Play It Again, HAL: Evaluating Fair Use in Generative Music Artificial Intelligence Training

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Abstract

This paper evaluates fair use in the context of the training process for generative music AI systems, such as those creating text-to-music, voice-to-music, instrumental-only, lyrics-only, and other outputs. Training data for such systems is comprised of musical compositions and sound recordings, much of which is under copyright. This paper considers the four fair use factors and how courts may weigh them in favor of, or against, fair use in the unauthorized copying of copyrighted works for music AI training. This paper adopts the approach outlined in *Andy Warhol Found. for the Visual Arts v. Goldsmith*, 598 U.S. 508 (2023) for the first fair use factor, which emphasizes proper framing of the specific use and the purpose of the allegedly infringing secondary work at issue—here, the generative music AI system and its use by end-users. This paper will consider three possible views of the purpose of a generative music AI system (as a tool, as entertainment, and as functional music) and illustrate how each framing may influence the analysis of each fair use factor and the ultimate result of the fair use inquiry.

About the Author

The author would like to note that this article was written in early 2025. At the time of publication, major record labels Universal Music Group and Warner Music Group have partially settled their lawsuits against Suno and Udio, two music AI companies discussed in the article. Both labels have entered into licensing deals with one or both of Suno and Udio, allowing the AI companies to train their models on music owned or controlled by the labels.

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I. Introduction

Since the birth of artificial intelligence (AI) over 70 years ago, music has been deeply entwined with its evolution. From Alan Turing's musical experiments on his Manchester Mark II computer[1] to HAL-9000's swan song in Stanley Kubrick's *2001: A Space Odyssey*,[2] the convergence of music and AI has long captured the imaginations of computer science experts and enthusiasts alike. Perhaps this is because music is a fundamentally human phenomenon—a product of uniquely human intelligence. Throughout human history and across all cultures, humans have made music; and only humans have made music.[3] Music is one of the first things that human minds perceive as infants and one of the last things that human minds hold onto in old age.[4] Thus it is no wonder that artificial intelligence—purposed to mimic human cognition—is so engaged with learning and creating music. As music creation is one of the most complex processes in which a human brain engages,[5] it is also one of the most complex areas of AI, particularly generative AI.[6]

Generative AI, a type of AI technology that generates new and expressive content using patterns and predictions "learned" from existing data, has advanced at an astonishing pace over the last decade. While sophisticated generative image and text systems are already in widespread commercial and recreational use, generative music AI is still in its nascency. Particularly challenging is the large amount of high-quality data and computing power required to "train" (that is, teach) a generative music AI system.[7] Training data generally consists of materials of the same type as the output; some materials are

1. *See* Jack Copeland & Jason Long, *Restoring the first recording of computer music*, Brit. Libr. Sound and Vision Blog (Sept. 13, 2016), https://blogs.bl.uk/sound-and-vision/2016/09/restoring-the-first-recording-of-computer-music.html.
2. 2001: A Space Odyssey (Metro-Goldwyn-Mayer 1968).
3. *See* Psyche Loui, *How Music Makes Us Human*, Ne. Univ. MIND Lab'y (Dec. 6, 2018), https://web.northeastern.edu/mindlab/how-music-makes-us-human.
4. *See* Michael Trimble & Dale Hesdorffer, *Music and the brain: the neuroscience of music and musical appreciation*, 14 BJPsych International 28, 30 (May 2017).
5. *See Former Max Planck Research Group Neurocognition of Music*, Max Planck Institute For Human Cognitive and Brain Sciences, https://www.cbs.mpg.de/former-groups/neurocognition-of-music [https://perma.cc/D2SZ-3K9F].
6. *See* Kyle Wiggers, *Google created an AI that can generate music from text descriptions, but won't release it*, TechCrunch (Jan. 27, 2023), https://techcrunch.com/2023/01/27/google-created-an-ai-that-can-generate-music-from-text-descriptions-but-wont-release-it; *see also Transforming the future of music creation*, Google DeepMind Blog (Nov. 16, 2023), https://deepmind.google/discover/blog/transforming-the-future-of-music-creation.
7. For comparison, the fourth iteration of the popular ChatGPT AI language system was reportedly trained on one petabyte of text data (roughly equivalent to 500 billion pages of standard printed text) sourced from the open Internet and other undisclosed sources. *See* Kali Hays, *OpenAI's GPTBot and other AI web crawlers are being blocked by even more companies now*, Business Insider (Sept. 28, 2023), https://www.businessinsider.com/openai-gptbot-ccbot-more-companies-block-ai-web-crawlers-2023–9 [https://perma.cc/3YWB-UA73].

in the public domain and some are under copyright. For music AI systems, this training data is comprised of musical compositions and sound recordings, much of which is under copyright.[8] Given the massive quantity of data necessary to train a generative AI system, creators of AI systems across the board are obtaining training data without permission from the copyright owners.[9] Over the past few years, owners of copyrighted works in various domains have filed a bevy of copyright infringement lawsuits in federal court against technology companies that used their works to train generative AI systems.[10] A key defense asserted by defendants to the copyright infringement claims is that of fair use.[11]

This paper will analyze fair use in the context of the training process for generative music AI systems. I will consider the four factors of the fair use defense and how courts may weigh them in favor of, or against, finding fair use in the unauthorized copying of copyrighted works for music AI training. The four fair use factors are: "(1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes; (2) the nature of the copyrighted work; (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and (4) the effect of the use upon the potential market for or value of the copyrighted work."[12] As part of the factor-by-factor inquiry, this paper will analogize to and distinguish from precedent fair uses cases, with an emphasis on cases involving technology.

In analyzing the first factor, I adopt the framework outlined in the most recent U.S. Supreme Court decision concerning fair use, *Andy Warhol Found. for the Visual Arts v. Goldsmith*, 598 U.S. 508 (2023) ("*Warhol*"), which emphasizes

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8. *See* American Society of Composers, Authors and Publishers, Comments in the Matter of Artificial Intelligence and Copyright (No. 2023-6) (Oct. 30, 2023), https://www.ascap.com/~/media/files/pdf/articles/2023/ascap-comments-to-us-copyright-office-on-generative-ai.pdf.
9. *See id.; see also* Answer of Defendant Suno, Inc. to Complaint at 8–9, UMG Recordings, Inc. v. Suno, Inc., No. 1:24-cv-11611 (D. Mass. Aug. 1, 2024); Answer of Defendant Uncharted Labs, Inc. to Complaint at 8–10, UMG Recordings, Inc. v. Uncharted Labs, Inc., No. 1:24-cv-04777-AKH (S.D.N.Y. Aug. 1, 2024); Memorandum of Law in Support of Defendant's Motion to Dismiss at 3, Concord Music Group, Inc. v. Anthropic PBC, No. 3:23-cv-01092 (M.D. Tenn. Nov. 22, 2023).
10. As of March 2025, nearly 30 separate cases have been filed, of which three are music-specific cases. *See e.g.*, *Anthropic PBC* (M.D. Tenn.) (where music publisher plaintiffs alleged copyright infringement by defendant who copied musical compositions for use in training of language-based generative AI system); *see also Udio*, (S.D.N.Y) *and Suno* (D. Mass.) (where music recording companies alleged copyright infringement by defendants who copied musical recordings for use in training of generative music AI systems).
11. *See e.g.*, Defendant Anthropic PBC's Opposition to Plaintiffs' Motion for Preliminary Injunction, *Anthropic PBC* (Jan. 16, 2024); *see also Suno* Answer; *Uncharted* Answer.
12. 17 U.S.C. § 107 (2018).

proper framing of the specific use and the purpose of the allegedly infringing secondary work at issue.[13] For this paper, the specific use is the training of a generative music AI system. This paper will perform a factor one analysis under three different framings of the purpose of such a system: (1) a tool-based framing under which the purpose of the music AI system is to serve as a tool to musicians for creating new music, (2) an entertainment-based framing which suggests that the music AI system serves an entertainment purpose, and (3) a functional music framing under which the music AI system fulfills a specific functional purpose. This paper shows how, under the *Warhol* framework, the outcome of factor one depends greatly on the framing of the purpose of the music AI system. A tool-based framing, which juxtaposes the original works against a software tool, yields a stronger fair use determination under factor one than does an entertainment-based framing, which compares the original musical works against synthetically generated musical works. A functional music framing is highly dependent on the specific uses of the original and secondary works in each case.

Under factor two, the copying of highly creative works (like music) generally disfavors fair use. However, factor two is likely to be of little effect in the fair use inquiry here, as courts have routinely dismissed its influence in cases where a secondary use requires mass copying of creative works. Under factor three, the greater the quantity or value of a copyrighted work that is taken and made available to the public, the less likely the factor favors fair use. Nevertheless, copying may be justified if it is necessary for the purpose of the secondary use. Because the entirety of sound recordings and music compositions are copied for music AI training without a strong justification of necessity, and because evidence demonstrates that the outputs of music AI systems often reveal significant portions of the original works to the public, factor three would likely weigh against fair use.

Factor four also depends on the purpose of the secondary use, and turns on whether the secondary use substitutes for the original work in the original work's primary and derivative markets. Under the tool-based framing, a music AI tool likely does not substitute or harm the original works' primary market of entertainment, but it likely does harm burgeoning derivative markets, like AI-specific licensing and the rights owners' own creation of AI tools. Under an entertainment-based framing, the output of music AI tools directly substitutes for the original works, resulting in factor four harm. Under the functional music framing, because there exists a robust music licensing market for a variety of functional uses, a court could likely find substitutive effect in any instance where an existing or viable licensing alternative exists.

Ultimately, the outcome of the fair use inquiry is highly dependent on the specific facts of a case and the framing adopted by the court.

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

II. Generative AI in Music

A brief explanation of the technology behind generative music AI systems is warranted before discussing the underlying copyright issues. AI is a field of technology concerned with enabling machines to mimic human cognitive functions to perform tasks.[14] Generative AI is a subfield of AI that utilizes machine learning to generate new content that is intended to be indistinguishable from content created by humans.[15] Machine learning is an AI technique where "models" are developed to "learn" patterns from a set of data and make predictions based on these learnings.[16] Generative AI goes one step further than just making predictions from data—it generates new data that imitates the data from which it "learned."[17] Generative AI utilizes an advanced machine learning technique called "deep learning" to create models that can generate human-mimicking outputs.[18] Whereas traditional machine learning requires human intervention to designate distinguishing features in a data set before a model can learn patterns, deep learning enables a model to automatically learn patterns and automatically refine its learning using a method of learning called "neural networks."[19] Neural networks process information in layers, where each layer detects patterns and refines them, similar to how the human brain operates.[20] This "learning" process in generative AI models is called "training."[21] Put simply, training of a model involves copying data from a data set, running the model to identify and create rules from patterns in the data, and then iteratively feeding the data back through the model to refine those rules and generate output that more and more closely resembles the original data.[22] Because of

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14. *See* McKinsey & Company, *What is AI?* (Apr. 24, 2023), https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-ai [https://perma.cc/P9KN-9E54].
15. *See* Anish Purohit, *AI, ML, DL, and Generative AI Face Off: A Comparative Analysis*, Synoptek Blog (July 25, 2023), https://synoptek.com/insights/it-blogs/data-insights/ai-ml-dl-and-generative-ai-face-off-a-comparative-analysis/#:~:text=Generative%20AI%2C%20a%20branch%20of,might%20be%20created%20by%20humans [https://perma.cc/73GP-GEYU].
16. *See* Sara Brown, *Machine learning, explained*, MIT Sloan School of Management (Apr. 21, 2021), https://mitsloan.mit.edu/ideas-made-to-matter/machine-learning-explained [https://perma.cc/4EZD-CGA7].
17. *See* Adam Zewe, *Explained: Generative AI*, MIT News (Nov. 9, 2023), https://news.mit.edu/2023/explained-generative-ai-1109 [https://perma.cc/25UA-U2NB].
18. *See* Kim Martineau, *What is generative AI?*, IBM Research, https://research.ibm.com/blog/what-is-generative-AI [https://perma.cc/6J7M-QMSZ].
19. *See* IBM, *AI vs. machine learning vs. deep learning vs. neural networks: What's the difference?*, https://www.ibm.com/think/topics/ai-vs-machine-learning-vs-deep-learning-vs-neural-networks [https://perma.cc/CLJ6-EUZM].
20. *See id.*
21. *See* Michael Chen, *What Is AI Model Training & Why Is It Important?*, Oracle (Dec. 6, 2023), https://www.oracle.com/artificial-intelligence/ai-model-training [https://perma.cc/QJH6-XYD5].
22. *See id.*

this complex learning and refinement process, deep learning requires ingestion of vast amounts of data to train a model.[23] The completed models are deployed in "systems" (the user-facing application or tool) that allow consumers to input prompts, in response to which the model will generate new content.[24] For generative music AI systems, datasets of existing music—including sound recordings and musical compositions—are used in the training process of the models. If training is done correctly, there should be no "memorization" of the original works—that is, the model should not retain copies of any portion of the original works and regurgitate exact or near-exact outputs of same.[25] In practice, memorization is not uncommon, with several recent high-profile lawsuits among a slew of others against AI companies highlighting this issue.[26] These lawsuits include those filed by major music recording companies against generative music AI companies Udio and Suno in June 2024, by major music publishers against generative AI company Anthropic for its Claude program in October 2023,[27] by The New York Times against Open AI for its ChatGPT program in December 2023,[28] and by Getty Images against Stability AI for its Stable Diffusion program in February 2023.[29] These cases allege copyright infringement by the AI companies, in part from the copies made of the rightsholders' works in the training process, and the communication of the works' expression in the output. The AI companies have expressed their reliance on the fair use defense in all of the foregoing cases.[30]

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23. Google Cloud, *What is Deep Learning?*, https://cloud.google.com/discover/what-is-deep-learning [https://cloud.google.com/discover/what-is-deep-learning].
24. *See* George Lawton, *What is generative AI? Generative AI Explained*, TechTarget (Mar. 13, 2024), https://www.techtarget.com/searchenterpriseai/definition/generative-AI [https://perma.cc/KVT8-HK2D].
25. *See* Alex Reisner, *The Flaw That Could Ruin Generative AI*, The Atlantic (Jan. 11, 2024), https://www.theatlantic.com/technology/archive/2024/01/chatgpt-memorization-lawsuit/677099*; see also* A. Feder Cooper and James Grimmelmann, *The Files are in the Computer: On Copyright, Memorization, and Generative AI*, 100 Chi.-Kent L. Rev. 141, 145–46 (2025) (positing that memorization is an encoded property of the generative AI model itself, where training data is not just statistically processed for its patterns or other attributes by the model, but is actually memorized by the model during the training process).
26. *See supra* notes 23 to 25.
27. *See* Concord Music Grp., Inc. v. Anthropic PBC, No. 3:23-cv-01092 (M.D. Tenn.).
28. *See* The N.Y. Times Co. v. Microsoft Corp. et al, No. 1:23-cv-11195 (S.D.N.Y.).
29. *See* Getty Images (US), Inc. v. Stability AI, Inc., No. 1:23-cv-00135, (D. Del.).
30. *See supra* note 11; *see also* Josh Escovedo, *The Briefing by the IP Law Blog: Getty Images Sues Stability AI for Copyright Infringement in Stable Diffusion Training*, IP Watchdog (Apr. 5, 2023), https://ipwatchdog.com/2023/04/05/briefing-ip-law-blog-getty-images-sues-stability-ai-copyright-infringement-stable-diffusion-training/id=158984 [https://perma.cc/8N6W-6YNC]; *see also* Riddhi Setty, *First AI Art Generator Lawsuits Threaten Future of Emerging Tech*, Bloomberg Law (Jan. 20, 2023), https://news.bloomberglaw.com/ip-law/first-ai-art-generator-lawsuits-threaten-future-of-emerging-tech [https://perma.cc/JZT9-A3ZE].

