions, it was often implied that the copyright interest in a work would transfer to the individual who made the commission, but now there is a push for explicit contractual language to transfer rights from the creator to the eventual owner of the work.

193. *See generally id.*

194. *Id.* at 733.

195. *Id.* at 735–36.

196. *Id.* The labor law aspects of this case are outside the scope of this Note.

197. *See generally* 1 NIMMER ON COPYRIGHT § 5.03 (2023). The minutia of the work-for-hire doctrine is outside the scope of this Note.

198. *Reid*, 490 U.S. at 737.

199. *Id.* at 751–53.

200. *Id.* at 753. On remand the court would have to decide if CCNV and Reid shared an intent that their contributions be “merged together” into the resulting work, in which case CCNV would become a joint author and have a copyright interest in the sculpture. *Id.* That question of intent is different from the question of initial authorship, where Reid as the creator of the work was found to be the author of the work. *Id.*

Plaintiffs like Thaler have raised a work-for-hire theory to argue the generative AI algorithm used to create a work is acting in service of a human, and therefore, the human creator gains the copyright interest in the generated work.²⁰¹ In the case of AI-generated works, the court in *Thaler* and the Copyright Office in *Zarya of the Dawn* both reinforced precedent to determine that machines are not human and therefore works produced by them are not eligible for copyright as they do not satisfy the authorship requirement.²⁰² That said, the Office did note that it would provide copyright protections for otherwise unprotectable materials if a human author made revisions or modifications that are substantial and demonstrate a “sufficient amount of original authorship.”²⁰³

In another 2023 decision, the Copyright Office further explored the tension between AI-created elements of a work and human interventions in a work. James Allen filed an application in 2022 to register his two-dimensional work titled *Théâtre D’opéra Spatial*.²⁰⁴ His initial application did not disclose any AI use, but the work received media attention for becoming the first AI-generated work to win a Colorado art competition, so the Office was aware that Allen used Midjourney’s AI to create the work.²⁰⁵ It took 624 prompts to produce the work which he then modified through Adobe Photoshop.²⁰⁶ The Office rejected his application, but as in *Zarya*, expressed a willingness to separate Allen’s Photoshop modifications from the underlying Midjourney work if his revisions and interventions amounted to something obvious and copyrightable.²⁰⁷ He insisted on copyright for the entirety of the work, arguing that prompts amounted to copyrightable human expression.²⁰⁸ The Office acknowledged that certain prompts might have the creativity required to be copyrightable as literary works, but that creative control by a human is required for copyright of an artistic work.²⁰⁹

To gain his copyright, Allen would have had to disclaim the AI-produced portions of the work because it contained more than a *de minimis* amount of AI-generated content.²¹⁰ It is unclear whether other artists relying heavily

201. See *Thaler v. Perlmutter*, No. CV 22-1564, 2023 WL 5333236 at *3 (D.D.C. Aug. 18, 2023).

202. *Id.* at *6; see also *Re: Zarya*, *supra* note 182, at 3–4.

203. *Re: Zarya*, *supra* note 182, at 11.

204. See *Re: Second Request for Reconsideration for Refusal to Register Théâtre D’opéra Spatial* (SR # 1-11743923581; Correspondence ID: 1-5T5320R) (Sept. 5, 2023), 21 [hereinafter *Re: Théâtre*].

205. *Id.*

206. *Id.*

207. See *id.*

208. *Id.* at 3.

209. *Id.* at 7.

210. *Id.* at 1.

on AI to produce works will be as adamant about protections for the entirety of their work and as reluctant to disclose their AI use. What is clear, however, is the Office's stance on this issue.²¹¹ Where prospective authors seeking registration of their works and a valid copyright use generative AI in combination with their own creative interventions, they are to disclose the use of AI — which platform, and to what extent — to aid in determining what is copyrightable in the work.²¹²

In review, both the courts and the Copyright Office remain steadfast in human creation as the bedrock of copyright protection. While generative AI is a new technology, both institutions are comfortable not extending protections to works produced primarily by AI. They are, however, comfortable with engaging in a form of separability analysis to examine where human creation exists in a work and subsequently grant copyright of limited scope. If that human intervention reaches the level of a modicum of creativity, copyright is granted. Moreover, as it currently stands, neither institution views generative AI as a tool subject to human creativity or as a facilitator of human creativity — unlike, for example, a camera.

Inputs produce random outputs, and those using AI platforms cannot exert creative control over the programs to produce their desired results.²¹³ In registering a work, it is advantageous and advisable for a creator to disclose which portions of the work were generated by AI technologies and which portions were their own creation to maintain their authorship interest and some form of copyright.²¹⁴ Architects will want to be clear about if and how they use AI in producing renderings, drafts, or models. The extent to which they rely on the technology for ideas has the potential to compromise their legal interest in their work product against the backdrop of these recent decisions.

C. A Shift in Fair Use

As the courts and Copyright Office demonstrated their unwillingness to upset settled precedent that a creator must be human for copyright to vest, the Supreme Court recast the definition of “transformative” in fair use analysis.²¹⁵ Fair use is one of the primary defenses available in copyright infringement cases.²¹⁶ Fair use doctrine, from §107 of the Copyright Act, deems certain limited uses of copyrighted materials without permission non-

211. *Id.* at 4.

212. *Id.*

213. *Id.* at 6–7.

214. *Id.* at 4.

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

216. 4 NIMMER ON COPYRIGHT § 13F.03 (2023).

infringing.²¹⁷ The spirit of the fair use doctrine promotes freedom of expression by permitting the use of copyrighted works for criticism, comment, news reporting, teaching, scholarship, or research.²¹⁸ Courts analyze four factors listed in the statute when employing fair use analysis: (1) the purpose and character of the use;²¹⁹ (2) the nature of the copyrighted work;²²⁰ (3) the amount or substantiality of the portion used;²²¹ and (4) the effect of the use on the potential market for or value of the work.²²²

The first factor speaks to transformativeness, which is whether the new work is a copy or added new expression or meaning.²²³ It also considers the commercial versus nonprofit character of the use.²²⁴ The second factor examines the type of work at issue and its copyrightable or uncopyrightable parts.²²⁵ The third looks at the amount of the original that was copied as well as the nature of what was used.²²⁶ Even using a small amount of another's work may not be fair use if what was taken is the "heart" of the work.²²⁷ The fourth factor inquires whether the owner of a work will be deprived of income or if their works will be displaced by the second-comer.²²⁸

1. Andy Warhol Foundation v. Goldsmith

As AI companies may rely on the fair use doctrine to challenge the validity of allegations against them in the class action suits,²²⁹ the May 2023 *Andy Warhol Foundation v. Goldsmith* ("AWF") decision will likely impact the AI debate.²³⁰ AWF is the Supreme Court's most recent decision regarding fair use in copyright.²³¹ While fair use typically goes through the aforementioned four-factor analysis, three of the four factors were not at issue so the Court's decision focused on the first factor: purpose and

217. 17 U.S.C.A. § 107 (West). *See generally* 12 NIMMER ON COPYRIGHT II (2023).