Today, there are many different types of generative music AI models: text-to-music, voice-to-music, instrumental-only, lyrics-only, voice clones, and other variations. Depending on the type of model, the training data might include sound recordings, musical compositions, or both. Additionally, this data can be comprised of solely public domain works, solely copyrighted works, or a mix of both. Examples of copyrighted works might include legally or illegally acquired full-song sound recordings,[31] 30-second song clips that are scraped from the Spotify website,[32] or song lyrics that are scraped from publicly accessible websites like LyricWiki.[33] Nearly all generative music AI models available today are created by commercial entities, and some require payment for consumer use. For illustrative purposes, this paper will consider a generalized commercial model that is trained on copyrighted sound recordings and compositions, and that generates expressive musical content in response to written and recorded user prompts.

III. Copyright Law and the Fair Use Doctrine

Copyright is a constitutionally-grounded bundle of monopoly property rights granted to authors for a limited duration. Article I, Section 8 of the U.S. Constitution vests in Congress the power "[t]o promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries."[34] At the time of the Constitution's adoption, the term "science" meant knowledge or learning.[35] Thus, the clause is understood to mean that for the purpose of promoting public knowledge and learning, Congress may grant authors exclusive rights to their works.[36] The primary objective of granting these exclusive rights is not to give authors a special private benefit, but rather to act as a financial incentive (via monetization of the rights) for authors to create works that will expand public knowledge.[37] Congress implemented the first federal copyright law in 1790, which initially governed only a limited set of works.[38] As technology and culture progressed over the next two centuries, copyright law, too, evolved both by statute and through common law.[39] The law evolved to not only grant authors greater protection

31. *See supra* note 8.
32. Jeffrey Johnens & Philippe Pasquier, *Building the Metamidi Dataset: Linking Symbolic and Audio Musical Data*, (Int'l Soc'y for Music Info. Retrieval [ISMIR] Conf., Paper No. 22, 2021) https://archives.ismir.net/ismir2021/paper/000022.pdf [https://perma.cc/F64F-HUF3], 182.
33. *See supra* note 8.
34. U.S. Const. art. I, § 8.
35. *See* Richard Crosby De Wolf, An Outline of Copyright Law 15 (1925).
36. *See* 1 Melville B. Nimmer & David Nimmer, Nimmer on Copyright § 1.03[A] (2025).
37. *See* Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417, 429 (1984); *see also* CCC Info. Serv., Inc. v. Maclean Hunter Mkt Reports, Inc., 44 F.3d 61, 69 (2d Cir. 1994).
38. 1790 Copyright Act (Act of May 31, 1790), ch. 15, § 1, 1 Stat. 124, 124 (repealed 1831).
39. *See generally* U.S. Copyright Off., A Brief History of Copyright in the United States,

over a wider variety of works, but also to limit authors' monopoly rights, such as through the doctrine of fair use.[40] Today, the 1976 Copyright Act (and its amendments) (the "Copyright Act" or the "Act") governs copyright.[41] Section 106 of the Act lays out an author's or copyright owner's bundle of exclusive rights; among them is the exclusive right of reproduction of their copyrighted works, which is the right to make copies.[42] This exclusivity means that only the copyright owner or her authorized licensee may reproduce the work, and copying by any other party is considered infringement of the copyright.[43] However, this exclusivity is not absolute—Section 107 of the Act carves out situations where a secondary party's infringement of the copyright owner's exclusive rights is in fact permissible under the doctrine of fair use.[44] Initially a judge-made doctrine, fair use was codified in the 1976 Act and represents an affirmative defense against copyright infringement.[45] The fair use doctrine excuses certain unauthorized uses of copyrighted works when those uses are "of a character that serves the copyright objective of stimulating productive thought and public instruction without excessively diminishing the incentives for creativity."[46]

Section 107 provides:

> "the fair use of a copyrighted work, including such use by reproduction in copies or phonorecords or by any other means specified by that section, for purposes such as criticism, comment, news reporting, teaching (including multiple copies for classroom use), scholarship, or research, is not an infringement of copyright. In determining whether the use made of a work in any particular case is a fair use the factors to be considered shall include—
> (1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes;
> (2) the nature of the copyrighted work;
> (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
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> (4) the effect of the use upon the potential market for or value of the copyrighted work.
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> The fact that a work is unpublished shall not itself bar a finding of fair use if such finding is made upon consideration of all the above factors.[47]

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https://www.copyright.gov/timeline/timeline_18th_century.html [https://perma.cc/SP8F-DQN8].

40. *See generally* Alan Latman, Study No. 14 Fair Use of Copyrighted Works (1958), reprinted in S. Comm. on the Judiciary, 86th Cong., 2d Sess., Copyright Law Revision; *see also* Folsom v. Marsh, 9 F. Cas. 342 (C.C.D. Mass. 1841).
41. *See supra* note 39.
42. *See* 17 U.S.C. § 106.
43. *See id.* § 501.
44. *Id.* § 107 (2018).
45. *See* Pierre N. Leval, *Toward a Fair Use Standard*, 103 Harv. L. Rev. 1105, 1105 (1990).
46. *Id.* at 1110.
47. 17 U.S.C. § 107.

The fair use doctrine introduces flexibility and "breathing space" into copyright law.[48] As the Supreme Court stated in *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569 (1994) ("*Campbell*"), fair use "permits [and requires] courts to avoid rigid application of the copyright statute when, on occasion, it would stifle the very creativity which that law is designed to foster."[49] A context-specific inquiry, fair use involves mixed questions of law and fact, and must be determined on a case-by-case basis.[50] While questions of fact may be submitted to a jury, courts make the ultimate determination of whether factual findings under each factor show a fair use.[51] In doing so, courts must consider all four factors in their analysis.[52] The factors should be analyzed in relation to each other and the results weighed collectively, in light of copyright law's overarching purpose of enriching public knowledge by stimulating creativity.[53] Most importantly for the focus of this paper, courts have reiterated that "[w]hen technological change has rendered its literal terms ambiguous, the Copyright Act must be construed in light of this basic purpose."[54]

The Supreme Court has asserted that the first and fourth factors are the most important in the fair use inquiry;[55] accordingly, this paper will focus on these two factors. The first factor can be dispositive of a case where there is a highly transformative use, and the fourth factor addresses the economic basis of copyright as a right.[56] Empirically, a study of 579 federal copyright fair use opinions from 1978 through 2019 conducted by Barton Beebe revealed that statistically, factors one and four are the most determinative factors in a fair use inquiry.[57] Additionally, a 2011 study by Neil Netanel found that between the two, factor one carries more weight in the post-*Campbell* era.[58]

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48. Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 579 (1994).
49. *Id.* at 577 (*quoting* Stewart v. Abend, 495 U.S. 207, 236 (1990)).
50. Harper & Row Publishers, Inc. v. Nation Enters., 471 U.S. 539, 560 (1985).
51. Google LLC v. Oracle Am., Inc., 593 U.S. 1, 23–24 (2021).
52. *Campbell*, 510 U.S. at 577–78; *see also Google LLC*, 583 U.S. at 26.
53. *See* Leval, *supra* note 45 at 1110–1111
54. Sega Enters. Ltd. v. Accolade, Inc., 977 F.2d 1510, 1527 (9th Cir. 1992) (internal quotation omitted).
55. *See Harper & Row*, 471 U.S. at 550; *see also Google LLC*, 593 U.S. at 50 n.5 (Thomas, J., dissenting).
56. *Id.*
57. *See* Barton Beebe, *An Empirical Study of U.S. Copyright Fair Use Opinions Updated, 1978–2019*, 10 N.Y.U.J. Intell. Prop. & Ent. L. 1, 23, 33 (2020) ("[O]f the 354 core opinions in the updated dataset, 153 found that factor one favored fair use and 141 of these (or 92.2 percent) found fair use; of the 174 core opinions that found that factor one disfavored fair use, 168 (or 96.6 percent) found no fair use."; "Of the 169 core opinions that found that factor four disfavored fair use from 1978 through 2019, all but three ultimately found no fair use [and] of the 154 opinions that found that factor four favored fair use, all but nine found fair use.").
58. Neil Weinstock Netanel, *Making Sense of Fair Use*, 15 Lewis & Clark L. Rev. 715, 745 (2011).

IV. Fair Use Factor One – The Purpose and Character of the Use

A. *Factor One – General Rule*

Factor one concerns "the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes."[59] Since *Campbell*, courts predominantly center their inquiry on two questions: whether the secondary use of the copyrighted work is transformative, and whether the use is of a commercial nature.[60] As the Supreme Court stated,

> [t]he central purpose of this investigation is to see, in Justice Story's words, whether the new work merely "supersede[s] the objects" of the original creation, [. . .] "supplanting" the original [. . .], or instead adds something new, with a further purpose or different character, altering the first with new expression, meaning, or message; it asks, in other words, whether and to what extent the new work is "transformative." [. . .] the more transformative the new work, the less will be the significance of other factors, like commercialism, that may weigh against a finding of fair use.[61]

The Court found fair use for 2 Live Crew based on the transformative nature of the parodic use (factor one), the reasonableness of the amount taken for the parodic purpose (factor three), and the low likelihood that the parody would harm either the primary or derivative markets of the original through a substitutive effect (factor four).[62] Since *Campbell*, courts predominantly center their inquiry on two questions: whether the secondary use of the copyrighted work is transformative, and whether the use is of a commercial nature.[63]

The Supreme Court recently provided further guidance in *Warhol*. The facts of *Warhol* are as follows: in 1984, artist Andy Warhol was commissioned by magazine publisher Condé Nast to create an illustration of the musician Prince for the cover of a magazine that contained a story about Prince. Andy Warhol was to create the illustration by using an existing photographic portrait of Prince by photographer Lynn Goldsmith as a reference.[64] Goldsmith had licensed the photo to Condé Nast to serve as a one-time "artist reference for an illustration."[65] Warhol created a silkscreen print titled "Purple Prince" from the photo, which Condé Nast used for the magazine cover.[66] Warhol also created fifteen other works based on the original photo, which formed his "Prince Series" of works.[67] Warhol did not license or receive permission from Gold-

59. 17 U.S.C. § 107 (2018).
60. *See* Netanel, *supra* note 58, at 734–38.
61. Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 579 (1994).
62. *Id.* at 582, 589, 591–93.
63. *See* Netanel, *supra* note 58, at 734–38.
64. *See* Andy Warhol Found. for the Visual Arts, Inc. v. Goldsmith, 598 U.S. 508, 516–22.
65. *Id.*
66. *See id.*
67. *See id.*

smith for use of her original photograph in creation of the Prince Series.[68] In 2016, following Prince's death, Condé Nast licensed a different work from the Prince Series titled "Orange Prince" to feature on the cover of a special edition magazine commemorating Prince's life and career.[69] Goldsmith, who incidentally had licensed a different photo of Prince to a competitor magazine at around the same time, claimed that "Orange Prince" infringed her copyright in the original photo on which it was based.[70] The Andy Warhol Foundation (the "Warhol Foundation"), which owned the copyrights to the Prince Series, claimed that "Orange Prince" was fair use.[71] Following the Second Circuit's ruling against the Warhol Foundation's fair use of Goldsmith's photo, the Supreme Court granted certiorari for the case, but resolved to only consider the first factor of the fair use inquiry.[72] The Court ruled that under factor one, the Warhol Foundation's use of Goldsmith's photo was not fair because it was not transformative, and explained the framework that guides factor one analysis. First, courts must evaluate transformativeness in the context of each "specific use" of the new work as compared against the original work.[73] Then, courts must determine the purpose of the use as what "can reasonably be perceived" through an "objective inquiry," rather than relying on the subjective intent of the user or of the court itself.[74] After, courts must consider the *degree of difference* in purpose between the new and original work for the specific use at issue, and compare that degree of difference against whether the new use is of a commercial or non-profit nature.[75] The greater the degree of difference in purpose—that is, the more transformative the purpose—the less commerciality will matter.[76] Finally, courts must also consider whether there is an independent "justification" for the use, such as whether the use furthers the goal of copyright or if copying is reasonably necessary to achieve the new work's purpose.[77] The specific use at issue in *Warhol* was the Warhol Foundation's commercial licensing of "Orange Prince" to a magazine.[78] The court framed the purpose of the secondary use as substantially the same as the purpose of Goldsmith's original photograph—commercial licensing to "illustrate a magazine about Prince with a portrait of Prince."[79] (Notably, the court refrained from expressing an opinion as to whether other uses of the Prince Series works were fair, including

68. *See id.*
69. *See id.* at 518–20.
70. *See id.* at 520–22.
71. *See id.*
72. *See id.* at 525.
73. *Id.* at 533–34
74. *Id.* at 545.
75. *See id.* at 531–33.
76. *See id.*
77. *Id.*
78. *See id.* at 533–34
79. *Id.* at 545–46.

the creation, display, or sale of the works as art.)[80] Because the purpose of the secondary work was the same as that of Goldsmith's original photo for the specific use of commercial licensing to a magazine, the court ruled that Warhol's use was not transformative. The absence of a difference in purpose, weighed against the commercial nature of the use, resulted in the court's holding against fair use under factor one.[81]

The *Warhol* opinion's analysis of factor one establishes the cruciality of framing, which exists on two levels. The first level of framing concerns the specific use of the secondary work, the determination of which is largely driven by the parties.[82] In *Warhol*, the specific use was the commercial licensing of "Orange Prince" to a magazine, instead of Warhol's initial creation of the artwork, or even commercial sale or display of the artwork. The second level of framing concerns the purpose of the new use, which is determined by the court. In *Warhol*, the Court framed this purpose as licensing to a magazine to illustrate a story about Prince (not, say, licensing to an art magazine running a story on Warhol's works). The Court emphasizes that determining the purpose of the secondary work is an objective inquiry, based on principles of reasonable observation; in practice, however, the Court inevitably injects its own subjectivity into whichever framing it ultimately chooses. For example, dissenting Justice Kagan's conception of the purpose of "Orange Prince" is entirely distinct from that of the majority, centered instead on its artistic elements and Warhol's purpose of making social commentary through the artwork at the time it was created. Thus, the framing through which a court evaluates the fair use of music AI systems will be highly determinative of the outcome. With fair use cases involving a new technology, explored in greater detail below, the framing of the use and the purpose can be both extremely broad (as seen in *Google v. Oracle*) and extremely specific (as seen in the intermediate copying cases). The Court also often raises the idea-expression dichotomy and public benefit as justifications for fair use. As music AI is a new technology, these cases will serve as highly relevant legal precedents.

In February 2025, a Delaware district court issued the first judicial decision of its kind concerning copyright infringement and fair use in AI model training, in *Thomson Reuters Enter. Ctr. GmbH v. Ross Intel. Inc.*.[83] This case concerned a defendant who used unlicensed copyrighted material as training data for its non-generative AI model. The court evaluated purpose and use framings under *Warhol* and technology cases, and concluded that upon the

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80. *See id.* at 534.
81. *See id.* at 550.
82. *See id.* at 534 n.9. In its initial suit, Warhol sought declaratory judgment for the entire original Prince Series works for all uses and Goldsmith counterclaimed for copyright infringement; as the suit progressed, Goldsmith abandoned all claims except for the commercial license to Vanity Fair and similar commercial licensing in the future.
83. 765 F. Supp. 3d 382 (D. Del. 2025).

specific facts of the case, the characterizations of transformative purpose and justifications for fair use found in the technology cases did not apply to the defendant's use.[84] Being a district court decision, *Thomson Reuters* is not binding on all jurisdictions and, importantly, specifically limited to a non-generative AI model. However, it is likely to be a highly persuasive precedent in generative AI cases concerning copyright infringement in the AI model training context; in fact, *Thomson Reuters* has already been subsequently cited as legal precedent in the lawsuit brought by a coalition of music publisher against Anthropic, as mentioned in Section II above.[85] Below, I will also discuss the court's framing and analysis of the first fair use factor in *Thomson Reuters*.

B. *Framing the Specific Use and Purpose of Music AI Systems*

With music AI systems, the framing of the specific use and purpose of both the original and secondary works will be crucial in anticipating how courts may decide factor one. As discussed above, the copyrighted original works at issue are musical compositions and sound recordings, and they are reproduced in their entirety by the secondary user (the music AI system creator) in the training process for creating the music AI system. The purpose of these copyrighted songs is primarily expression and entertainment but can vary with the specific use, such as in commercial licensing contexts. As *Warhol* clarifies, the specific use at issue in each case is the objective use that is made of the copied material by the secondary user; here, the specific use made by the secondary user is the training of a music AI system—or the "input" into a music AI system. The "output" of the music AI system would be the content generated by the program in response to end-user prompts.[86] Critically, however, one cannot consider the "input" and "output" separately, because a fair use determination for the training turns on the *purpose* of the training. The purpose of the training is to create a new technology—a music AI system. But a new technology is only given utility and life through its use by end-users, as the below technology cases demonstrate. In no case has a court found fair use on the sole basis that a new technology was created; rather, in every technology fair use case the court has considered the utility of the new technology—that

84. *Id.* at 399.

85. Motion for Leave to File Notice of Supplemental Authority at 2, Concord Music Grp. V. Anthropic PBC, No. 5:24-cv-03811 (N.D. Cal. Feb. 11, 2025).

86. While this paper considers the output of the music AI *as part of* the fair use analysis for the training of the music AI, this paper does not address whether the output *on its own* constitutes copyright infringement. Note that such an inquiry would require proof of copying in fact (such as evidence that a particular song was contained in the training dataset for the music AI that generated the output) in addition to a substantial similarity analysis. The sole concern of this paper is whether the reproduction of musical works in the training of the music AI (a prima facie copyright infringement) constitutes fair use; and an inquiry into this training necessitates consideration of the purpose of the training, which are the music AI system and its output.

is, the purpose of the new technology and how it might be used by end-users. *Warhol* further emphasizes that courts must consider the *objective* purpose of the secondary use, and not what the secondary user subjectively intended to be the use. Indeed, in the specific context of AI training data, the court in *Thomson Reuters* focused its factor one analysis on the purpose of the overall AI product that the defendant created (a "legal research tool"), and rejected an argument that would have centered solely on the defendant's intermediate purpose of creating a new technology. Thus, with music AI technology, one must ultimately consider the objective purpose of the AI system as a whole and how it is used by end-users. This paper will consider three possible views of this purpose and show how factor one may come out differently under each framing. The first view is that the purpose of a music AI system trained on copyrighted works is to serve as a tool to supplement musical creation. The second view of the purpose is to serve as consumer entertainment, and the third view is to serve as functional music. The possible framings are not limited to these proposed three, of course, and each stakeholder in every case will have their own view of the purpose of the training and of the broader music AI system. Ultimately, the framing used in each case will depend on the court's view, in light of the specific facts of the case.

Under the tool-based framing, the use and purpose might be characterized as follows: the music AI is trained to identify common musicological and lyrical patterns across the songs and use that information to generate content and suggestions based on inputted user prompts. For example, a user might prompt the program to generate suggestions for finishing a half-written chord progression using the most commonly appearing chords before and after what she already wrote. Or, the user might provide a simple melody and prompt the program to generate a symphonic interpretation of the sequence with various instruments and harmonies. Under this tool-based framing, the music AI system functions as a supplemental tool to a human user creating new musical expression.

Under the entertainment-based framing, the use and purpose of the program are not based on utility, but rather consumption. The user uses the program as a form of entertainment by prompting the program to generate expressive content that the user consumes. For example, the user might prompt the program to generate a driving synth-pop song about love that sounds like Taylor Swift's "Style." Or the user might even ask for a parody à la the works of Weird Al Yankovic—to turn the Bob Dylan song "Mr. Tambourine Man" into a song called "Mr. Tangerine Man" about a purveyor of citrus fruits. In all cases under this framing, the user derives entertainment value out of the music created by the program.

Turning to the functional music framing, the user uses the program to generate musical content for functional uses (as opposed to entertainment or aesthetic uses) in commercial and non-commercial applications. These

functional uses might include background music, music to induce a certain state of mind, music therapy, and scores for films and advertisements. Because AI-generated works are not copyrightable at present,[87] this musical content can be used without clearance, restriction, or ongoing payment.

In the following parts, this paper will compare and distinguish the use of copyrighted works in music AI systems under the above three framings from those in *Warhol* and each of the technology-centered cases below. This paper will also draw comparisons to *Thomson Reuters*, which itself relied on the legal reasoning in the foundational fair use and technology cases discussed herein.

1. Technological Innovation—*Google v. Oracle*, *Sega v. Accolade*, and *Sony v. Connectix*

a. Technological Innovation and Usefulness—Google v. Oracle

In the most recent Supreme Court technology fair use case, *Google LLC v. Oracle Am., Inc.*, 141 S.Ct.1183 (2021) ("*Oracle*"), Google copied computer code from Oracle and used it to build out its Android mobile operating system.[88] The computer code, which provided a task-calling function, was compatible with the popular Java programming language, and widely known and used by programmers.[89] The specific use at issue was Google's insertion of this code into a tool (called an Application Programming Interface) that allowed third-party programmers using Java to integrate their respective programs with the new Android platform.[90] Programmers would be able to use a coding language they already knew, rather than having to learn a new one.[91] The Court also framed the purpose of the use in several ways—to "create new products," to "expand the use and usefulness of Android-based smartphones," to create a "highly creative and innovative tool for a smartphone environment," and to "create a new platform that could be readily used by programmers."[92] The Court further justified the use, stating that Google's copying "was consistent with that creative 'progress' that is the basic constitutional objective of copyright itself," because it removed learning barriers for programmers to use the new Android platform and it furthered the development of computer programs.[93] Based on the Court's framing and justification, it found that Google's

87. The U.S. Copyright Office has declared that it will not register AI-generated material that does not contain sufficient human control over the expressive elements, further stating that user prompts do not alone qualify as sufficient control. *See* United States Copyright Office, Copyright and Artificial Intelligence Report Part 2: Copyrightability (Jan. 29, 2025).
88. *See* Google LLC v. Oracle Am., Inc., 593 U.S. 1, 18, 22–24 (2021).
89. *See id.* at 6, 9.
90. *See id.* at 7–8.
91. *See id.* at 9–11.
92. *Id.* at 13–14.
93. *Id.* at 30.

use of Oracle's code was transformative.[94] Accordingly, it held that the patently commercial nature of the use (Android sales had produced annual revenue north of $42 billion) was not dispositive of factor one, and on balance, factor one favored Google. The court ultimately found fair use for Google.[95]

b. Technological Innovation and Intermediate Copying—Sega v. Accolade *and* Sony v. Connectix

In two similar code-copying cases, the Ninth Circuit Court of Appeals found the first fair use factor in favor of the secondary user who copied copyrighted computer programming code as an intermediate step and for a non-expressive, functional purpose.

i. Sega v. Accolade

In *Sega Enters. Ltd. v. Accolade, Inc.* ("*Sega*"), video game developer Accolade copied the entirety of the copyrighted code underlying several Sega video games.[96] Sega's video game consoles (called the "Genesis") were only compatible with games that contained specific code enabling this compatibility; Sega was in the business of licensing this code to game developers, but licensing discussions with Accolade had broken down.[97] Accolade wanted to make Genesis-compatible games, so it reverse-engineered the compatibility-enabling code. Accolade copied Sega's full video game code, identified the specific portion of compatibility-enabling code, and then wrote it into its own games.[98] Importantly, Accolade did not use any expressive portions of Sega's code in developing its own games. The court framed Accolade's copying as necessary to discover the "functional requirements for compatibility" (i.e., the hidden compatibility-enabling code), which the court deemed an unprotected element of the software. The court stated of Accolade's purpose, "[a]lthough Accolade's *ultimate purpose* was the release of Genesis-compatible games for sale, its *direct purpose* in copying Sega's code, and thus its *direct use* of the copyrighted material, was simply to study the functional requirements for Genesis compatibility so that it could modify existing games and make them usable with the Genesis console."[99] The court stressed that this intermediate copying was for a non-exploitative purpose, and thus subsequent commercial exploitation through sales of Accolade's Genesis-compatible games was "indirect or derivative" and "of minimal significance" for evaluating the specific use.[100] Further, the court considered the public benefit arising from Accolade's identification of the code, which included an increase in the number of inde-

94. *See id.*
95. *See id.* at 32.
96. 977 F.2d 1510, 1530 (9th Cir. 1994).
97. *See id.* at 1514.
98. *See id.* at 1515.
99. *Id.* at 1522 (emphasis added).
100. *Id.* at 1522–23.

pendently developed video games available in the marketplace.[101] The court remarked that "it is precisely this growth in creative expression, based on the dissemination of other creative works and the unprotected ideas contained in those works, that the Copyright Act was intended to promote."[102] This public benefit, coupled with Accolade's non-expressive use of Sega's code, convinced the court to weigh factor one in favor of Accolade.[103] The court ultimately found fair use for Accolade.[104]

ii. Sony v. Connectix

In a Ninth Circuit case arising a few years later with very similar facts, *Sony Comput. Ent., Inc. v. Connectix Corp.,* ("*Connectix*"), the court again ruled that intermediate copying of computer programming code was a fair use.[105] In this case, the defendant Connectix made a software that allowed consumers to play video games licensed for the Sony PlayStation on their computers rather than on the console. Video games licensed for the PlayStation contained special code that enabled compatibility with the PlayStation.[106] Sony's PlayStation console itself was controlled by a separate copyrighted software that was uniquely able to read and operate PlayStation video games, thus ensuring that PlayStation-licensed video games could only be only played on PlayStation consoles.[107] Connectix developed a proprietary software that could read PlayStation-licensed games through a reverse engineering process, whereby Connectix copied Sony's PlayStation software code, observed it to understand how it enabled compatibility with the video games, then implemented those learnings in its own software.[108] The court ruled that this type of intermediate copying in a reverse engineering process, for which the purpose was to "produce a product that would be compatible with [PlayStation video games]" was legitimate under factor one,[109] and that "the fair use doctrine preserves public access to the ideas and functional elements embedded in copyrighted computer software programs."[110] Furthermore, the court also cited the public benefits of technological innovation and access that Connectix's product created, noting "[t]his innovation affords opportunities for gameplay in new environments, specifically anywhere a Sony PlayStation console and television

101. *See* 1523.
102. *Id.*
103. *See id.*
104. *See id.* at 1527.
105. *See* 203 F.3d 596 (9th Cir. 2000).
106. *Id.* at 598–99.
107. *Id.*
108. *Id.* at 599–601.
109. *Id.* at 607.
110. *Id.* at 603.

are not available, but a computer with a CD–ROM drive is."[111] Like in *Sega*, the court here found that factor one favored fair use.

2. Non-Expressive Use—*Authors Guild v. Google*, *Perfect 10*, Fair Use Scholarship

The two cases *Authors Guild v. Google, Inc.* ("*Authors Guild*") and *Perfect 10, Inc. v. Amazon.com, Inc.,* ("*Perfect 10*") concern situations where a secondary user copied expressive works and used them for a non-expressive purpose that served an informational purpose for the public (book and image search engines, respectively).[112]

a. Authors Guild v. Google

In *Authors Guild*, Google scanned and made digital copies of over 20 million books for its Google Books search engine, without permission from the rightsholders.[113] Using image-to-text conversion technology, Google extracted machine-readable text from the digital copies and formed a database with all of the books' contents.[114] Google also retained the digital copies. Google then used the text-based database and the digital copies to power its new Google Books search engine, which allowed users to enter search terms and receive matches for books that contain those terms.[115] The results of the search also provided information on the number of times the search term appears in each book, a description of the book, a list of words that appear most frequently in the book, and sometimes links to local libraries or online sites where the book could be borrowed or bought.[116] In addition, the search result displayed a "snippet" of the digitally scanned page(s) containing the search term, allowing the user to view a portion of the book's text.[117] The court ruled that "Google's making of a digital copy of Plaintiffs' books for the purpose of enabling a search for identification of books containing a term of interest to the searcher involves a highly transformative purpose"[118] and that "the creation of a full-text searchable database is a quintessentially transformative use . . . [as] the result of a word search is different in purpose, character, expression, meaning, and message from the page (and the book) from which it is drawn."[119] Further-

111. *Id.* at 606.
112. *See Authors Guild* v. Google, Inc., 804 F.3d 202 (2d Cir. 2015); Perfect 10, Inc. v. Amazon.com, Inc., 508 F.3d 1146 (9th Cir. 2007); *see also* Kelly v. Arriba Soft Corp., 336 F.3d 811, 819 (9th Cir. 2003) (finding fair use for an image-based search engine in part because its use of copyrighted images from the Internet served a different function ("improving access to information on the Internet") from the original images ("artistic expression")).
113. *See Authors Guild*, 804 F.3d at 208.
114. *See id.*
115. *See id.* at 209.
116. *See id.*
117. *Id.*
118. *See id.* at 216.
119. *Id.* at 217 (quoting Authors Guild v. HathiTrust, 755 F.3d 87, 97 (2d Cir. 2014)).

more, the court framed the purpose of Google's copying as "mak[ing] available significant information *about those books*" rather than communicating the protected contents of the book.[120] The court asserted that this dissemination of information augments public knowledge without substantially substituting for copyrighted matter in the original works or their derivatives.[121] The court also pointed out that Google's scanning and digitization of the books served new research purposes, such as examining word usage over time (eventually becoming Google's "ngrams" tool).[122] Regarding the "snippet" view where a limited portion of the original book is displayed to the user, the court ruled that to the extent any expressive content is displayed, it was to provide context for the user to confirm that the book did indeed discuss the term in the manner that aligned with her search objective.[123] Thus, Google's copying and display of copyrighted content served a "highly transformative purpose of identifying books of interest to the searcher."[124] Because of Google's transformative use of the copied books, commerciality did not weigh against it in the analysis.[125] Accordingly, the court concluded that factor one favored Google and ultimately found fair use.

b. Perfect 10 v. Amazon

In *Perfect 10*, the primary defendant was also Google, who copied copyrighted images for its Google Image Search engine. In creating Google Image Search, Google scraped websites from across the Internet and indexed them within a database stored on Google's computers.[126] Images that appeared on these websites were indexed in the database based on their associated text descriptions.[127] Instead of storing the original versions of the copied images, Google made their smaller, lower-resolution "thumbnail" versions, which were displayed as search results.[128] When a user entered a search term in Google Image Search, Google would display thumbnail images whose associated text description matched the search term.[129] When a user clicked on the thumbnail image, Google would instruct the user's browser to access the source website containing the original, full-resolution image and display it in a new window appearing to the side.[130] Perfect 10, the rightsholder to the original images in this case, claimed that Google's display of the thumbnail images infringed their