218. *See* 17 U.S.C.A. § 107 (West).

219. 17 U.S.C.A. § 107(1) (West).

220. 17 U.S.C.A. § 107(2) (West).

221. 17 U.S.C.A. § 107(3) (West).

222. 17 U.S.C.A. § 107(4) (West).

223. *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 578–79 (1994).

224. *Id.* at 584–85.

225. *Id.* at 586.

226. *Id.* at 586–88.

227. *Id.* at 587.

228. *Id.* at 590. The inquiry also considers the impact on the market for derivative works.

229. *See* Golriz Chrostowski, *Generative AI to Test the Boundaries of Fair Use*, BLOOMBERG L. (Nov. 5, 2023), <https://news.bloomberglaw.com/bloomberg-law-analysis/analysis-generative-ai-to-test-the-boundaries-of-fair-use> [<https://perma.cc/SJ6U-72VN>].

230. *Id.*

231. *See* 598 U.S. 508 (2023).

character of use.²³² Lynn Goldsmith, a prominent photographer, accused the AWF of infringing her copyright when it provided a work titled *Orange Prince* to Condé Nast for use in their retrospective publication honoring Prince after his passing.²³³ Goldsmith originally permitted Warhol to create an image based on her photograph of Prince for a magazine cover in the 1980s, but the permission was for one-time use, she received credit, and she was paid via a proper license.²³⁴ She did not know that Warhol had created a series of Prince portraits using her photograph from that license agreement.²³⁵ The use of *Orange Prince* for a magazine cover competed with her interests in using her photographs of Prince for the same purpose.²³⁶ AWF argued that its use of Goldsmith's photograph was a fair use because the silkscreened image had a new meaning as a "commentary on celebrity."²³⁷

The Court was unconvinced that differences in appearance alone made *Orange Prince* transformative.²³⁸ Warhol's artistic interventions on the photograph and recasting it to convey a "new meaning or message" was not sufficient for the transformativeness inquiry.²³⁹ This reasoning remains faithful to courts' long-standing rejections of subjective analysis of artistic merit in fair use cases.²⁴⁰ The Court restrained itself from the import of Warhol exceptionalism which would have risked relying solely on Warhol's fame and distinct style to find transformativeness.²⁴¹ It used Warhol's own corpus of works to distinguish why *Orange Prince* was not transformative in contrast to Warhol's *Soup Can Series*.²⁴²

The Court then shifted the focus of the inquiry to whether the use was for substantially the same purpose as the underlying work.²⁴³ The AWF used Goldsmith's photograph for commercial purposes in the form of *Orange Prince* as a magazine cover without the proper credit or licensing from

232. *Id.* at 515–16.

233. *Id.* at 522.

234. *Id.* at 515.

235. *Id.* at 518–19.

236. *Id.* at 526.

237. *Id.* at 540, 571–72.

238. *Id.* at 545–46.

239. *Id.* at 540, 546.

240. *Id.* at 544.

241. *Id.* at 538–41, 550.

242. *Id.* at 538–41. The Campbell's soup logo advertises the soup whereas Warhol's Series in this case does serve as a commentary on consumerism, thus copying and reproducing the logo was in part necessary to make such a commentary. By articulating this distinction the Court maintained that derivative works borrowing heavily from the original work can qualify as fair uses.

243. *Id.* at 533.

Goldsmith.²⁴⁴ The use of the work for such advertising and commercial purposes did not transform the work, rather the work was used in the same way Goldsmith used her own photographs.²⁴⁵ Absent some other justification for copying,²⁴⁶ the Court determined the AWF's use of *Orange Prince's* as a magazine cover did not constitute fair use.²⁴⁷

2. Fair Use and Technology

AWF is the latest articulation of the fair use doctrine as it relates to appropriation art. There is a line of precedent that considers the fair use doctrine as it applies to technology. Notable among those cases is *Authors Guild v. Google, Inc.*, decided in 2015 by the Second Circuit which originally heard *AWF*.²⁴⁸ Google made digital copies of tens of millions of books without the permission of rights holders.²⁴⁹ With those books, Google created an index where users could search for a term, and Google would populate books with that term and offer a snippet of text.²⁵⁰ Plaintiffs alleged the index was not transformative, and that even if copying is not found, Google's project infringed their derivative rights in search functions.²⁵¹

The court found the use transformative.²⁵² The purpose, they determined, was to make information about the books available to searchers without revealing more than is necessary for the searcher to determine if a source is within the scope of their interests.²⁵³ The amount of information revealed therefore is not a substitute for the work itself.²⁵⁴ The court noted that while Google did make unauthorized copies of the books in question, it did not reveal those copies in their entirety to the public, a distinction that mattered for the fair use analysis.²⁵⁵ Essentially, the "heart" of the works were not revealed to a user of the index, and searchers would still need to read and reference the book identified in the search result.²⁵⁶

Cases like *Google* and their application of the fair use doctrine are not inconsistent with the Court's overall decision and analysis in *AWF*. In *AWF*,

244. *Id.* at 534–38.

245. *Id.* at 535–38.

246. *Id.* at 532–33.

247. *Id.* at 551.

248. *See* 804 F.3d 202 (2d Cir. 2015).

249. *Id.* at 207.

250. *Id.*

251. *Id.*

252. *Id.*

253. *Id.* at 217–18.

254. *Id.* at 222.

255. *Id.* at 221–22.

256. *Id.* at 217–18.

the Court was less concerned with appearance and treated the type of use as the unit of analysis of the first factor, not unlike how the court in *Google* deemed Google's search index transformative.²⁵⁷ The compatibility of these decisions could be advantageous to AI companies as the cases look favorably on both technological developments and innovative uses of prior works, remaining faithful to Congress' intent for the Copyright Act to stay flexible in the face of advancements and innovations.

Generative AI is a disruptor technology. The legal system is currently feeling these disruptions as courts and regulatory institutions grapple with how to define authorship and to what extent a creator retains rights in their works when they use generative AI. Fair use, as the primary defense, is yet another piece of that puzzle as defendant AI companies and follow-on creators using AI technologies could turn to the doctrine for protection of their creative endeavors.²⁵⁸ Depending on how the courts rule on the merits of the IP claims in the class actions, fair use doctrine analysis may rise to prominence in subsequent cases challenging works produced either with the assistance of generative AI or entirely as an output.

III. TREADING CAUTIOUSLY TO PROTECT ARCHITECTS' RIGHTS

The Copyright Act built in flexibility for the advent of new technologies.²⁵⁹ Generative AI is the newest technology attempting to find synergy with the IP regime.²⁶⁰ Whether and how IP doctrine eventually accommodates generative AI has potentially vast implications in the tangible world and on the very industries that build and shape the built environment and communities, including architecture, engineering, and construction. While architectural works are somewhat different than PGS and literary works in their treatment in Copyright Act court precedent,²⁶¹ a court deciding on the merits of the class action claims should bear in mind the broader applicability of a decision to other forms of copyrightable subject matter. The task at hand is striking the right balance between enabling and encouraging the use of technology like generative AI without compromising the rights that architects deservedly have in their works so as not to stunt their continued innovations in meeting the needs of the cities and populations they serve.

257. See *Andy Warhol Found. for the Visual Arts, Inc. v. Goldsmith*, 598 U.S. 508, 511 (2023); see also *Google*, 804 F.3d at 207.

258. See Chrostowski, *supra* note 229.

259. 17 U.S.C.A. § 102(a) (West).

260. See Appel et al., *supra* note 18.

261. See *supra* Section I.B.

A. Generative AI Acutely Exposes an Unforgiving Infringement Standard

Scholars familiar with the nature of copyright protections in architectural works have analyzed court precedent and observed that copyright is quite thin.²⁶² David E. Shipley's 20-year retrospective of the passage of the AWCPA, published in 2011, welcomed the advent of rights for architects but queried the efficacy of architectural works' inclusion in the Copyright Act.²⁶³ Thirteen years later, that query remains valid. The efficacy of protections for architectural works has to overcome not only a hurdle of precedent that has thinned those rights, but also a new technology that has the potential to disrupt the current copyright regime.²⁶⁴

1. A Different Standard for Architecture

There is an unspoken comfort that many have with the idea that art, literature, and film are in constant dialog with the works of the past. For example, Edouard Manet's *Olympia* draws visual inspiration from Titian's *Venus of Urbino*.²⁶⁵ Titian's painting depicts the goddess Venus, nude, reclining sumptuously while looking coyly at the viewer.²⁶⁶ Manet's *Olympia* likewise depicts a reclining nude but with a confronting, confident gaze, and in an updated style with harsher lines instead of undulating curves. Manet added another key distinction; instead of depicting a goddess or presenting a classical, historical scene, he painted a prostitute.²⁶⁷ Manet echoed Titian's work to create a harsh break from tradition; the work was considered revolutionary.²⁶⁸

The dissent in *AWF* analyzes these two works and criticizes the majority's reductive attitude toward the tradition of drawing from the past to create a new expression.²⁶⁹ Justice Kagan argued that Warhol's *Orange Prince* was

262. David E. Shipley, *The Architectural Works Copyright Protection Act at Twenty: Has Full Protection Made a Difference?*, 18 J. INTELL. PROP. L. 1, 59–61 (2010).

263. *Id.*

264. *See supra* Section I.B.

265. Rosie Lesso, *What Was So Shocking About Edouard Manet's Olympia?*, THE COLLECTOR (Aug. 26, 2022), <https://www.thecollector.com/what-was-shocking-about-manets-olympia/> [https://perma.cc/CE2L-Y74W].

266. *See* Titian, *Venus of Urbino*, 1538. Oil on canvas, 119 x 165 cm, Florence, The Uffizi. <https://www.uffizi.it/en/artworks/venus-urbino-titian> [https://perma.cc/HK3N-DUJ7]; *see also* Manet, Edouard. *Olympia*, 1863. Oil on canvas, 130.5 x 191 cm, Paris, Musée d'Orsay. <https://www.musee-orsay.fr/en/artworks/olympia-712> [https://perma.cc/3TTZ-M7ZD].

267. *See* Lesso, *supra* note 265.

268. Lesso, *supra* note 265.

269. Andy Warhol Found. for the Visual Arts, Inc. v. Goldsmith, 598 U.S. 508, 588, 591–92 (2023) (Kagan, J., dissenting) (“Creative progress unfolds through use and reuse, framing and reframing: One work builds on what has gone before; and later works build on that one;

transformative.²⁷⁰ She acknowledged the amount of work Warhol put into his portrait of Prince, which created an aesthetically distinct image.²⁷¹ The visual differences are precisely what transformed the meaning of the work from Goldsmith's portrait of Prince the unique person, to Warhol's Prince the commoditized, larger-than-life celebrity.²⁷² To Justice Kagan, the commercial nature of the use as a magazine cover without proper licensing should not outweigh considerations of Warhol's artistry.²⁷³ In contrast to the majority, she defends the legal need for room for the evolution of images, both visually and culturally, so as not to strip artists of their rights when they break from convention and create something fresh from what is otherwise familiar.²⁷⁴

Architecture builds on and learns from the past in much the same way,²⁷⁵ but that inspiration and subsequent break from the past might not be as visually obvious as a side-by-side comparison of both Titian and Manet's works. Architects might layer in historical references in the detailing, craftsmanship, or ornament of either an interior or exterior in a way that evokes the past but is not in direct dialogue with it.²⁷⁶ In copyright law, there is an ambivalence toward a form of creative expression that is simultaneously practical. The language of the statute does not elevate one art form over another,²⁷⁷ but protection for more functional works, like architectural works, are limited by courts' application of copyright doctrine.²⁷⁸ Throughout the development of copyright doctrine, courts have taken care not to grant protection for functional aspects of works — designating ideas, publicly available information, tropes, standard features, and technological incorporations into artistic works uncopyrightable.²⁷⁹ The

and so on through time. Congress grasped the idea when it directed courts to attend to the 'purpose and character' of artistic borrowing — to what the borrower has made out of existing materials. That inquiry recognizes the value in using existing materials to fashion something new. And so too, this Court — from Justice Story's time to two Terms ago — has known that it is through such iterative processes that knowledge accumulates and art flourishes. But not anymore In declining to acknowledge the importance of transformative copying, the Court today, and for the first time, turns its back on how creativity works.”)

270. *Id.* at 559.

271. *Id.* at 565–66.

272. *Id.* at 566.

273. *Id.* at 575.

274. *Id.* at 559–60.

275. Kate Reggev, *In Praise of Precedent: How do Architects Use History for Inspiration?*, THE ARCHITECT'S NEWSPAPER (Feb. 26, 2020), <https://www.archpaper.com/2020/02/how-do-architects-use-history-for-inspiration/> [https://perma.cc/57K7-6XQB].

276. *Id.*

277. 17 U.S.C.A. § 102 (West).

278. *See supra* Section I.B.

279. As exhibited by the development of the idea-expression doctrine, merger doctrine, and separability.

patent regime exists for innovations of that ilk. With the inclusion of architectural works, boat hull designs, and computer programming in the Copyright Act, courts have had to draw difficult lines in analyzing forms of expression that exhibit creative underpinnings but serve a utilitarian function in the real world.