120. *Authors Guild*, 804 F.3d at 217.
121. *See id.* at 207.
122. *See id.*
123. *See id.* at 217–18.
124. *Id.*
125. *See id.* at 218–19.
126. *See* Perfect 10, Inc. v. Amazon.com, Inc., 508 F.3d 1146, 1155 (9th Cir. 2007).
127. *See id.*
128. *See id.*
129. *See id.*
130. *See id.* at 1155–56.

exclusive copyrights. Perfect 10 ran a nude photo business that offered consumers paid subscriptions to access its photos.[131] Shortly after initiating the lawsuit against Google, it had also started a new business that allowed consumers to download reduced-sized versions of the images to their cellphones, a use that Perfect 10 claimed the Google thumbnails supplanted (this issue is discussed further in Part VI).[132] The court ruled that the thumbnails constituted a fair use of the copyrighted originals, and that they were "highly transformative" under factor one.[133] The court stated, "[a]lthough an image may have been created originally to serve an entertainment, aesthetic, or informative function, a search engine transforms the image into a pointer directing a user to a source of information. [. . .] a search engine provides social benefit by incorporating an original work into a new work, namely, an electronic reference tool."[134] The court also compared the transformative use to that in *Campbell*, remarking that "a search engine may be more transformative than a parody because a search engine provides an entirely new use for the original work, while a parody typically has the same entertainment purpose as the original work."[135] The court ruled that because Google's highly transformative use of the images and the public benefit provided by the search engine were more significant than the commercial nature of Google's business, factor one weighed heavily in favor of Google.[136] The court ultimately found fair use for Google.

c. Fair Use Scholarship

Copyright scholars have also written about non-expressive copying by new technologies. Matthew Sag has advanced the notion that copying expressive works for non-expressive technological uses (including search engines) should be considered fair use, because the author's original expression is not communicated to the public in the secondary use.[137] As such, the non-expressive secondary use does not substitute for expressive uses of the originals.[138] Sag characterizes the original works as "grist for the mill," with the mill being an unseen technological process that transforms the expressive originals into a differently purposed and non-expressive product.[139] One non-expressive use is text data mining, a technological process that ingests vast amounts of data (including text, images, sound recordings, and audiovisual works) and uses

131. *See id.* at 1157.
132. The court ruled that Google's superseding use in this respect was not significant, because there was no evidence that any downloads of the reduced-sized images for cellphone use had taken place. *See id.* at 1166.
133. *Id.* at 1165.
134. *Id.*
135. *Id.*
136. *See id.* at 1166.
137. *See generally* Matthew Sag, *Copyright and Copy-Reliant Technology*, 103 Nw. U. L. Rev. 1607, 1642–43, 1656, 1682 (2009).
138. *See id.* at 1656.
139. *Id.* at 1608.

statistical methods to extract patterns and information from the data, similar to the pattern extraction process in machine learning for generative music AI.[140] Sag argues that text data mining is a non-expressive use that generates metadata (factual information) *about* original expression, which is different from what is actually expressed by the original works.[141] It then uses that metadata to generate insights, which "[are] not reported in the underlying works—they [arise] from recognizing the patterns between works."[142] Neither the metadata nor the insights substitute for the original expression.[143] Therefore, this transformative, non-expressive use of the original expressive works should be deemed fair.[144] Scholars Mark Lemley and Bryan Casey have also argued that machine learning should be fair under the first fair use factor "if the purpose of the AI's use is not to obtain or incorporate the copyrightable elements of a work but to access, learn, and use the *unprotectable* parts of the work" (emphasis added).[145] This argument draws on the same line of reasoning employed in *Sega* and *Authors Guild*, where each secondary user was extracting only the unprotected elements of an expressive work. However, Lemley and Casey also point out that the "purpose to which the [machine learning] system ultimately puts the information" is important, especially for systems that target the expressive components of the dataset works in their learning for the purpose of generating their own expressive works.[146] If the AI's purpose is transformative (like an AI that "recognizes an Ariana Grande-like song in order to try to catch infringers of her songs"), or if the AI's output is transformative (like "an AI that creates parodies of song"), then the learning should be considered fair because the use doesn't compete with or substitute for the original.[147] But, if the purpose or output seems "more substitutive than transformative" (like "a system designed to write a new pop song in the style of Taylor Swift"), then the learning is unlikely to be deemed fair use.[148]

3. Private, Non-Commercial Use – *Sony v. Universal*

In *Sony Corp. of Am. v. Universal City Studios, Inc.* ("*Sony*"), the last of the technology cases highlighted in this paper and the first fair use case ever decided by the Supreme Court, the Court found fair use primarily based on the private, non-commercial nature of the use.[149] Sony manufactured home

140. Matthew Sag, *The New Legal Landscape for Text Mining and Machine Learning,* 66 J. Copyright Soc'y U.S.A. 291 (2020).
141. *See id.* at 302.
142. *Id.* at 296.
143. *See id.* at 320.
144. *See id.* at 364.
145. Mark A. Lemley & Bryan Casey, *Fair Learning*, 99 Tex. L. Rev. 743, 776 (2021).
146. *Id.* at 777.
147. *Id.*
148. *Id.* at 778.
149. 464 U.S. 417 (1984).

videotape recording devices, called the "Betamax," that allowed consumers to record and store live television programming for later viewing.[150] Universal and Disney, who owned the copyrights in some of this programming, claimed that consumers who recorded their owned content using the Betamax had violated their exclusive reproduction and derivative works rights.[151] In addition, they accused Sony of secondary liability as the manufacturer of the Betamax.[152] Both sides conducted consumer surveys, which revealed that the principal use of the Betamax was "time-shifting"—where consumers record the programming at home so that they may view it once later and then erase it.[153] The court ruled that time-shifting for private home use was a non-commercial, non-profit activity, thus presumptively favoring fair use under the first factor.[154] Moreover, because the programming was publicly broadcast, consumers were entitled to watch the programming in the first place.[155] In addition, the court stated that time-shifting yields societal benefits because it expands public access to freely broadcast television programs, thus further tipping the scale in favor of fair use.[156]

4. Non-Generative AI Training Data Use —*Thomson Reuters v. ROSS*

In *Thomson Reuters Enter. Ctr. GmbH v. Ross Intel. Inc.*, the defendant, Ross Intelligence ("Ross"), was a company that created an AI-powered search engine for legal research.[157] Ross developed a non-generative AI model that would serve users relevant cases and information in response to their search prompts. Ross trained its AI model on a trove of legal summaries called "headnotes," which are copyrighted written content created by the legal research platform Westlaw, a subsidiary of Thomson Reuters. Having attempted to license the training data from Westlaw directly but was refused, Ross ultimately obtained the copyrighted content through a third party. Thomson Reuters claimed Ross's unlicensed copying and usage of the headnotes as training data infringed its copyrights in the content; Ross claimed its use qualified as fair use. The court initially dismissed Thomson Reuters's copyright infringement and fair use defense claims, determining that there were issues of fact requiring a jury determination concerning Ross's fair use defense.[158] However, the court subsequently reversed its decision, finding that Ross's use was not fair

150. *See id.* at 420–21.
151. *See id.*
152. *See id.*
153. *Id.* at 423.
154. *See id.* at 448–49.
155. *Id.* at 456.
156. *See id.* at 454.
157. 765 F. Supp. 3d 382, 390 (D. Del. 2025)
158. *See id.* at 390–91.

as a matter of law.[159] The court conclusively ruled that the first fair use factor weighed against Ross under the *Warhol* framework because Ross's secondary use was commercial, and the purpose of Ross's use was undifferentiated from that of Thomson Reuters. The court emphasized Ross's competitive commercial purpose, stating "Ross was using Thomson Reuters's headnotes as AI data to create a legal research tool to compete with Westlaw."[160] The court further rejected Ross's argument that its intermediate copying constituted fair use in the vein of precedent technology cases, namely *Oracle, Sega,* and *Connectix*. The court distinguished Ross's use from the precedent technology cases on two grounds: first, the works copied by Ross were text, as opposed to computer code. Quoting the Supreme Court in *Oracle*, the court remarked, "[i]n copyright, computer programs differ from books, films, and many other literary works in that such programs almost always serve functional purposes. So the fair-use considerations for these programs do not always apply to cases about copying written words."[161] The court's second ground of differentiation was that the fair use rulings in the technology cases turned on the factor that intermediate copying was necessary for competitors to reach the underlying ideas and further innovate, whereas such factor was absent in Ross's copying. The court distinguished the case at hand: "Here, though, there is no computer code whose underlying ideas can be reached only by copying their expression. […] Ross took the headnotes to make it easier to develop a competing legal research tool. So Ross's use is not transformative."[162] Notably, the court explained that because the use here differed from the technology cases on those two grounds, it applied the *Warhol* framework of "look[ing] to the *broad purpose and character* of Ross's use" in analyzing the first fair use factor, rather than confining its analysis to that of the intermediate copying.[163] In concluding its factor one inquiry, the court also explicitly noted that Ross's AI model was non-generative, in that its output consisted of pre-existing written material (relevant legal cases), and its decision only applied to such a non-generative AI model.[164]

C. *Factor One Analysis of Music AI Systems*

1. Tool-Based Framing

Under the tool-based framing, I adopt two lines of reasoning from the technology cases and scholarship above to justify fair use for music AI training under factor one. The first line of reasoning, drawn from technology case precedents and copyright scholarship, *Sega*, *Connectix, Authors Guild*, and the

159. *Id.* at 401.
160. *Id.* at 398.
161. *Id.* (citation modified).
162. *Id.*
163. *Id.* at 399 (emphasis added).
164. *Id.*

scholarship of Matthew Sag, Mark Lemley, and Bryan Casey, is that music AI training is merely the extraction of unprotected musicological ideas from the expressive works in the training dataset—a "non-exploitative"[165] and "non-expressive" purpose[166]—even if the system's ultimate purpose is to create new musical works. Like in *Sega* and *Connectix*, where the secondary users needed to copy the entirety of the copyright owners' protected computer code in order to identify the unprotectable functionality elements within the code, the music AI training process necessitates copying the original musical works to uncover and preserve public access to the unprotectable musicological ideas contained within them. As Matthew Sag put it, the original musical works are "grist for the [music AI] mill" to extract information and generate new insights from that information.[167] By that reasoning, the insights do not exist independently within each work, but can only be attained through the large-scale analysis of many works that makes up the training process. Through the trained music AI tool, these musicological insights and ideas are shared with the public—similar to how Accolade disseminated the functional code to other developers, and how Google Books made available information about books through its search engine. The courts in *Sega* and *Authors Guild* emphasized that this information dissemination expands and benefits public knowledge; likewise, it is possible to argue that the music AI system could enhance public knowledge of musicological concepts. Indeed, the music AI system Udio, in its answer to the complaint filed against it by music recording companies, utilized this exact line of reasoning. It stated, "What Udio has done—use existing sound recordings as data to mine and analyze for *the purpose of identifying patterns in the sounds of various musical styles*, all to enable people to make their own new creations—is a quintessential "fair use" under copyright law."[168] Udio and the music AI system Suno (which is also being sued by the same group of music recording companies and which filed an answer similar in content to Udio's) also stated that "the outputs generated by [Udio and Suno] are new sounds, informed precisely by the "styles, arrangements and tones" of previous ones.[169]

The second line of reasoning, drawn from *Sega, Oracle, Authors Guild,* and *Perfect 10*, is that the music AI system is a transformative tool that aids musicians in the creation of new works. Like how Google transformed digital book scans into a search and research tool in *Authors Guild*, and how Google

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165. Sega Enters. Ltd. v. Accolade, Inc., 977 F.2d 1510, 1523 (9th Cir. 1992).
166. *See* Sag, *supra* notes 137 and 140; *see also* Lemley & Casey, *supra* note 145.
167. *See* Sag, *supra* note 137.
168. Answer of Defendant Uncharted Labs, Inc. to Complaint at 2–3, UMG Recordings, Inc. v. Uncharted Labs, Inc., No. 1:24-cv-04777-AKH (S.D.N.Y. Aug. 1, 2024).
169. *Id.* at 9; Answer of Defendant Suno, Inc. to Complaint at 8, UMG Recordings, Inc. v. Sunno, Inc., No. 1:24-cv-11611 (D. Mass. Aug. 1, 2024). Both of the answers quoted John E. Mason, Jr., Comment, *Performers' Rights and Copyright: The Protection of Sound Recordings from Modern Pirates*, 59 Calif. L. Rev. 548, 571 (1971).

transformed thumbnail images into a "pointer" tool in *Perfect 10*,[170] a music AI system transforms the original musical works into a music generation tool. And, just as Accolade's code in *Sega* empowered independent game developers to create new games for the marketplace, and Google's API in *Oracle* empowered programmers to develop new applications for the Android platform, a music AI tool can empower musicians to create new music for the public. Additionally, similar to how Google's API in *Oracle* removed learning barriers for programmers to use the Android platform, and how Connectix's software in *Connectix* provided consumers greater access to gameplay, the music AI system democratizes the music creation process by removing many resource, skill, and education barriers, thereby increasing participation in music creation and creative activity. Thus, as the courts reasoned in *Sega* and *Oracle*, the unauthorized copying results in a tool that ultimately stimulates growth in creative expression, driving forward the goal of copyright law. And, as the courts articulated in *Authors Guild* and *Perfect 10*, the tool provides an important societal benefit through its utility to the public. In their respective ongoing lawsuits, both Udio and Suno characterize their systems as tools, stating "No one owns musical styles. Developing a tool to empower many more people to create music, by scrupulously analyzing what the building blocks of different styles consist of, is a quintessential fair use under longstanding and unbroken copyright doctrine."[171] Adopting these two lines of reasoning above, a music AI system based in musical idea extraction, like Udio and Suno, may be a sufficiently transformative use of the copyrighted content from that of expression into a) unprotectable information and b) a tool for new creation. Commerciality would likely carry little weight under this framing because of the significantly transformative use.

However, music AI systems can be distinguished from the above-referenced technology cases in a number of key respects. In *Sega* and *Connectix*, the secondary users' copying of the plaintiffs' computer code was necessary to access a plainly unprotectable element of the code—the portion that specified functional compatibility requirements. Both secondary users were only interested in extracting the functional elements of the plaintiffs' code and did not use any expressive portions. In *Sega*, it was also only this unprotected portion of the code at issue that the secondary user disseminated to the public. Similarly, in *Authors Guild*, Google Books primarily made available unprotected information about the books to the public, and limited the display of copyrightable expression through its "snippet view." In contrast, copying musical works is not obviously necessary for music AI systems to access any hidden ideas or functional elements within the works.

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170. Perfect 10, Inc.v. Amazon.com, Inc., 508 F.3d 1146, 1165 (9th Cir. 2007).
171. Answer of Defendant Uncharted Labs, Inc. to Complaint at 12, *Uncharted Labs*; Answer of Defendant Suno, Inc. to Complaint at 13, *Suno*.

The court in the recent *Thomson Reuters* decision distinguished copying of written material to use as training data for an AI model from the technology cases concerning intermediate copying. The court held that while copying was necessary in those cases for accessing unprotectable ideas, the copying at issue was not necessary to reach the underlying ideas. Thus, unlike in *Sega* and *Connectix*, where intermediate copying of the computer code was the only way to access the highly specific functional elements and ideas hidden from the public within the computer code, in the case of music AI systems, copying the works is not necessary to access the musicological ideas contained within them, as such ideas exist independently from the works. These musicological ideas, many of which have been devised and discussed for centuries, may be accessed through myriad avenues, including music that is in the public domain.