To determine infringement, the standard for architecture is substantial similarity, which means an architect plaintiff must prove the near identity of an allegedly infringing work.²⁸⁰ Unfortunately, courts have been reluctant to find infringement of architectural works, be it the drawings or the buildings themselves, largely because courts can lean on standard features and styles that have been used and developed over centuries to downplay an architect's creative interventions and innovations.²⁸¹ In the spirit of Justice Kagan's dissent in *AWF*, using the visual conventions of the past, or even commonly used features, should not automatically foreclose an architect's copyright interest at the expense of acknowledging the potentially unique way in which they used such aspects in a design. The "total look and feel" test adopted from *Tufenkian*²⁸² might have offered some respite for architects who draw from the standard to create something new, but even the court in *Shine*²⁸³ did not find infringement applying this standard. Despite architecture's incorporation into the Copyright Act as a protectable class of works, architects are left extremely vulnerable in light of the high bar for infringement. Close monitoring of the pending decisions regarding the merits of the IP claims in the current generative AI class actions is needed to see how they will impact the integrity of protections for architectural works and architects' rights.

Judge Orrick noted in *Andersen* that while Andersen's claims survive, he would need evidence of substantial similarity between outputs and her original works to find in her favor.²⁸⁴ The degree of similarity required between the output and the work for the output to survive as a non-infringing work is a pending question in the case. Judge Orrick's decision likely will

280. See 4 NIMMER ON COPYRIGHT § 13.03 (2023). There is a type of ratio relationship between creativity and the standard for substantial similarity. The more creative a work is, the less substantially similar the allegedly infringing work need be. The less creative, the closer the analysis gets to requiring near identity. Part of the rationale for architecture's relatively thin copyright protections stems from a building's inherent purpose as functional and inhabitable outfitted with standard features and in well-developed styles. There is a fundamental tension between the creative and functional aspects of architecture in the courts' eyes that in effect hamstrings plaintiff-friendly decisions.

281. See generally *Zalewski v. Cicero Builder Dev., Inc.*, 754 F.3d 95 (2d Cir. 2014).

282. See *supra* Section I.B.

283. See *supra* Section I.B.

284. *Andersen v. Stability AI Ltd.*, No. 23-cv-00201, 2023 U.S. Dist. LEXIS 194324, at *21–23 (N.D. Cal. Oct. 30, 2023).

not move the needle in terms of how stringently courts weigh a potentially infringing architectural work against the original work, given they already trend toward a requirement of near identity. However, judges deciding infringement cases involving generative AI should be cautious to not further weaken protections under the substantial similarity analysis such that the bar for architectural works, especially for drawings and renderings, becomes truly impossible to overcome.

2. *The Importance of Preserving the Integrity of Infringement Actions*

Generative AI technologies are accessible for use by the general public. Arguably, AI is democratizing creative expression through its accessibility.²⁸⁵ Someone who never took an art class or a creative writing class can prompt AI to create a painting or a poem. The AI technologies are making the works they are trained on publicly available for use to follow-on creators, a part of the incentive structure imagined and protected by the copyright regime; however, without proper compensation or acknowledgments for the original artists, the first piece of that incentive structure, grant of rights, is rendered meaningless. With rights come limitations for how others use a copyrighted work, but AI companies currently use works as though restrictions do not exist.²⁸⁶ The technologies present an acute risk to creators because the volume of prompts and amount of users widens the pool of outputs that can potentially infringe. As a result, creators' interests in their works can be continually diluted with each output. If AI-generated works in *Andersen* are ultimately not deemed infringing, outputs that are composites of known architectural plans present in the training database or that produce a similar but not identical plan to another's, will likely not infringe. A finding of non-infringement could give one architect a competitive advantage over another by permitting them to construct the output work. Of course, the generated output may not be eligible for copyright itself depending on the extent of documented AI use in producing it, but its lack of copyrightability has no bearing on the adverse effects on someone else's existing copyright interest.

Provided Andersen produces evidence to show substantial similarity, Stability AI will likely resort to a fair use defense to absolve it of potential liability for infringement. For the first factor of fair use analysis, *AWF*

285. *Democratized Generative AI: Empowering Creativity*, DATACENTERS.COM (Dec. 14, 2023), <https://www.datacenters.com/news/democratized-generative-ai-empowering-creativity> [https://perma.cc/AB7C-QW9C].

286. *See* Complaint at 1–2, *Andersen et al. v. Stability AI et al.* (N.D. Cal. Jan. 13, 2023) (No. 3:2023cv00201), ECF No. 1.

elevated the importance of commerciality, or market substitution.²⁸⁷ The Court scrutinized whether AWF's use of *Orange Prince* displaced Goldsmith's use of her own photograph and found it did.²⁸⁸ Among the allegations in *Andersen* is that works produced using the AI technology are then sold in competition with originals on third-party art sale platforms like DeviantArt.²⁸⁹ With AWF in mind, if a user of the AI technology prompts an output that bears the characteristics of an artist's works and then sells that output on the same platform as that artist, that would function as displacement. The output would divert sales away from the artist, and the generative AI companies would profit instead. In the aftermath of the AWF decision, a work of art created by generative AI without proper licensing bearing a visual resemblance to an artist's work sold on the same platform in competition with that artist will likely fail the purpose and character of use factor in the fair use analysis.²⁹⁰ In the case of architecture, a plan generated by AI that will then be used in the construction of a building that bears resemblance to that of an architect's original design might displace their work in the built environment.

While important, the allegedly infringing work's potential for displacement and subsequent commercial gain is only one part of the fair use equation. In *Google*, the court considered how much of an unauthorized copy was revealed to the public in Google's search function.²⁹¹ Google had unauthorized copies of works.²⁹² The public display was limited such that the previews Google provided users did not substitute for the original work.²⁹³ Rather, their use of those works enhanced a user's experience and facilitated the dissemination of information in a transformative way.²⁹⁴ The court recognized that value and deemed Google's use non-infringing fair use.²⁹⁵ After all, the core of copyright is the balance of protections for creators and access to users. Rights are granted, but with an eye toward the public's benefit.

287. *Andy Warhol Found. for the Visual Arts, Inc. v. Goldsmith*, 598 U.S. 508, 534–38 (2023). Market substitution is more typically scrutinized under the fourth factor: the effect of the use on the potential market for or value of the work.

288. *Id.*

289. See Complaint at 25, 32, *Andersen* (No. 3:2023cv00201).

290. This would be similar to how AWF used Goldsmith's image without proper licensing and subsequently profited from *Orange Prince*'s use as a magazine cover, which the Court ultimately deemed was not transformative.

291. See *Authors Guild v. Google, Inc.*, 804 F.3d 202, 221 (2d Cir. 2015).

292. *Id.*

293. *Id.* at 229.

294. *Id.* at 207.

295. *Id.* at 229.

Courts deciding the applicability of the fair use defense to generative AI might similarly be welcoming of the technological innovation that makes connections at lightning speed, answers questions quickly, and helps individuals express themselves creatively.²⁹⁶ Undoubtedly, generative AI companies have copied protected works without proper permissions. The diffusion technology used by StabilityAI draws from the works in the training database to create an output.²⁹⁷ How much of any given artist's original work is recognizable in the output? Or, in the framing of the *Google* court, how much of an artist's work is made publicly available? Substantial similarity analysis will answer these questions, but generative AI's use might still be fair. And yet, given how quickly generative AI can make connections across works in the training set and create an output, it disadvantages the artists whose works it has been trained on. One concern is that the AI will become so sophisticated that it can anticipate what artists might create and produce bodies of work in the artist's style before they even have the chance to create, putting them at a competitive disadvantage.²⁹⁸ Such a situation likely would run afoul of *AWF*.