Moreover, it is not clear whether the training process for music AI extracts and uses only unprotected material from copyrighted songs. Because music is inherently expressive in nature and purpose, the line separating what constitutes musicological ideas and expression is blurry and.[172] For example, a "descending chromatic minor chord progression in A minor" is an unprotected musical idea, but Jimmy Page's expression of the idea is different from Randy California's.[173] Thus, fair use is less likely to be found when a music AI extracts not only the unprotectable, underlying ideas but also the protectable expression of the ideas. The training for some music AI systems, like OpenAI's Jukebox model, specifically targets, analyzes, and extracts what could be deemed the expressive elements of musical compositions and sound recordings in the dataset, including vocal delivery, lyrical content, melody, rhythm, and mood.[174] On the other hand, Udio and Suno claim that the patterns they extract in "musical styles," "arrangements," or "tones" from copyrighted works are purely ideas, untinged with expression.[175] The challenge in delineating what constitutes an extracted idea versus expression poses a major weakness to the analogy of music AI technology to the computer-code-centered technology

172. This distinction between musical idea and expression is a critical question in substantial similarity inquiries for musical copyright infringement cases, often being debated and dissected case-by-case with widely varying subjective viewpoints. *See* Williams v. Gaye, 895 F.3d 1106 (9th Cir. 2018) (affirming the jury verdict that the song "Blurred Lines" performed by Robin Thicke and Pharrell Williams was substantially similar to the song "Got To Give It Up" performed by Marvin Gaye); *see also* Skidmore v. Led Zeppelin, 952 F.3d 1051 (9th Cir. 2020) (affirming the jury verdict that the song "Stairway to Heaven" performed by Led Zeppelin was not substantially similar to the song "Taurus" performed by Spirit).
173. *Skidmore*, 952 F.3d at 1058.
174. *See* Prafulla Dhariwal, Heewoo Jun, Christine Payne, Jong Wook Kim, Alec Radford, Ilya Sutskever, *Jukebox: A Generative Model for Music*, OpenAI (Apr. 30, 2020), https://arxiv.org/pdf/2005.00341.pdf (describing its training process which explicitly includes parameters for specific artist's voices, vocal delivery, lyrical content, song pitch, melody, rhythm, genre, and mood).
175. *Id.*

cases. As the court in *Thomson Reuters* noted, computer programs differ from plainly expressive works like books, films, and literary works because computer programs almost always serve functional purposes.[176] It follows that there are clear functional elements that may be extracted from computer code, whereas the existence of such elements may not be so clear in works, like literature and music, whose primary purpose is expression.

Furthermore, many generative music AI systems extract expressive elements for the purpose of generating new, similar works. In these cases, the purpose of training is to identify and extract patterns in musical expression across the entire set of copyrighted songs, which the program then communicates to the public through artificially generated imitations. These music programs can be distinguished from the Google Books and Images search engines in *Authors Guild* and *Perfect 10*, because such music AI systems do not merely make available unprotected information *about* the songs; they imitate the expression *in and of* the songs. Even if the program is facially framed as a tool, the objective purpose in these cases is grounded in expression and not function or information, thus serving a more "substitutive than transformative" function.[177] If the music AI system is designed to extract and communicate musical expression rather than ideas from the original works, the purpose of the original works and the music AI system are largely the same. This similarity in purpose, weighed against the commercial nature of music AI systems, would likely tilt factor one against fair use for such expression-based music AI tools. Thus, depending on the technology and characteristics of the tool, factor one may point in different directions even under a tool-based framing.

I have so far proceeded under the view that the purpose of the original works is expression. However, one might also consider the fact that rightsholders of the original musical works frequently commercially license the works to third parties for various uses. Then the purpose of the original works may be commercial licensing, for which a burgeoning market has taken shape specifically in the context of AI-powered music tools. Historically, music publishers owning music composition copyrights have licensed works to companies for use in AI tools.[178] Music rights owners have also provided their works for development of machine learning-powered digital fingerprinting technologies, like Audible Magic's audio fingerprinting and identification technology and YouTube's Content ID system.[179] In the last two years, Universal Music

176. Thomson Reuters Enter. Ctr. GMBH v. Ross Intel. Inc., 765 F. Supp. 3d 382, 398 (D. Del. 2025) (quoting Google LLC v. Oracle Am., Inc. 593 U.S. 1, 21 (2021)).

177. Lemley & Casey, *supra* note 145, at 778.

178. U.S. Copyright Off., *Copyright and Artificial Intelligence Music and Sound Recordings Listening Session*, at 2:21:20 (May 31, 2023), https://www.copyright.gov/ai/listening-sessions.html.

179. *See* Kevin J. Delaney, *YouTube to Test Software To Ease Licensing Fights*, Wall St. J. (June 12, 2007, 11:59 pm ET), https://www.wsj.com/articles/SB118161295626932114

Group ("UMG"), one of the largest owners of music recordings and compositions, has struck a string of deals to collaborate with music AI companies on AI products and to license its works for AI uses. These deals include a partnership with YouTube announced in August 2023 whereby the two companies, along with a group of UMG artists, would collaborate on the "YouTube Music AI Incubator" that includes "generative AI experiments and research that are being developed at YouTube."[180] The first product of the partnership, released in November 2023, was a generative music AI tool called Dream Track that allowed select YouTube video creators to create "original" songs featuring AI-generated vocals of certain participating UMG artists and use the songs in their YouTube Shorts videos.[181] Dream Track was powered by Google's generative music AI model, Lyria, and media reports indicated that Lyria was initially trained on unlicensed, copyrighted music, including works owned by UMG.[182] However, after Google presented Lyria to UMG, the parties subsequently entered into one-off licensing arrangements for UMG-owned music to be used as part of Dream Track.[183] Furthermore, media reports revealed in June 2024 that YouTube planned to pivot away from further developing Dream Track and was instead focused on licensing music from the three major labels, UMG, Warner Music Group ("WMG"), and Sony Music Group ("Sony

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(on file with *UCLA Entertainment Law Review*) ; *see also* John Paul Tiltlow, *Youtube is using AI to police copyright—to the tune of $2 billion in payouts*, Fast Co. (July 13, 2016), https://www.fastcompany.com/4013603/youtube-is-using-ai-to-police-copyright-to-the-tune-of-2-billion-in-payouts [https://perma.cc/8GAD-4GZE]; Audible Magic, Press Release, *Audible Magic Forms Agreement with Universal Music Group to Support its RepliCheck Anti-Piracy System*, https://www.audiblemagic.com/2003/08/12/audible-magic-forms-agreement-with-universal-music-group-to-support-its-replicheck-anti-piracy-system/ [https://perma.cc/5CA3-HGS5].

180. Neal Mohan, Our Principles for Partnering with the Music Industry on AI Technology, YouTube Off. Blog (Aug. 21, 2023), https://blog.youtube/inside-youtube/partnering-with-the-music-industry-on-ai/ [https://perma.cc/J53A-AVR5]; Universal Music Grp., *YouTube Announces AI Music Principles and Launches YouTUbe Music AI Incubator with Artists, Songwriters and Producers from Universal Music Group*, News, Universal (Aug. 21, 2023),https://www.universalmusic.com/youtube-announces-ai-music-principles-and-launches-youtube-music-ai-incubator-with-artists-songwriters-and-producers-from-universal-music-group/ [https://perma.cc/WGS3-FHTZ].

181. Lyor Cohen & Toni Reid, *An Early Look at the Possibilities as We Experiment with AI and Music*, YouTube Off. Blog (Nov. 16, 2023), https://blog.youtube/inside-youtube/ai-and-music-experiment/ [https://perma.cc/N8M5-LUGC].

182. *See* Elias Leight, *Google Trained Its AI on Copyrighted Msic, Sources Say—Now It's Trying to Make Deals*, Billboard (Jan. 25, 2024) https://www.billboard.com/pro/google-youtube-trained-ai-copyrighted-music-before-deals/ (on file with *UCLA Entertainment Law Review*); *See also* Google DeepMind, *Transforming the future of music creation* (Nov. 16, 2023), https://deepmind.google/discover/blog/transforming-the-future-of-music-creation/ (https://perma.cc/4459-S6YH).

183. Leight, *supra* note 182.

Music"), to train new YouTube AI tools.[184] The reports stated that YouTube had not disclosed the fee arrangement for this licensing of AI training data, but that it was likely the licensing fee would be one-off, rather than an ongoing royalty-based fee.[185] In October 2024, Dream Track was rolled out to all YouTube video creators; however, the tool was pared back to only allow instrumental music creation and no longer featured the vocals of UMG artists.[186]

Separately, UMG announced another partnership in October 2023 with BandLab Technologies, which operates a generative AI-powered music creation platform-cum-social network called BandLab (self-described as "a creator-first, destination where anyone with access to the internet can make music, grow their audience and earn a living")[187] and a generative "AI music idea generator" called SongStarter.[188] UMG's press release announcing the partnership stated that the companies would together "pioneer market-led solutions with pro-creator standards to ensure new technologies serve the creator community effectively and ethically." [189] Additionally, UMG announced a partnership with instrument maker Roland in March 2024 to collaborate on AI-powered audio production and sound technology.[190] Further, UMG

184. Jess Weatherbed, *YouTube is trying to make AI music deals with major record labels*, The Verge (June 27, 2024, 3:56 AM PDT), https://www.theverge.com/2024/6/27/24187151/youtube-ai-music-deals-licensing-record-labels-sony-umg-warner [https://perma.cc/S4LJ-BZ8Q].

185. *Id.*

186. *See* Andrew Hutchinson, *YouTube Announces Broader Launch of "Dream Track" AI Audio Generator*, Socia Media Today (Oct. 14, 2024), https://www.socialmediatoday.com/news/youtube-broader-launch-dream-track-ai-audio-generator/729814/ [https://perma.cc/9M2W-7EC6]; *see also* Neal Mohan (@nealmohan), X (Oct. 14, 2024, at 11:13 AM PT), https://x.com/nealmohan/status/1845890642419085542 [https://perma.cc/CE3B-AHZW].

187. BandLab, https://bandlabtechnologies.com/brands/bandlab/ [https://perma.cc/8P4E-MVHW].

188. SongStarter, BandLab, https://www.bandlab.com/songstarter; *see also* Murray Stassen, *Universal Music Strikes "First-of-Its-Kind" Strategic AI Partnership with Bandlab Technologies*, Music Business Worldwide (Oct. 18, 2023), https://www.musicbusinessworldwide.com/universal-music-strikes-first-of-its-kind-strategic-ai-partnership-with-bandlab-technologies1/ [https://perma.cc/PG4G-B6PD].

189. Universal Music Grp., News, *Universal Music Group and BandLab Technologies Announce First-of-Its-Kind Strategic AI Collaboration*, Universal (Oct. 18, 2023), https://www.universalmusic.com/universal-music-group-and-bandlab-technologies-announce-first-of-its-kind-strategic-ai-collaboration/ [https://perma.cc/9Z6Y-Y8XJ].

190. *See* Universal Music Grp., News, Roland Corporation and Universal Music Group Form Strategic Relationship to Empower Human Artistry (Mar. 20, 2024), https://www.universalmusic.com/roland-corporation-and-universal-music-group-form-strategic-relationship-to-empower-human-artistry/ [https://perma.cc/J4QS-XVZG]; *see also* Daniel Tencer, *Universal and Instrument Maker Roland Publish 'Principles for Music Creation with AI' as Part of New Partnership*, Music Business Worldwide (Mar 20, 2024), https://www.musicbusinessworldwide.com/universal-and-instrument-maker-roland-publish-principles-for-music-creation-with-ai-as-part-of-new-partnership1/

announced a partnership in June 2024 with AI technology company SoundLabs, which describes itself as "an artist-founded AI technology company, focused on creating responsibly trained generative AI tools for the next generation of music makers."[191] SoundLabs' first available product is a generative AI tool called MicDrop, which generates custom vocal models trained on artists' own voice data, and which UMG has made available for its artists' use in their music creation.[192] In October 2024, UMG announced yet another partnership with AI company KLAY Vision to develop a "pioneering commercial ethical foundational model for AI generated music" that is "fully respectful of copyright."[193] The company intends to use the model to "power new products and experiences" that can "grow musical creativity and human artistry" while creating "new avenues for […] future monetization of copyrights" in a way that "will not compete with artists' catalogs in traditional music services."[194] The model, called "KLayMM" is characterized as a "Large Music Model."[195] The company has revealed few specifics about the model's inputs and outputs; but, if we consider a Large Language Model, where both the training data and generated output consist of text-based natural language,[196] we might infer that the training data of KLayMM consists of both musical compositions and recordings.

What this flurry of AI-related activity makes clear is that music rights owners are actively seeking to use and monetize their copyrighted works for AI tool creation purposes, whether in the training stage of third-party models or in the co-creation of the actual music tool. Thus, proceeding under a framing of the purpose of the original works as 'AI model training material,' the unauthorized copying by certain music AI tool companies (like Suno) for purposes of model training may be supplanting copyright owners' right to license their works for the very same training. If such a substitute effect may be proven, a court could find that factor one does not favor fair use, particularly in light of the Supreme Court's decision in *Warhol,* where there were overlapping

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[https://perma.cc/69RB-HNUZ].

191. Universal Music Grp., News, *SoundLabs and Universal Music Group Announce Strategic Agreement to Offer Responsibly Trained AI Technology and Vocal Modeling Plug-in Micdrop to Umg Artists* (June 18, 2024), https://www.universalmusic.com/soundlabs-and-universal-music-group-announce-strategic-agreement-to-offer-responsibly-trained-ai-technology-and-vocal-modeling-plug-in-micdrop-to-umg-artists/ [https://perma.cc/G957-DW5M].
192. See *id.*
193. Universal Music Grp., News, *Universal Music Group Enters into a Strategic Collaboration with Ethical AI Music Company, Klay* (Oct. 28, 2024), https://www.universalmusic.com/universal-music-group-enters-into-a-strategic-collaboration-with-ethical-ai-music-company-klay/ [https://perma.cc/MJ7L-262Y].
194. *Id.*
195. *See id.*
196. Cole Stryker, *What are large language models (LLMs)?*, IBM, https://www.ibm.com/think/topics/large-language-models [https://perma.cc/G7WH-9V9W].

purposes of the specific commercial licensing use. The issue of the licensing market will be discussed further in Section VI of this paper under the factor four analysis, which bears relation to the first factor.

2. Entertainment-Based Framing

Another reasonable framing of the purpose of the music AI system is to generate new works as entertainment. Given that the core purpose of the original musical works is also entertainment, there is no discernible difference to justify fair use under factor one. Unlike the non-expressive use in *Sega, Oracle*, and *Authors Guild*, entertainment-based music AI systems do not use the original works' elements for non-expressive purposes. The consumer uses an entertainment-based music AI system not as a tool to supplement her own creation but as a supply of new expressive works for her to consume and enjoy. Thus, a music AI system neither provides public utility nor stimulates creativity in a way consistent with the goals of copyright law.

As already discussed, there is also a developing market for commercial licensing of songs for use in music AI training. The distinction between the licensing under this framing and the tool-based framing above concerns the purpose of the training use for which the songs are being provided. Above, the purpose of the training was to create a tool; here, the purpose of the training is to create a music AI system designed for consumer entertainment. An example of such a program might be an AI cover song generator, or even a parody song generator—both intended to be consumptive, entertainment-based uses. It is also possible that this distinction evaporates for programs like Udio, BandLab, and YouTube's Dream Track discussed above, which could be characterized as both a tool and a form of entertainment.[197] Regardless of which framing is adopted, if the purpose of the original works and the secondary copying overlap, meaning both are being used as training data, a court could find factor one against fair use.