Infringement and fair use as applied to generative AI will be argued and refined in the courtroom. Regardless of the outcome of the class actions on the merits, and despite the thin protections available to architects, infringement actions do and will have consequences in the tangible world

296. See Menand, *supra* note 41. Menand characterizes AI as the “latest in a line of innovations that have put pressure on copyright law.” Menand, *supra* note 41. The courts have previously been challenged to find accommodations for photography, radio, Xerox, streaming services, and internet search engines within the copyright regime. Menand, *supra* note 41. With the emergence of each new technology, artists voiced their concern about their IP rights. Menand, *supra* note 41. This is exemplified in The Buggles' 1979 hit “Video Killed the Radio Star,” written in reaction to the rise of MTV which includes these lyrics: “They took the credit for your second symphony / Rewritten by machine on new technology / And now I understand the problems you can see.” THE BUGGLES, *Video Killed the Radio Star*, on THE AGE OF PLASTIC (Island Records 1980). Each generation of creatives has had to confront its anxiety about technological innovations that have potential to threaten their work. The courts have solved for ways to balance rights and the consuming public's interests in the past. Menand queries whether generative AI systems are fundamentally different from search engines, or the project in *Google*, which are fair use. See Menand, *supra* note 41. Should creatives then continue to trust the courts as the proper institution for deciding how generative AI will factor into the copyright regime through fair use, or is there something profoundly different that makes generative AI a greater legal challenge that has the potential to undermine copyright law? Licensing agreements have solved for some of the tension between music companies and streaming services, for example. See Menand, *supra* note 41. Section III.C explores alternative legal mechanisms, but with respect to architecture, as demonstrated by *Zalewski*, where a licensing agreement was in place the court still failed to uphold the plaintiff architect's rights. See generally *Zalewski v. Cicero Builder Dev., Inc.*, 754 F.3d 95 (2d Cir. 2014).

297. See Complaint at 14–15, *Andersen et al. v. Stability AI et al.* (N.D. Cal. Jan. 13, 2023) (No. 3:2023cv00201).

298. *Id.* at 32, 37.

when brought to protect architectural work products. Injunctive relief is available to architects.²⁹⁹ A successful finding of infringement means a building under construction could be torn down.³⁰⁰ Tearing a building down has both economic and social consequences. First, it arguably wastes funds, from either a private or public source, used to construct the building.³⁰¹ Moreover, it means a project devoted to housing, office spaces, community centers, or other uses is halted, delaying that space's availability and potentially adding costs to finding a replacement plan or design.

B. What to Watch for When Using Generative AI in Architectural Practice

Generative AI needs to find its place in the IP regime, and courts will have to determine whether the technology will disrupt or coexist with the existing protections in place for creatives. In the meantime, architects continue to use generative AI technologies. A draw of the technology for professionals and average users alike is that generative AI platforms can materialize something otherwise imagined.³⁰² Generative AI, when prompted, expeditiously presents renderings.³⁰³ The rendering permits an architect to spend more time realizing their ideas in the physical world, streamlining the design and engineering processes.³⁰⁴ One architect, Victor Au-Yeung, noted that generative AI inspires him and enables him to redesign and reimagine cityscapes.³⁰⁵ While the AI projects may not come to fruition, they allow him to see the possibilities of the future in a place, to “think bigger and have fun.”³⁰⁶

Perhaps then generative AI can assist ambitious and visionary architects who help shape cities' identities. From a practical standpoint, generative AI can predict how buildings will perform in terms of energy efficiency and

299. Kyle R. Moore, *The Architectural Works Copyright Act: Can It Protect an Architect's State of the Art Development When Funded Through Federal Dollars?*, 22 MARQ. INTELL. PROP. L. REV. 309, 317 (2018).

300. *Id.*

301. *Id.*

302. Anna Fixsen, *The Room That Designed Itself*, ELLE DÉCOR (Feb. 1, 2023), <https://www.elledecor.com/life-culture/a42711299/generative-ai-design-architecture/> [<https://perma.cc/YB7A-TLQT>].

303. *Id.*

304. *Id.*

305. Adobe Communications Team, *Generation AI: Reimagining Public Spaces with Victor Au-Yeung*, ADOBE (Oct. 12, 2023), <https://blog.adobe.com/en/publish/2023/10/12/generation-ai-reimagining-public-spaces-with-victor-au-yeung> [<https://perma.cc/SW46-HE9Q>].

306. *Id.*

structural integrity.³⁰⁷ While projects are in the development stage, architects envision the technology's aid for critical decisions about floorplans, structure, and mechanical, electrical, and plumbing systems to avoid wasted resources, delays in construction, and unanticipated costs.³⁰⁸ The technology has potential to aid architects, as long as they know how to use it to streamline their design process without losing rights to their work product.

Interestingly, some architects have argued that drawing is a crucial part of architectural practice.³⁰⁹ They suggest that drawing unlocks the creative mind and can help architects better problem-solve or gain inspiration.³¹⁰ As a result, generative AI use has become controversial in the field.³¹¹ One of the advantages of generative AI is its construction as a neural network.³¹² It can process vast amounts of information and draw connections between the repositories it is trained on. This, of course, lends itself to the expediency in producing renderings when prompted. Until generative AI evolves to gain some autonomy, it is limited by what exists in the repository,³¹³ much like a human is limited by knowledge gained throughout one's lifetime. There is a risk that generative AI will homogenize architectural styles and designs.³¹⁴ Homogenization jeopardizes an architect's copyright interest in their work as it might serve to undermine the modicum of originality necessary.

307. Patrick Murphy, *The Integration of Generative AI into the Architectural Design Workflow*, MAKET.AI, <https://www.maket.ai/post/the-integration-of-generative-ai-into-the-architectural-design-workflow> [<https://perma.cc/ZS3D-HHYM>] (last visited Mar. 8, 2024).

308. See Iorio, *supra* note 43.

309. See Imber, *supra* note 45; see also Wendy Wheeler Martinez, *Design Process: The Power of Drawing in Architecture*, ARCHITECTURE IN PROGRESS, <https://www.dpsdesign.org/insights/design-process-the-power-of-drawing-in-architecture/> [<https://perma.cc/Z583-NNZA>] (last visited Feb. 29, 2024).

310. See Imber, *supra* note 45; see also Martinez, *supra* note 309.

311. See Fixsen, *supra* note 302.

312. See *supra* Section I.A.

313. See Murphy, *supra* note 307; see also Amended Complaint at 1, Andersen et al. v. Stability AI et al., at 4 (N.D. Cal. Nov. 29, 2023) (No. 3:2023cv00201) (“But ‘artificial intelligence’ is a misnomer. The AI image products at issue in this complaint are all built around the same asset: human intelligence and creative expression, in the form of billions of artworks copied from the internet.”).