It is worth taking a moment to address the specific example of a musical parody generator. If the framing of the purpose is tightened even more, a parody carveout for music AI may exist.[198] As copyright scholars Mark Lemley and Bryan Casey remarked, an AI that creates parodies of songs makes a transformative use of the original works, and thus should be considered fair use.[199] However, it is also necessary to contemplate whether the AI-generated

197. Udio describes its service: "Imagine creating personalized music for your life: a ballad for a romantic date, a banger for a night out with friends, a lo-fi track for meditation, or an upbeat song for your child's birthday. If you can describe it in text, you can now express it in music." Udio, https://www.udio.com/.

198. Perfect 10, Inc. v. Amazon.com, Inc., 508 F.3d 1146, 1165 (9th Cir. 2007) ("a search engine may be more transformative than a parody because a search engine provides an entirely new use for the original work, while a parody typically has the same entertainment purpose as the original work.")

199. *See* Lemley & Casey, *supra* note 145.

output is targeted enough to satisfy the parody standard under *Campbell*. As the *Campbell* majority explained, "the heart of any parodist's claim to quote from existing material, is the use of some elements of a prior author's composition to create a new one that, at least in part, comments on that author's works. [. . .] If, on the contrary, the commentary has no critical bearing on the substance or style of the original composition, which the alleged infringer merely uses to get attention or to avoid the drudgery in working up something fresh, the claim to fairness in borrowing from another's work diminishes accordingly (if it does not vanish), and other factors, like the extent of its commerciality, loom larger."[200]

A key consideration for the parody fair use exception is whether the secondary user copies expression for the purpose of *targeting that particular expression* critically.[201] However, a music AI system trains on an entire set of songs, not just one specific song. Thus, an AI-generated parody may not satisfy the *Campbell* targeting requirement if it brings in expression from non-targeted works on which it has trained. Copying those works is not justified unless the parody directly comments on or criticizes those other works. This is because it is not necessary to borrow expression from those non-targeted works to criticize the actual targeted work. In such cases, the non-targeted works are "merely use[d] to get attention or to avoid the drudgery in working up something fresh."[202] Thus, a parody carveout for music AI will likely turn on how the end-user writes the parody prompt and whether the prompt is targeted enough. For example, a prompt specifying a parody of a specific song or even an artist could qualify for fair use if indeed the AI only draws on training data of that song or artist and uses other unprotected ideas or elements to craft the parody (e.g., "generate a parody of the Bob Dylan song "Mr. Tambourine Man" that makes fun of its fantastical and fanciful lyrics and title it "Mr. Tangerine Man" with lyrics about a simple purveyor of citrus fruits"). In contrast, a prompt like "generate a parody of Taylor Swift's song "Style" using Eminem's rapping and lyrical style" would likely not be fair use because the parody does not target Eminem's rapping or lyrical style, but rather uses it as a vehicle to target Taylor Swift's song.

However, even if the parody is not sufficiently targeted, or even if the purposes of the original and secondary uses overlap, one might also look to *Sony*, which found fair use for a private, non-commercial use of copyrighted material. In *Sony*, the Court's decision rested on the fact that the principal use of Sony's video recording devices was at-home time-shifting of copyrighted television programming. The Court ruled that under factor one, this private, non-commercial use was presumptively fair. Under the entertainment-based framing, consumers

200. Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 580 (1994).
201. *See id.; see also id.* at 597–99 (Kennedy, J. concurring).
202. *See id.* at 580.

may be using music AI systems for private, at-home, and non-commercial use; but this usage can be distinguished from that in *Sony*. Consumers in *Sony* were entitled to watch the programming free of charge in the first place when it was publicly broadcast on television, whereas here the users of the music AI system are generally not entitled to free consumption of the music that is copied. Perhaps if the music comprising the training dataset were recorded strictly from public radio broadcasts, then the facts could be analogized to those in *Sony*. However, the reality is that a large portion of the copyrighted digital music files that form many training datasets are illegally pirated, ripped, or scraped.[203] Thus, consumers' use cannot be qualified as truly non-commercial, as they are consuming the original copyrighted works without payment.[204]

Furthermore, the Court in *Sony* explicitly limited the ruling to a "time-shifting" context in which consumers erased their personal reproductions after a single viewing, and suggested that "librarying" would not qualify as fair use.[205] Yet, many music AI systems are designed to allow downloading and multiple uses, not single use. Systems like Udio and Suno generate outputs as audio files that consumers may download and play as many times as they like. The systems also explicitly grant consumers who pay a subscription fee the rights to use the generated output for commercial purposes, including uploading to streaming platforms.[206] Therefore, the justification of private,

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203. Answer of Defendant Suno, Inc. to Complaint at 8–9, UMG Recordings, Inc. v. Suno, Inc., No. 1:24-cv-11611 (D. Mass. Aug. 1, 2024); Answer of Defendant Uncharted Labs, Inc. to Complaint at 8–10, UMG Recordings, Inc. v. Uncharted Labs, Inc., No. 1:24-cv-04777-AKH (S.D.N.Y. Aug. 1, 2024); Defendant Anthropic PBC's Memorandum of Points and Authorities in Support of Motion to Dismiss at 3, Concord Music Grp., Inc. v. Anthropic PBC, No. 3:23-cv-01092 (N.D. Cal. Aug. 15, 2024).

204. Note that the *Sony* Court was presented with the argument that similar to how a jewelry theft is not excused from being a crime just because stolen jewels are worn by the thief rather than sold, the private consumptive use of copyrighted material should not be excused from being infringement just because the consumer does not sell the recorded tapes. The majority rejected this argument on the basis that unlike an owner of jewels, who is deprived by the thief of the right to sell those jewels, the owners of the copyrighted programs are not deprived by the Betamax consumers of any opportunity to sell that programming to live viewers, since the live viewers have already consumed the programming once. *Sony Corp. of Am. v. Universal City Studios, Inc*. 464 U.S. 417, 449–50 (1984).

205. Furthermore, the Court in *Sony* explicitly limited the ruling to a "time-shifting" context in which consumers erased their personal reproductions after a single viewing, and avoided making any conclusions on whether "librarying" (where consumers accumulate libraries of recorded programs for repeated viewing) would qualify as fair use. *Id.* at 423, 451.

206. Udio, *Terms of Services* at § 6.3.1 https://www.udio.com/terms-of-service [https://perma.cc/6NJ5-LRAA]; Suno, *Terms of Services*, Content, https://suno.com/terms [https://perma.cc/PA3S-NQE8]; Suno, FAQs, "Commercial Use" https://suno-ai.notion.site/FAQs-b72601b96de44e5cacd2cd6baa985448#f0f1441180484d6094206e84e334ba36[https://perma.cc/76X4-BSUU]

non-commercial use in *Sony* would likely not hold up under the entertainment-based framing for a music AI system, and even consumers' private entertainment uses are likely not presumptively fair under factor one.

3. Functional Music Framing

At a high level, under the functional music framing, the purposes of the original and secondary uses of the copyrighted musical works are fundamentally different. The purpose of original copyrighted songs is expression and entertainment, while the purpose of AI-generated functional music is to fulfill a specific function apart from expression and entertainment. This difference would suggest that there is a transformative use, thus favoring fair use under factor one. However, the nature of functional music comprises a spectrum of expression and function, with some exhibiting minimal expression (like ambient meditation music) and others substantial expression (like a dynamic musical score for a dramatic film). There are also a variety of 'functions,' with some being more utility-based than others. For example, music used for therapy fulfills a more functional purpose than music that scores a film, which is also a form of entertainment. In addition, there could be music in the training dataset that fulfills both entertainment and functional purposes, like a popular film score. Accordingly, the degree of difference in purpose between the original works and the music AI system could vary depending on the specific application of the functional music and the degree to which the music AI system communicates any protected expression from the original works.

To expand on the examples above, consider a music AI system that produces functional music for use in music therapy treatment in dementia patients. Numerous studies have shown that playing music for people living with dementia can improve cognitive function and reduce anxiety, depression, and aggression.[207] Such a use is transformative because the AI-generated music is being used for a specific, distinct purpose from the original works in the training set. But, consider a different example in which a music AI system produces music to score a film, and the training dataset is comprised entirely of existing film scores. Because the purposes of the secondary and original works are identical, such a use is clearly not transformative. Thus, like in *Warhol*, in which the secondary and original works had the same purpose of illustrating a magazine

207. *See, e.g.,* H. B. Svansdottir & J. Snaedal, *Music therapy in moderate and severe dementia of Alzheimer's type: a case–control study*, 18 Int'l Psychogeriatrics 613 (2006), https://pubmed.ncbi.nlm.nih.gov/16618375; *see also* Moreno-Morales C, Calero R, Moreno-Morales P, Pintado C., *Music Therapy in the Treatment of Dementia: A Systematic Review and Meta-Analysis*, Frontiers in Medicine (May 19, 2020); Malak Bleibel, Ali El Cheikh, Najwane Said Sadier, et al., *The effect of music therapy on cognitive functions in patients with Alzheimer's disease: a systematic review of randomized controlled trials*, 15 Alzheimer's Research & Therapy 65 (2023).

about Prince in a commercial licensing transaction, a court would likely not find factor one in favor of the music AI system in this film score example.

However, even this type of use could be fair if only ideas are extracted from the original works and used to create the secondary musical work. For example, the film score music AI system could identify the most commonly occurring tempos, scales, and instrument combinations in the training dataset, and use those unprotected musicological ideas to generate a new film score. This instance would be similar to that in *Sega*, where Accolade copied protected video game code to extract an unprotected idea, and incorporated that idea into its own, new video game code. Factor one would likely favor the music AI system if it only uses unprotected ideas. But, if the music AI system extracts musicological patterns of greater specificity from its dataset—falling more in the territory of "expression" than "idea"—*and* the generated output is used for a function that the original music also serves (like film scores trained on existing film scores), then the degree of difference in purpose narrows. Commerciality looms larger here as well, and would be weighed against that difference in purpose to determine the factor one finding.

Finally, a recent development that illustrates a specific use case in which functional music purposes of the original works and AI-generated outputs directly overlap is UMG's direct foray into AI-generated functional music. In May 2023, UMG announced a partnership with functional music AI company Endel to create "science-backed soundscapes" for sleep, relaxation, and focus.[208] Under the partnership, UMG and its artists use Endel's AI technology to create functional music from the artists' existing music owned by UMG. While it is unclear what the exact process of the AI-powered creation entails, the significance of the venture is that UMG is using its copyrighted music to generate new functional music. Because this use and purpose are the same as a music AI system using UMG's copyrighted music to generate functional music, the secondary use would not qualify as fair use under factor one. In addition, the secondary use would directly substitute for the UMG-created works in a functional music derivative market, as will be discussed in Section VI.

208. Universal Music Group, News, *Endel and Universal Music Group to Create AI-Powered, Artist-Driven Functional Music, Designed To Support Listener Wellness*, (May 23, 2023), https://www.universalmusic.com/endel-and-universal-music-group-to-create-ai-powered-artist-driven-functional-music-designed-to-support-listener-wellness [https://perma.cc/NKB2-X43J].

V. Fair Use Factors Two and Three – The Nature of the Copyrighted Work & Amount and Substantiality Used

A. *Factors Two and Three—General Rule*

Factor two concerns the "nature of the copyrighted work," turning on whether the work is factual or creative in nature.[209] As the court explained in *Campbell*, factor two calls for recognition that some works are "closer to the core of intended copyright protection than others, with the consequence that fair use is more difficult to establish when the former works are copied."[210] The court further explained in *Oracle*, "[c]opyright's protection may be stronger where the copyrighted material . . . serves an artistic rather than a utilitarian function."[211] Thus, copying of creative works, which are closer to the core of copyright, weighs against fair use; conversely, copying of factual works, which are further from the core of copyright, weigh in favor of fair use. Yet the courts have routinely dismissed the influence of factor two where the purpose of the secondary use requires copying of creative works.[212] In addition, if a creative work is copied for its factual or unprotected content rather than its creative expression, that can also weigh in favor of fair use.

Factor three is "the amount and substantiality of the portion used in relation to the copyrighted work as a whole." This factor addresses the quantity and value of what is taken from the copyrighted work. Generally, the more or the greater the importance of what is taken, the more the copying weighs against fair use. However, factor three must also be considered in relation to factor one and factor four. As the Supreme Court explained in *Campbell*, the question is whether the amount and substantiality of the portion copied are "reasonable in relation to the purpose of the copying"—that is, whether the copier is justified in his taking to achieve the purpose of his secondary work under factor one.[213] In addition, the amount and substantiality of what is taken may "[reveal] the degree to which the [secondary work] may serve as a market substitute for the original or potentially licensed derivatives" under factor four.[214] Honing the rule further, the Second Circuit court in *Authors Guild* emphasized that "[w]hat matters in such cases [where portions of the

209. This paper will not address the additional consideration of whether a work is published or unpublished under this factor.
210. Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 586 (1984).
211. Google LLC v. Oracle Am., Inc., 593 U.S. 1, 20 (2021).
212. *See* Campbell, 510 U.S. at 586 ("[The fact that original work's creative expression was copied], however, is not much help in this case, or ever likely to help much in separating the fair use sheep from the infringing goats in a parody case, since parodies almost invariably copy publicly known, expressive works."); *see also* Authors Guild v. HathiTrust, 755 F.3d 87, 98 (2d Cir. 2014) ("this factor 'may be of limited usefulness where,' as here, 'the creative work . . . is being used for a transformative purpose.")
213. *Campbell*, 510 U.S. at 586
214. *Id.* at 587.

original works are revealed to the public through the secondary use] is not so much 'the amount and substantiality of the portion used' in making a copy, but rather the amount and substantiality of what is thereby made accessible to a public for which it may serve as a competing substitute."[215] Applying the same reasoning in the opposite scenario, the Ninth Circuit Court in *Connetrix* held that in cases of intermediate copying where "the final product does not itself contain infringing material, [factor three] is of 'very little weight.'"

B. *Factor Two and Three Analysis of Music AI Systems*

As inherently expressive works, musical works are close to "the core of intended copyright protection" under factor two. Thus, the copying of musical works in the training of music AI systems generally weighs against fair use. However, in *Authors Guild*, millions of creative (and factual) books were copied to create a search tool for those books, and the court found that factor two was not dispositive in isolation. Yet if combined with the transformative purpose of Google's copying under factor one, factor two actually favored fair use because the Google Books search engine "[provided] valuable information about the original, rather than replicating protected expression in a manner that provides a meaningful substitute for the original."[216] As discussed above in Part IV, a music AI system that acts as a tool providing musicological ideas and information could satisfy factor two by the same reasoning applied in *Authors Guild*. However, for music AI systems that primarily communicate expression extracted from the original works—like an expression-based music AI tool or an entertainment-based music AI system—the court's reasoning in *Authors Guild* case would not apply. In any case, since training for music AI systems requires mass-copying of creative works, factor two will likely have little influence in the fair use analysis, as the courts in *Authors Guild* and *Campbell* so stated.

Under factor three, the entirety of musical works are copied in the training for music AI systems, which in general would point away from fair use. However, in *Authors Guild*, the court reasoned that in light of Google's transformative purpose to create a search engine, it was "literally necessary" to copy the totality of the original books.[217] Otherwise, the search engine "could not advise searchers reliably whether their searched term appears in a book (or how many times)."[218] Distinguishing from *Authors Guild*, a music AI system need not be "reliable" or correct in its function. The stakes of reliability and completeness are not the same with a music AI system as with a search engine. A search tool yields factual information that the user relies on to enhance her knowledge, inform decisions, and potentially facilitate important research. The

215. Authors Guild v. Google, Inc., 804 F.3d 202, 222 (2d Cir. 2015).
216. *Id.* at 220
217. *Id.* at 221,
218. *Id.*

user of a search engine cannot immediately know the validity of the information provided and thus depends on the completeness of Google's database and search process. A music AI system, on the other hand, yields expressive music that the user can immediately judge for its subjective qualities. To the extent that the generated output is used for further purposes (like scoring a film), there is no risk of "incorrectness" in an objective sense, as the music's purpose is not informative, but aesthetic. In addition, even if the music AI system has a transformative purpose from the original works, such as being used as a tool to help musicians create new expressive works, as discussed in Part IV, the training need not copy songs in their entirety to learn the latent musicological patterns and ideas. Again, completeness of inputs is not necessary in creating subjective outputs, so a court could find that factor three weighs against fair use on this basis.