314. See Murphy, *supra* note 307. If generative AI draws from a certain image set in its training database, its outputs will exhibit those details. It cannot yet take what is in the repository and create something entirely new. Therefore, when prompted to create architectural renderings, there is a risk that architects might be shown the same or similar designs, or use similar features, which will keep them working in already existent styles and designs instead of pushing the envelope. A novel style would merit copyright, but using features that are already standard undermines the designation of a right.

I. AI's Limitations in Design Capabilities

For an example of the homogenization risk, generative AI was recently used to generate 17 designs for tiny houses to show the future of design in that space.³¹⁵ Booming in the 2000s, the tiny house lifestyle centered minimalism in terms of both a home's geographic footprint and resource use.³¹⁶ For these reasons, tiny houses are often included as a potential solution for affordable and sustainable housing.³¹⁷ A tiny living blog prompted generative AI to design tiny houses set in forested and mountainous areas.³¹⁸ Of the 17 houses, 15 had the same basic house design.³¹⁹ Variation comes in the form of a dormer, a dormer with an addition, a second floor, different porch sizes, and window styles, all of which would not be copyrightable under current precedent.³²⁰ The houses each look like log cabins or alpine-style houses that consumers are already familiar with.³²¹ House 17 built next to a brook has a raised foundation supported by wood stilts,³²² instead of a pier and beam foundation ideally used in areas prone to flooding,³²³ demonstrating AI's inability to consider a potential flood risk and the house's ability to withstand a storm surge. Many of the houses have raised foundations with crawl spaces, an invitation to animals to nest underneath.³²⁴ House 11 features a set of two stairs leading to a large window.³²⁵ The designs need refinement, and an architect can supply solutions to make these homes in the real world, but the generative AI designs would compromise architects' rights in the work given the continued and uncreative use of the log cabin appearance expected of homes in a forested or mountainous area.

315. *17 Tiny House Designs Pushing the Boundaries with AI*, LIVING IN A TINY (Oct. 18, 2023), <https://livinginatiny.com/17-tiny-house-designs-pushing-the-boundaries-with-ai/> [https://perma.cc/R2WP-JF5P].

316. Eve Andrews, *What Ever Happened to the Tiny House Movement?*, WIRED (Sept. 2, 2023), <https://www.wired.com/story/what-ever-happened-to-the-tiny-house-movement/> [https://perma.cc/BB2P-2HZN].

317. Paula Carrizosa, *Could Tiny Homes Be the Adorable, Affordable and Sustainable Housing That Our Planet Needs?*, TED (Sept. 10, 2023), <https://ideas.ted.com/impact-of-tiny-homes-on-the-environment-and-affordable-housing/> [https://perma.cc/XBA4-HSNC].

318. *See 17 Tiny House Designs Pushing the Boundaries with AI*, *supra* note 315.

319. *See 17 Tiny House Designs Pushing the Boundaries with AI*, *supra* note 315 (houses 1, 2, 3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, and 17).

320. *17 Tiny House Designs Pushing the Boundaries with AI*, *supra* note 315.

321. *17 Tiny House Designs Pushing the Boundaries with AI*, *supra* note 315.

322. *17 Tiny House Designs Pushing the Boundaries with AI*, *supra* note 315.

323. FED. EMERGENCY MGMT. AGENCY, BUILDING THE CASE FOR OPEN SPACE (FOUNDATIONS) (2023).

324. *See 17 Tiny House Designs Pushing Boundaries with AI*, *supra* note 315.

325. *17 Tiny House Designs Pushing the Boundaries with AI*, *supra* note 315.

While architects are similarly limited by what they have studied and their own knowledge, they draw inspiration from what they see around them in a way AI cannot do. It is doubtful whether generative AI is truly capable of creating something novel or original for the architect without extensive guidance in the form of multiple prompts. Generative AI might have been a dream for an architect like Le Corbusier, an early proponent of mass-produced architecture during the early 20th century,³²⁶ but at that time, architects did not have rights in their works so the calculus of efficient and functional designs weighed against originality was different. Le Corbusier famously wrote: “[m]ass production demands a search for standards, and standards lead to perfection.”³²⁷ Standards also lead courts to find a lack of copyrightability. For now, architects will likely be better off creating on their own and using generative AI to assist with certain formalities of a building, like whether a shape is physically feasible, what kind of support systems are needed for certain materials, and other practical decisions that transform 2D renderings into 3D buildings that are already not copyrightable.

Returning to the tiny houses, AI can assist architects in solving for problems of functionality and space that come with designs of limited square footage.³²⁸ Interior renderings generated by AI can show furniture placement that optimizes utilization of the space, and can tailor interiors or solutions to individuals’ preferences increasing the overall attractiveness of these compact houses which could pave the way in the future of sustainable house design.³²⁹ AI can help architects construct their vision, but using it in an assistive capacity, rather than as the primary design source, limits the potential compromising of their rights.

2. *Can and Should AI Replace Human Creativity in Fields Like Architecture?*

A pressing example illustrates the vulnerability of architects’ rights and the potential consequences of decisions weakening copyright protections against AI works for a collective interest: the climate crisis. Architects already consider the role they can play to respond to threats posed by climate

326. Julia Josen, *Le Corbusier’s Influence in Architecture Through Mass Production and Digital Fabrication*, ARCHDAILY (Jan. 30, 2022), <https://www.archdaily.com/975989/has-the-influence-of-mass-production-in-architecture-resulted-in-an-impooverishment-of-design> [https://perma.cc/WXH3-Y5FR].

327. *Id.*

328. Yusuf Aşık, *Redefining Tiny House Design: The Fusion of Artificial Intelligence and Minimalistic Living*, MEDIUM (July 5, 2023), <https://medium.com/@yousefasik/redefining-tiny-house-design-the-fusion-of-artificial-intelligence-and-minimalistic-living-c96dc464cfda> [https://perma.cc/P8WY-8SQ6].

329. *Id.*

change.³³⁰ As the consequences of climate change continue to worsen, it will become more commonplace for architects to address global vulnerabilities in their designs. An architect living and experiencing the climate crisis might turn to AI technologies³³¹ for a quick review of materials that are feasible to use in a certain area, like materials that can withstand heat, are stable in earthquake zones, or construction methods that are water or flood resistant.

Architects' experiences of the climate crisis will shape the inquiries they present to AI. Much like how it does not understand the futility of adding a staircase leading to a window, AI will never experience the climate crisis in the same way humans do. It can help humans problem-solve and find information quickly to support ideas for how to confront the crisis, but it will not autonomously address an issue of this scale, at least not in its current form.³³² AI cannot substitute for how an architect sees the world and their role in shaping it. In fact, it might even be inept to design with the unique characteristics of a specific site, like topography, or a circumstance like earthquake vulnerability, in mind and therefore produce inappropriate designs that cannot substitute for an architect's critical approach to their work.³³³

Court precedent in the area of architectural infringement poses a challenge to architecture's response to the climate crisis. Architects will have to design with typography in mind. They will have to design with certain building materials and use specific processes to create structures able to withstand harsh elements or unpredictability in weather patterns. The court in *Zalewski* considered those decisions uncopyrightable.³³⁴ Designing for a specific topography, for example, necessarily employs similar designs, so granting copyright would limit a follow-on architect when faced with a similar task. While it makes sense, perhaps this view of architectural design is too stringent. Problem-solving is part and parcel of architectural practice, but the challenges architects think through when creating renderings and ultimately buildings require creativity and flexibility that should be

330. Lizzie Crook, *Ten Ways in Which Architecture Is Addressing Climate Change*, DEZEEN (Apr. 22, 2021), <https://www.dezeen.com/2021/04/22/architecture-climate-change-earth-day/> [<https://perma.cc/MWZ6-7SWB>].

331. See Fixsen, *supra* note 302 (“[G]enerative AI might hold the key to unlocking solutions for equally powerful and fast problems, like the climate emergency, our housing crisis, or social justice.”).

332. Fixsen, *supra* note 302. AI might hold the key to tackling problems like both the climate housing crises, but it is still a long way away from realizing buildings with “the push of a button.” See Fixsen, *supra* note 302.

333. See Murphy, *supra* note 307; see also *17 Tiny House Designs Pushing the Boundaries with AI*, *supra* note 315 (lacking consideration of the proximity to a water house).

334. *Zalewski v. Cicero Builder Development, Inc.*, 754 F.3d 95, 106 (2d Cir. 2014).

rewarded. When considering architectural responses to the climate crisis, architects will have to evaluate the part of the world they are working in, the current terrain, vulnerabilities to certain weather patterns or natural forces like erosion, materials that can regulate temperature or that prove durable. Under current precedent, these decisions are necessarily uncopyrightable.³³⁵ The ungenerous view the courts have taken of an architect's designs and choices render solutions uncopyrightable. It begs the consideration of whether architectural works are compatible with the overall spirit of copyright, given the courts' reluctance to continually find functional properties in works to overshadow an architect's rights.

Generative AI further complicates these rights. Too much reliance on generative AI risks a loss of copyright in a work. Architects have to consider the question of authorship and diligently file their registrations with proper disclosures of how and where they used AI in their works. If they integrate AI designs into renderings, that can further weaken already-thin protections. A decision against the plaintiffs in the class action lawsuits with respect to their copyright claims could vastly undermine the motivation for architects to be part of a global solution to climate change by adding yet another hurdle to their achievement of rights in their own works. If architects are aware that a follow-on creator using generative AI can copy their designs in almost their entirety without consequence, architects might be more hesitant to try to come up with innovative designs and solutions.

As raised in the Introduction, architecture also has ideological meaning beyond the practical. Architects have built the identities of cities.³³⁶ They recognize periods of prosperity, tragedy, and development and respond in turn with their designs to commemorate the stages of a city's experiences.³³⁷ Generative AI might be able to assist in some way, but it cannot be approached with a commission and dream up the Freedom Tower like Childs.³³⁸ In its current form, generative AI technologies can create outputs but those outputs, without significant prompts and human direction, cannot reflect the emotions or experiences an architect and their building is trying to reflect upon and capture.³³⁹ The IP regime encourages architects to create with the public in mind, so courts should be wary of jeopardizing their protections. The currently pending class actions concern literature and the visual arts. The decisions made, however, have an impact on the remaining

335. See cases cited *supra* Section I.B.

336. See Imber, *supra* note 45.

337. Imber, *supra* note 45.

338. See *supra* Section I.B.

339. See Imber, *supra* note 45. Imber, writing before the advent of AI, already queried whether other forms of technology introduced into architectural practice undermined the ability for architects to understand humanity through building.

classes of protected works under the Copyright Act because they will set a precedent for how courts view AI's role within the legal regime. Literature and art differ critically from architectural works: architecture is something the public lives in, works in, and interacts with daily.

C. Potential Legal Protections Outside of Copyright

A synergy between architecture, generative AI, and legal protection is possible to achieve, though it is complicated. As architects experiment with new building materials or home styles, other IP protections will potentially be made available. For example, industrial design registrations and design patents protect non-functional features of a work.³⁴⁰ If an architect integrates ornamental elements into the exterior or interior of a building, the building may merit protection under the design patent regime.³⁴¹ Where copyright is unavailable for standard features, if architects innovate those features beyond something obvious to other architects or engineers in the field, in an original way to serve a functional purpose, utility patent protection might be merited.³⁴² In time, trademark might also protect architectural works.³⁴³

340. *Industrial Designs*, WIPO, <https://www.wipo.int/designs/en/> [<https://perma.cc/W4EQ-8QJJ>] (last visited Feb. 29, 2024).

341. *See id.*

342. See Kathleen McGarvey, *How Patents Transformed the World of Architecture*, UNIV. ROCHESTER (Apr. 8, 2021), <https://www.rochester.edu/newscenter/how-patents-transformed-architecture-473612/> [<https://perma.cc/9MF4-VUUD>]. If an architect has used generative AI technologies to help them problem solve and innovate an otherwise standard feature, a question could arise as to whether or not that is non-obvious. A discussion of how generative AI interacts with the patent regime is outside the scope of this Note but is something for practitioners to be aware of. Also outside of the scope of this Note are green patents, which are granted specifically for environmentally friendly technologies.

343. Trademark is outside the scope of this Note. However, buildings are subject to trade dress protections within the trademark regime. *See generally* *Two Pesos, Inc. v. Taco Cabana, Inc.*, 505 U.S. 763 (1992). Trademark is a way to protect interests in buildings otherwise not eligible for copyright. For example, the Chrysler Building's spire is trademarked, though the building itself was constructed prior to the AWCPA's passage in 1990 and therefore outside the timeline of copyright's applicability. *See generally* Lucia Sitar, *The Sky's the Limit? The Emergence of Building Trademarks*, 103 DICK. L. REV. 821 (1999). When a building is trademarked, creatives like filmmakers, video game producers, designers, and others aiming to use images of the iconic buildings need to get a license to use the buildings' form. *See Trademark Protection for Architectural Works & Other Designs*, FASTHOFF L. FIRM PLLC (Feb. 26, 2017), <https://www.fasthofflawfirm.com/trademark-protection-architectural-works-designs/> [<https://perma.cc/8B9N-WFUL>]. Again, trade dress is outside the scope of this Note because ownership of the mark belongs to the owner of the building, *see id.*, and the incentive structure in trademark is different from the core balance of both copyright and patents which strive to propel innovation and creativity while maintaining the public's interests; but it is still important to note. The *Getty Images v. Stability AI* case raises claims under the Lanham Act, the primary body of law that governs trademark protections. *See* Complaint at 4, *Getty Images (U.S.), Inc. v. Stability AI, Inc.* (D. Del. Feb. 3, 2023) (No. 1:2023-cv-00135), ECF No. 1. The outcome of *Getty* could have implications on how trademark and generative AI interact