In *Authors Guild*, the court also emphasized that in cases where the secondary use communicates portions of the original works, the factor three analysis must focus on "the amount and substantiality of *what is thereby made accessible* to a public for which it may serve as a competing substitute."[219] Because the amount and substantiality of the original books made available to the public through the "snippet view" function was minimal, the secondary use did not serve as a substitute, and thus factor three did not weigh against fair use. Additionally, in intermediate copying cases where no portions of the original works are revealed through secondary use, courts have stated that factor three should hold minimal influence in the fair use inquiry.[220] For music AI systems, if the training is done properly, no portions of the original works should be made accessible to the public. Indeed, in *Thomson Reuters*, the court decided factor three in favor of the secondary use, because the secondary user's AI system did not make the copyrighted training data available to the public in the outputted product. However, recent lawsuits by music rightsholders against AI systems Udio, Suno, and Anthropic have put forth ample evidence of the generated outputs communicating significant portions of the original works. Udio and Suno generated musical outputs that contained virtually identical elements of melody, rhythm, and pitch as specific copyrighted sound recordings that were included in the training data set.[221] The language generation model of Anthropic outputted song lyrics verbatim from copyrighted compositions owned by music publishers, and the company was subsequently required by the court to institute "guardrails" to prevent such infringing outputs of the copyrighted compositions.[222] As these lawsuits demonstrate, even

219. *Id.* at 222.

220. *Connectix*, 203 F.3d at 606 (quoting *Sega*, 977 F.2d at 1527).

221. *See* Complaint at 16–23, UMG Recordings, Inc. v. Suno, Inc., No. 1:24-cv-11611 (D. Mass. June 24, 2024); Complaint at 17–29, MG Recordings, Inc. v. Uncharted Labs, Inc., No. 1:24-cv-04777-AKH (S.D.N.Y. June 25, 2024).

222. Order Granting Stipulation Regarding Preliminary Injunction Motion at 4, Concord

sophisticated music AI systems backed by multibillion dollar technology companies often accidentally reveal a significant amount of expression from the original works. In such situations, the revelations "offer the marketplace a significantly competing substitute for the copyrighted work," thus swinging factor three away from fair use.[223] However, if music AI systems could minimize or completely eliminate such revelations, a court would likely find factor three in favor of fair use for the mass copying undertaken by music AI systems. Still, either way the pendulum swings, as the courts in *Connectix* and *Thomson Reuters* emphasized, even a favorable finding for fair use under factor three should have very little bearing on the broader fair use inquiry in cases involving intermediate copying.

VI. Fair Use Factor Four – Market Harm

A. *Factor Four—General Rule*

Factor four concerns "the effect of the use upon the potential market for or value of the copyrighted work." The Supreme Court, in *Harper & Row v. Nation Enters* ("*Harper & Row"*), stated that factor four is "undoubtedly the single most important element of fair use,"[224] a characterization consistent with copyright's nature as an economic right.[225] As Judge Leval remarked in his seminal article on fair use, *Toward A Fair Use Standard*, "[a] secondary use that interferes excessively with an author's incentives subverts the aims of copyright. Hence the importance of the market factor."[226] In *Oracle*, the Supreme Court laid out a framework of three considerations for weighing market harm caused by copying under factor four: first, the amount of monetary harm; second, the source of the harm; and third, the public benefits that result from the copying.[227] Regarding the amount of monetary harm, the *Oracle* court ruled that an indeterminate amount of harm is not enough.[228] Judge Leval has emphasized that the market harm must be significant enough that it would substantially impair the incentive to create.[229] Regarding the source of the harm, the harm

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Music Grp., Inc. v. Anthropic PBC, No. 5:24-cv-03811 (N.D. Cal. June 26, 2024).

223. *Google Inc.*, 804 F.3d at 222

224. Harper & Row v. Nation Enters., 471 U.S. 539, 566 (1985).

225. *See Authors Guild*, 804 F.3d at 214.

226. Leval, *supra* note 45, at 1124. Note that the Supreme Court was heavily influenced by this article in the *Campbell* decision. *See*, *e.g.*, Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 576, 578–79, 586–87, 590–91. (1984)

227. Google LLC v. Oracle Am., Inc., 593 U.S. 1, 35–36 (2021).

228. *Id.* at 35.

229. *See Authors Guild*, 804 F.3d at 224 (where the court ruled that merely *some* loss of sales caused by Google Books' snippet view display of books' copyrighted text "does not suffice to make the copy an effectively competing substitute that would tilt the weighty fourth factor in favor of the rights holder in the original," and that there must be a significant effect on the market for or value of the original work.)

must be the result of the secondary work substituting for the original in the market, thus "supersed[ing] the use of the original," rather than a result of the secondary work suppressing demand for the original in any other way (like a "scathing theater review" or "lethal parody" that destroys the original commercially and artistically).[230] Regarding potential public benefits that result from the copying, a court must consider whether the benefit is of a type that furthers the objective of copyright law, and also balance the public benefits accrued against the losses suffered by copyright owners.[231]

The Supreme Court also stated in *Harper & Row* that in addition to considering the market for the original work, factor four must also consider the harm to derivative markets.[232] Thus, if the secondary use supplants a potential derivative market for the original work, factor four would also disfavor that use. However, the court clarified that the use would be one that "'supplants any part of the *normal* market for a copyrighted work.'"[233] This notion that the market—whether primary or derivative—must be a reasonable one is emphasized later in *Campbell*, when the Court states "[t]he market for potential derivative uses includes only those that creators of original works *would in general* develop or license others to develop."[234] Other courts further clarified that only an impact on the "traditional, reasonable, or likely to be developed markets [for an original work] should be legally cognizable" under factor four.[235]

The Court in *Campbell* also pointed out that factor four is related to factor one, in that the more transformative a secondary use under factor one, the less likely the secondary use will substitute for the original in the market.[236] Thus, below I will examine factor four through the three framings employed above. As noted, a transformative secondary use could still usurp a derivative market for the original even if it does not substitute for the original itself.

B. *Factor Four Analysis of Music AI Systems*

1. Tool-Based Framing

Under the tool-based framing, given the music AI system's transformative use of the original songs as training material for a music AI tool, it would be difficult to claim that the tool itself harms the consumer market for the originals in a substitutive fashion. In *Authors Guild*, the court held that the Google Books search engine did not substitute for the original books, even if it did

230. Leval, *supra* note 45 at 1125; *see also* Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 591–92 (1984).
231. *Oracle*, 593 U.S. at 35–36.
232. Harper & Row v. Nation Enters., 471 U.S. 539, 568 (1985).
233. *Id.* (emphasis added).
234. Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 592 (1984).
235. Am. Geophysical Union v. Texaco Inc., 60 F.3d 913, 936 (2d Cir. 1994).
236. *See Campbell*, 510 U.S. at 591.

communicate some copyrighted expression through the snippet view function. The crux of the court's reasoning was that as a tool, the search engine served a different purpose from the expressive originals: it provided information about the originals to a consumer. Thus, consumers were not using the Google Books search engine as a substitute to purchasing the actual books for consumption. Under factor four, even if there was some loss of book sales due to consumers attaining what they needed from the snippet provided by Google Books, this amount of loss was not substantial enough to qualify as market harm. The court in *Perfect 10* adopted a similar line of reasoning, ruling that the thumbnail images displayed through Google Images search engine did not substitute for the images because they served as a "pointer" tool to help consumers locate the source of the original, and not as an expressive or aesthetic work. Additionally, the thumbnails would not harm the direct sales or licensing market for the original full-sized images because they would lose their clarity when enlarged, which more or less erases their value to consumers.[237] A music AI tool similarly does not harm the originals' consumer market because the tool does not substitute for the original copyrighted works—consumers do not use the music AI tool as a substitute to consuming the originals, nor as a substitutive means to listen to the original works.

However, the unauthorized copying by the music AI systems for use in training could reasonably damage rightsholders' market for licensing the originals for that exact use, as discussed above in Part IV. To avoid the problem of circularity, such a licensing market must already exist, or have the likely potential to exist. There must be evidence that rightsholders are either already licensing their owned works as training material for AI systems, or that they reasonably could license their works for such purpose, and that the music AI systems are damaging this existing or potential market by circumventing it. As the leading precedent on this circularity issue, *Am. Geophysical Union v. Texaco Inc*. ("*Texaco*") emphasized "[o]nly an impact on potential licensing revenues for traditional, reasonable, or likely to be developed markets should be legally cognizable when evaluating a secondary use's 'effect upon the potential market for or value of the copyrighted work.'"[238] In *Texaco*, a corporation photocopied individual articles from a magazine (to which it subscribed) and distributed multiple copies of those articles to its employees, claiming this copying constituted fair use.[239] The magazine's publisher claimed that this copying harmed its nascent licensing market for individual articles.[240] The court held that even though the rightsholders in that case "still [had] not established a conventional market" for the licensing of individual articles, there nonetheless

237. *See* Perfect 10 v. Google, Inc., , 416 F. Supp. 2d 828, 850 (C.D. Cal. 2006); *see also* Perfect 10, Inc. v. Amazon.com, Inc., 508 F.3d 1146, 1168 (9th Cir. 2007).
238. *Am. Geophysical Union*, 60 F.3d at 930.
239. *See id.* at 915.
240. *See id.* at 929.

existed a "viable market" and the copying at issue substantially harmed the value of this market.[241] Currently, there exists a nascent yet rapidly expanding market for licensing of copyrighted music to serve as AI training material. As discussed in Part IV, music rightsholders not only have licensed their works for creating AI tools in the past but also have struck numerous deals over the last few years with long-standing technology partners like YouTube, as well as emerging music AI companies to create AI tools using the rightsholders' music. Licensing discussions between music rightsholders and music AI providers continue to progress. For example, UMG expressly addressed AI uses in its renewed music licensing agreements with TikTok and Meta in 2024,[242] and stated publicly in March 2025 that it is proactively licensing for AI uses with "good actors" and looking to scale such AI licensing programs.[243] Similarly, WMG and Sony Music have also stated that they are open to business in regards to AI licensing, issuing public statements in 2024 on their active AI licensing practices and intentions to assert their copyrights against actors who do not expressly obtain AI-specific licenses from them.[244] Moreover, the AI music licensing market is evolving on a global scale; in September 2024, the German collection society GEMA (which represents music rightsholders in administering and collecting income on their neighboring rights) formally introduced a licensing model for AI uses of its members' copyrighted works, through which it intends to collect licensing fees from AI providers for use of the works in the training stage and beyond.[245] These numerous examples of ongoing AI licensing activity by music rightsholders likely constitute sufficient evidence to satisfy the *Texaco* standard of a "viable" licensing market. Furthermore, the amount of harm caused by unlicensed AI music tools to this licensing market is likely significant enough to tilt factor four in rightsholders' favor, as the secondary use – unlicensed training – directly substitutes for the original

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241. *Id.* at 930–31.
242. *See* Universal Music Grp., News, Universal Music Group and Tiktok Announce New Licensing Agreement (May 1, 2024), https://www.universalmusic.com/universal-music-group-and-tiktok-announce-new-licensing-agreement/ [https://perma.cc/T8TM-AGN8].
243. *See* Stuart Dredge, Sony Music and UMG talk AI training and copyright, Music Ally (Mar. 19, 2025), https://musically.com/2025/03/19/sony-musics-digital-boss-slams-ai-training-exceptions-an-incredible-market-distortion/ [https://perma.cc/N28H-92B7].
244. *See* Warner Music Grp., Corp., *WMG Statement Regarding AI Technologies*, https://www.wmg.com/wp-content/uploads/2024/07/WMG-Statement-Regarding-AI-Technologies.pdf ; see also Sony Music, Declaration of AI Training Opt Out (May 16, 2024), https://www.sonymusic.com/sonymusic/declaration-of-ai-training-opt-out/
245. International Confederation of Societies of Authors and Composers, *AI and music: GEMA calls for music creators to share in AI providers' revenues and presents first licensing model* (Sept. 24, 2024), https://www.cisac.org/Newsroom/society-news/ai-and-music-gema-calls-music-creators-share-ai-providers-revenues-and [https://perma.cc/QK53-BQYZ] ; *see also* Mandy Dalugug, *GEMA Proposes Licensing Model for AI-Generated Music*, Music Business Worldwide (Sept. 30, 2024), https://www.musicbusinessworldwide.com/gema-proposes-licensing-model-for-ai-generated-music/ [https://perma.cc/R27S-MC98].

use – licensed training. Thus, lost licensing revenue would likely be considered a form of market harm under the fourth fair use factor.

A similar but separate consideration is whether the music AI systems harm a potential derivative market for the original works. Under the tool-based framing, the derivative market would be AI music tools that the rightsholders create and monetize themselves. In *Campbell*, the court rejected the argument that 2 Live Crew's song usurped the derivative parody market because it was not a likely market the copyright owners would have developed.[246] However, the court did remand the question of whether 2 Live Crew's use usurped the copyright owner's rap derivative market for the original song.[247] Here, there is evidence of an existing and rapidly developing derivative market for music AI tools developed by the copyright owners themselves using their own music.[248] As discussed in Part IV, over the last few years, UMG has been actively creating a multitude of music AI tools in partnership with various AI technology companies. It has been reported that WMG is investing in developing its own AI tools as well.[249] In March 2025, Sony Music announced its first AI investment in Vermillio, an AI licensing and rights management platform, and separately stated to media that they have held meetings with over 700 AI-related companies in the last eighteen months to discuss business opportunities, including music AI tools.[250] Because the music AI systems could serve as a direct substitute to these rightsholder-developed music AI tools, there is likely cognizable harm to this derivative market.