Outside of the IP regime, other legal protections might be available to architects. A criticism of generative AI is that inputs are used to further train language learning models. If an individual inputs their biometric data for example, that information gets collected and can inadvertently be released to another individual in an output.³⁴⁴ This gives rise to generative AI's ability to create deepfakes, images, videos, and audio in the likeness of an individual.³⁴⁵ In industries, if an individual shares a trade secret with AI, that information can inadvertently be released to a competitor.³⁴⁶ An architect using AI technologies in the workplace will want to work with their AI provider to draft provisions into the contract to guard their work product. Non-disclosures and negotiated security protocols can be put in place that in effect block inputs from being banked for future training purposes.³⁴⁷ With developments in AI firewall technology, it will become increasingly feasible for companies to negotiate the inclusion of a firewall service that will prevent prompts generated by employees and any company data or trade secrets from entering the knowledge base of a public AI model.³⁴⁸ Specifications in the contract about what can be stored for training purposes are critical in guarding any works generated by architects for ongoing projects to mitigate the potential sharing of their work product or any other trade secrets to competitors or the public at-large.

AI is still largely imprecise. To produce *Théâtre D'opéra Spatial*, Jason Allen had to try over 600 prompts to yield a work of art that matched his

in the legal scope, so while protections under the trademark regime might become available to architects for distinctive works, further exploration and attention is needed to see how AI could similarly complicate those. Generative AI has the capacity to produce films, art, and other visual forms of media, so it has a direct impact on a trademark holder's potential ability to continue to protect what they value in a building. While the copyright protections might be more compelling in terms of incentivizing architects to envision and build apartments, housing complexes, and other structures that respond to societal needs, trademark is its foil in the world of defining a city, and courts should want to protect the integrity of mechanisms like trademark that incentivize well-resourced individuals to purchase and maintain historic structures.

344. Joel R. McConvey, *Generative AI Raises Questions about Biometric Security*, BIOMETRIC UPDATE (June 1, 2023), <https://www.biometricupdate.com/202306/generative-ai-raises-questions-about-biometric-security> [https://perma.cc/M99K-S2G8].

345. *See id.*

346. Joshua Weigensberg & Kate Garber, *Risks That Generative AI Poses to Trade Secret Protections*, LAW.COM (June 9, 2023), <https://www.law.com/legaltechnews/2023/06/09/risks-that-generative-ai-poses-to-trade-secret-protections/?slreturn=20231029192600> [https://perma.cc/8SBR-9JNR].

347. *Three Steps for Safeguarding Trade Secrets in the World of Generative AI*, DAVIS POLK (Nov. 29, 2023), <https://www.davispolk.com/insights/client-update/three-steps-safeguarding-trade-secrets-world-generative-ai> [https://perma.cc/YL97-2SS2].

348. David Gewirtz, *How AI Firewalls Will Secure Your New Business Applications*, ZDNET (Mar. 12, 2024, 10:29 AM), <https://www.zdnet.com/article/how-ai-firewalls-will-secure-your-new-business-applications/> [https://perma.cc/82N2-Q4E9].

creative vision.³⁴⁹ Architects might have to work with multiple prompts to receive the information they want from generative AI to assist in their renderings of buildings. In doing so, they might share the image of the plan to the AI as part of the prompt. Without proper protections, that image of their plan gets stored for training, increasing the risk of it being shared and eventually copied. The firewall feature in theory should protect against such risks. It might also be worth it for architects to explore anti-competition provisions in any contracts with generative AI providers.

These contractual solutions do not grant architects the same rights in their work product as the copyright regime does. However, where copyright is thin and vulnerable to generative AI, contract provisions create remedies and build out a mechanism for indemnification if information is released in breach of the contract. Where the law might not protect the work product under copyright, the ability to recover monetarily at least protects the architect even if they lose interest in the work they have created.

The inclusion of architectural works in the Copyright Act signaled Congress' acknowledgment that architecture has creative elements that should be protectable in some way.³⁵⁰ Copyright seemed the natural fit for such protections, given it spans other creative fields. However, in the 24 years since the passage of the AWCPA, courts have repeatedly diluted architects' rights in their work, struggling to separate the functional from the expressive. This has resulted in architectural works' thin copyright protections, which begs the question of whether copyright was ever an appropriate home for architects' rights in their work product. Generative AI has only exposed the deficiencies in copyright precedent related to architectural works in respecting and granting such protections. Not only that, generative AI has the potential to further exacerbate the dire state of copyright protections available for architectural works.

Society will rely on architects to drive creative building solutions in the face of unprecedented global changes to the environment and climate. AI can help. However, designed responses, whether relying heavily on AI-generated designs or not, may not be copyrightable. Core to the copyright regime is the incentive structure.³⁵¹ The goal is to incentivize creativity and creation without compromising the public's interest. By granting rights in works, the copyright regime then makes information available for public enjoyment and use within reason. As the global population increases in tandem with the environmental challenges facing it, incentives for architects

349. *See* Re: Théâtre, *supra* note 204, at 2.

350. *See supra* Section I.B.

351. *See supra* Section I.B.

to continue their role as problem-solvers for the masses should be respected and welcomed.

CONCLUSION

Architecture marries creativity and function, but it is an immersive and interactive art form. From the floor plan to the decorative elements in a built interior to the presentation of the exterior, an architect carefully designs and curates everything, just as a painter decides a subject, medium, colors, and style. The decorative features make a building desirable to certain individuals, just as collectors of art can be drawn to distinct movements or eras in art history. Buildings are not only a reflection of an architect's vision, but also mix with peoples' identities and play their part in shaping lived experiences.

While architecture involves mathematics, science, and engineering to bring a vision from the page into the built environment, the choices an architect makes demonstrate artistry, thoughtfulness, and creativity. It is that creativity that earned architectural works protection under the copyright regime, but it is the practicalities of bringing a design into the real world that give courts pause and consequentially stunt architects' protections. The copyright system continually fails to protect the artistry of architecture.

Generative AI has captivated users and has become a wonder akin to New York City's first skyscrapers: a technological and in some ways creative feat. Like those skyscrapers, it will endure. In its current form, it responds to users based on data in its training sets, and also learns from user inputs. It is shaped by its time and place. Right now, generative AI technologies rely on what exists in the training databases, which includes images of buildings that architects have made. The hope is that AI will evolve to understand the needs of a constantly changing society to become an assistive tool to architects, but there is a potential that the tool can come to replace the very people who build the fabric of society, divesting them of their rights under the existent legal regime. The courts, as architects of the law, will decide whether generative AI can coexist with an already-established legal system and how. To facilitate generative AI's timelessness and preserve architects' rights in their works, the courts' task merits the same thoughtfulness, consideration, and creativity that architects use to shape communities, respond to society's values, and tackle the needs and challenges of the future.