Lastly, factor four also includes a balancing of the public benefit gained through the secondary use against the market harm to the original work. Especially important to consider is whether the public benefit aligns with the goal of copyright law to promote the "creative production of new expression."[251] As many courts have emphasized, "[w]hen technological change has rendered its literal terms ambiguous, the Copyright Act must be construed in light of this basic purpose."[252] Under the tool-based framing, a music AI system undoubtedly promotes creative production and expression through its use by musicians in their creative process. Indeed, even storied musicians like Sir Paul McCartney

246. *See* Campbell, Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 592 (1984).
247. *See id.* at 593–94.
248. *See supra* note 178.
249. Etan Vlessing, *Warner Music CEO on AI: "Framing It Only as a Threat Is Inaccurate"*, The Hollywood Reporter (May 9, 2023), https://www.hollywoodreporter.com/business/business-news/warner-music-ceo-on-ai-songs-1235482938 [https://perma.cc/W2KH-BJQ2].
250. *See* Kerry Flynn, *Exclusive: Sony Music backs AI rights startup Vermillio*, Axios (Mar. 3, 2025), https://www.axios.com/2025/03/03/vermillio-ai-rights-licensing-sony-music [on file with *UCLA Entertainment Law Review*]; *see also* Dredge, *supra* note 243.
251. Google LLC v. Oracle Am., Inc., 593 U.S. 1, 35 (2021).
252. Sega Enters. Ltd. v. Accolade, Inc., 977 F.2d 1510, 1527 (9th Cir. 1992) (internal quotation omitted).

have used AI tools to create music that would have been impossible to make without the technology.[253] Thus, AI music tools generate recognizable public benefits of the exact variety that copyright law is designed to promote. However, this public benefit must still be balanced against the accompanying harm to the markets for which the right owners have a rightful monopoly, with an eye towards the creativity-inducing purpose of copyright law. In *Oracle*, the court ruled that the creativity-related harms to the rights owner, Oracle, were not substantial under factor four, because Google's secondary use of Oracle's copyrighted code in Android phones did not usurp the original code's use in either a potential licensing market or in the smartphone market.[254] The court also underscored that any potential profit that Oracle could have derived from licensing the code directly to Google would not have arisen from any inherent expressive quality of the code, but instead from the functional value that consumers breathed into it through their years of investment in learning the code and the resulting widespread familiarity with it amongst programmers.[255] The court further stated that given this existing familiarity with the code, it would be harmful to the public and run against the purpose of copyright law to prohibit programmers from using the code to further create their own, new, expressive computer code.[256] Thus, the court concluded that the potential creativity-related harm to the public outweighed any creativity-related harm to the original owner under factor four.[257] By contrast, the court in *Thomson Reuters* distinguished the secondary AI training use at issue from that in *Oracle*, and ruled that unlike the Java-denominated code that had become deeply entrenched with programmers through its functional attributes in *Oracle*, there was "nothing that [Westlaw] created that Ross could not have created for itself or hired [an external provider] to create for it without infringing [Westlaw's] copyrights."[258] Moreover, the court remarked that legal opinions are freely available to the public, and that the public is not entitled to Westlaw's specific expressions of those legal opinions.[259] The court held that given the availability of non-infringing alternatives to both the public and to Ross, any public benefit resulting from Ross's infringing use was outweighed by the market harm to Westlaw under factor four.[260] Applying the *Thomson Reuters* court's factor four analysis, a court could find that non-infringing alternatives are available

253. See Mark Savage, *Sir Paul McCartney says artificial intelligence has enabled a "final" Beatles song*, BBC (June 13, 2023), https://www.bbc.com/news/entertainment-arts-65881813 [].
254. *See Oracle* at 37.
255. *See id.* at 38–39.
256. *See id.* at 39–40.
257. *Id.* at 40.
258. Thomson Reuters Enter. Ctr. GMBH v. Ross Intel. Inc., 765 F. Supp. 3d 382, 400 (D. Del. 2025).
259. *Id.*
260. *Id.*

to both consumers and music AI systems, which weighs against a public benefit justification for the infringing use. For example, there are already existing analog and digital music tools that are freely or inexpensively accessible to the public, like recording and looping devices and digital audio workstation software. There also exist troves of music education resources accessible to the public for free on video platforms like YouTube[261] and through libraries. Moreover, even without tools, consumers are able to create music using their voices, musical instruments, and creative ingenuity. Additionally, adopting the line of reasoning of *Thomson Reuters*, the unauthorized copying by music AI providers for AI training purposes can be distinguished from the secondary use in *Oracle* because there is nothing in the copyrighted music that these music AI providers could not create for themselves, access through non-infringing sources, or commission to be created. For example, music AI providers could train their models on self-produced musical samples, public domain music, or even directly on a collection of musicological rules. Thus, given the many non-infringing alternatives available to music AI systems and consumers, as well as the rapidly growing licensing and derivative markets for AI training data, the public benefit produced by unlicensed AI music tools is likely not outweighed by the market harm inflicted by such infringing uses. Accordingly, under the tool-based framing, factor four could likely weigh against fair use by the music AI system.

2. Entertainment-Based framing

Under the entertainment-based framing, factor four likely weighs against fair use for the music AI system, as the output causes market harm by competing in exactly the same entertainment market as the originals. First, the AI-generated songs serve as a substitute for the originals to the consumer who creates the song. AI cover songs are an example of such an instance.[262] Consumers are actively creating AI-generated cover songs featuring the AI-generated vocals of one artist singing a composition they have not previously recorded. Sometimes these are existing compositions, the consumer's own original composition, or even AI-generated compositions. Second, AI-generated output also serves as a substitute for the original songs in the broader marketplace, when the consumer releases the song to the public. For example, one of the most popular AI cover songs on YouTube is a video of AI-generated Justin Bieber vocals covering the song "Nothing's Gonna Change My Love For

261. *See, e.g.,* https://www.youtube.com/playlist?list=PLty2epbjlrF03wcM8-LDBP5YI9EOFpxpY.

262. *See* Justine Moore & Anish Acharya, *The Future of Music: How Generative AI Is Transforming the Music Industry*, Andreessen Horowitz (Nov. 9, 2023), https://a16z.com/the-future-of-music-how-generative-ai-is-transforming-the-music-industry [https://perma.cc/P84Z-LCQH].

You."[263] The song was originally performed by R&B singer George Benson in 1985, and was written by Michael Masser and Gerry Goffin.[264] The sound recording copyright of the original release is owned by Warner Music Group[265] and the publishing copyright is owned by Universal Music Publishing Group.[266] The song was made popular by Hawaiian pop singer Glenn Medeiros in a cover version released in 1987 through Amherst Records.[267] The song has also been covered by pianist Richard Clayderman, instrumental rock group The Shadows, and boy band Westlife, among many other musicians.[268] The AI cover serves as a substitute to every one of these versions, and harms the market rewards for each and every performer, writer, and copyright owner of both the sound recordings and the musical composition. The AI cover song serves as a substitute for Justin Bieber's other songs as well. Consumers may likely choose to listen to the AI-generated cover over all the other legally released versions of the song, and even over Justin Bieber's own songs, thereby causing considerable market harm to rightsholders in the form of lost royalties, licensing revenue, and advertising revenue.

However, the court in *Sega* dismissed this line of argument. In *Sega*, at issue was Accolade's intermediate copying of Sega's video games, which enabled Accolade to create competing video games for precisely the same Sega Genesis console video game market. Despite the substitutive role of Accolade's games, the court held that factor four favored fair use for Accolade. The court reasoned that there was no significant effect on Sega's market for games because consumers "typically purchase more than one game" and might easily purchase both Accolade's and Sega's games.[269] This reasoning is even more so applicable to the consumer music market. Consumers typically listen to a variety of artists and songs, and even many different versions of a single song. Thus, an AI-generated song is not necessarily substituting for a copyrighted song from the training dataset—it could be additive to the consumer's listening consumption and have little to no market effect on the original. This theory might hold true in a physical retail market, but in a streaming-dominated music consumption market, AI-generated songs could

263. The song has over 8 million views as of January 31, 2024. *See* One Hour, *Nothing's Gonna Change My Love For You Lyrics - Justin Bieber (AI Cover)*, YouTube (Sep. 1, 2023), https://www.youtube.com/watch?v=QVsCHTnt9mo.
264. *Nothing's Gonna Change My Love For You By George Benson*, Universal Music Publishing Group (last visited Jan. 30, 2024), https://www.umusicpub.com/us/Digital-Music-Library/song/202375/george-benson-nothings-gonna-change-my-love-for-you-.
265. AllMusic, *20/20 by George Benson*, https://www.allmusic.com/album/20–20-mw0000197792.
266. *See supra* note 264.
267. AllMusic, *Glenn Medeiros [1987] by Glenn Medeiros*, https://www.allmusic.com/artist/glenn-medeiros-mn0000662692 .
268. *See supra* note 264.
269. Sega Enters. Ltd. v. Accolade, Inc., 977 F.2d 1510, 1523 (9th Cir. 1994).

harm the market for copyrighted songs by affecting streaming revenue. The current payout model for large streamers like Spotify is based on a song's "pro rata" share of total streams on the platform each year, whereby each copyright owner receives a percentage of 'the pot' (the total amount of royalties available to all copyright owners with songs on the platform) that is proportional to their songs' share of total streams. Accordingly, these copyright owners' share of streams could decrease as AI-generated songs flood the platforms and take up the share. As streaming revenue represents over 80 percent of total recorded music revenue in the U.S.,[270] the proliferation of AI-generated music on streaming platforms would result in substantial market harm to the original works. A recent high-profile case highlights this issue; in September 2024, the FBI and the Southern District of New York Attorney's Office brought criminal charges against defendant Michael Smith for fraudulently generating over ten million dollars in music streaming royalties by uploading over 200,000 AI-generated songs (which were generated with the help of the CEO of a leading AI music company, Boomy) to music streaming platforms and using bots to stream them billions of times.[271] Because of music streaming platforms' pro-rata royalty payment model, these ten million dollars in royalties were diverted away from legitimate copyright owners, evidencing substantial market harm. It should be noted, however, that Spotify and other platforms have recently announced that they plan to make changes to their payout models, which could resolve or mitigate the potential market harm caused by AI-generated outputs on the platforms.[272] Nonetheless, under the current payout model, the infringing output of music AI systems threatens significant market harm to music rightsholders, thereby tilting the fourth factor against fair use.

3. Functional-use framing

Under the functional music framing, there is likely substantial harm to the licensing and retail market for original musical works across nearly all functional uses. First, there is a robust music licensing market. Music is often

270. *See* Recording Industry Association of America, *RIAA Mid-Year 2023 Revenue Report* (Sep. 2023), https://www.riaa.com/wp-content/uploads/2023/09/RIAA-Mid-Year-2023-Revenue-Report.pdf.

271. *See* U.S. Dep't of Just., Press Release, North Carolina Musician Charged With Music Streaming Fraud Aided By Artificial Intelligence (Sept 4, 2024), https://www.justice.gov/usao-sdny/pr/north-carolina-musician-charged-music-streaming-fraud-aided-artificial-intelligence [https://perma.cc/WWS5-X3TR]; *see also* Kristen Robinson, *Boomy CEO Listed as Co-Writer on Hundreds of Songs from Accused $10M Streaming Fraudster*, Billboard (Sept. 5, 2024), https://www.billboard.com/pro/ai-music-streaming-fraud-case-boomy-ceo-listed-co-writer-songs/.

272. *See* Tim Ingham, *Spotify is Changing its Royalty Model to Crush Streaming Fraud and Introduce a Minimum Payment Threshold. Its Plan? To Shift $1 Billion in Payouts Towards 'Working Artists' Over the Next 5 Years.*, Music Business Worldwide (Oct. 24, 2023), https://www.musicbusinessworldwide.com/spotify-is-changing-its-royalty-model-to-crush-streaming-fraud [https://perma.cc/3KPA-EGZK].

licensed separately for specific uses and functions, with different rates for each use. Common licensing uses of music include synchronization of the music with audiovisual works, digital sampling of sound recordings, arrangement or adaptation of the music into different musical styles, and performance of the music in various settings and for various purposes. Music AI systems designed to generate functional music directly supplant the licensing market of original works for the same functional purposes. For example, in the case of film scores, instead of paying licensing fees for recorded music and original scores that could amount to tens of thousands of dollars, an independent filmmaker could generate all the music he needs for his film using a music AI-generator at little to no cost. And, because AI-generated music is not copyrightable, the filmmaker could use and edit the music in any way he wishes within the film, distribute the film worldwide with no restrictions, and save exhibitors the burden of securing performance licenses to show the film in public. These facts make AI-generated music especially suitable and desirable for the function of scoring films. Thus, music AI systems present significant substitutional value and market harm to the licensing market of original music for functional uses.

Second, music AI systems that generate functional music may harm the primary retail market of original music that is created or consumed for the same functional purposes. For example, meditation music that is generated by a music AI system trained on a dataset of existing meditation music directly competes with that existing music. Even where the secondary use has a transformative purpose, like AI-generated music used for music therapy in dementia patients, as discussed in Part IV, the output could supplant original works that are also used in music therapy (like a copyrighted song from the patient's childhood), thereby harming the market for those originals.

In addition, functional music generated by music AI systems could harm rightsholders' derivative markets. As discussed in Part IV above, copyright owner UMG is creating AI-generated functional music using its owned musical works, in partnership with music AI provider Endel. This music, which is considered a derivative work, would be directly substituted by AI-generated functional music created by unauthorized third-party music AI systems. This is a clear instance of harm to UMG's derivative market for functional music. However, because UMG's venture is still in the relatively early stages, it is not clear whether there is *substantial* harm to UMG's derivative market, as required under factor four. Regardless, the unauthorized third party output certainly represents a threat to UMG's market that could grow substantially in time.

VII. Weighing the Factors Under Each Framing

Under all three framings, factor two will likely carry little weight in the fair use inquiry, as courts have routinely dismissed its influence in cases where copying of creative works is necessary for the secondary work's purpose.

Under all three framings, factor three will likely weigh against fair use because the copying of entire works is not reasonably necessary to achieve the purpose of training either a music tool, an entertainment program, or a functional music generator. Moreover, courts have given factor three little bearing in cases of intermediate copying, as here.

Under the tool-based framing, whether factor one weighs toward or against fair use depends on how much of the original works' expression is utilized and communicated in the outputs of a music AI system. A system that utilizes only unprotected ideas will likely favor fair use, whereas a system that extracts and communicates protected expression from the original works will weigh against fair use. This distinction is irrelevant under factor four because either type of tool is unlikely to substitute for the original works in their primary retail market, which swings in favor of fair use. However, both the licensing market of the original works for use as AI training material, as well as the derivative market for rightsholder-created music AI tools, have seen rapid growth and development in recent years despite their nascency, and thus likely qualify as "viable" markets that would be harmed by the directly substitutive secondary use. Considering the total cognizable market harm, factor four could likely weigh against fair use under the tool-based framing.

Under the entertainment-based framing, factor one weighs against fair use because there does not exist a sufficiently transformative purpose. However, there may be a carveout under factor one for music AI systems that generate parodies in very specific cases. Factor four also weighs against fair use because the outputs of entertainment-based music AI systems compete directly with the originals in their primary market of music consumption, thereby causing substantial market harm.

Under the functional music framing, factor one depends on the specific application of the functional music and the degree to which the music AI system communicates any protected expression from the original works. An application that has a transformative purpose, such as music therapy for dementia patients, can direct factor one towards fair use. In contrast, functional music that both supplants and communicates expression from the original works, like an AI-generated film score trained on existing film scores, likely does not satisfy factor one. In all cases, factor four weighs against fair use because there exists a robust licensing market for functional uses of the original works, and AI-generated functional music presents significant substitutional value and market harm to this market.

Overall, factors one and four will be the most important in the fair use inquiry. While the factor-by-factor analysis will turn on the facts of each case, the tool-based framing presents the most favorable case for fair use.

VIII. Conclusion

Generative music AI is a frontier representing both an immense opportunity and an existential threat to creative progress. Music AI systems have compelling use cases in powering new creations and lowering barriers to expand public participation in music-making. When used as tools to supplement music production, music AI systems can unlock insights, expand collective musical knowledge, and enable efficient and innovative creation. By promoting public creativity in such cases, generative music AI systems undoubtedly further the fundamental goal of copyright law. However, generative music AI systems are only able to do so by "standing on the shoulders of giants," in the words of Isaac Newton; they are built off the backs of performers, producers, musicians, songwriters, engineers, record labels, and music publishers who created and invested in the very works on which they are trained. In cases where AI supplants the fruits and usurps the rewards of human creativity, such systems stand in direct philosophical opposition to the goals of copyright. Ultimately, the question of whether generative music AI systems' appropriation of copyrighted musical works is fair use will depend on the specific facts of each AI system and case. Absent cooperation between generative music AI systems and music rightsholders via licensing arrangements, the ongoing viability of either's existing business models may very well rest on the courts' careful determination of the fair use question in the near future.