# THE AI AUTHORSHIP DISTRACTION: WHY COPYRIGHT SHOULD NOT BE DICHOTOMISED BASED ON GENERATIVE AI USE

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*In both the United States and Europe, courts seek to deny copyright to works developed with Generative AI (GenAI) tools, in an effort to separate GenAI-outputs from non-GenAI works. Yet there is an infinite spectrum of uses of GenAI tools, from those that negligibly affect the final work to those that conjure entire works with negligible effort. Thus, disclosure of GenAI use in a work's production discloses precisely nothing – no more than a "software used here" label. Further, GenAI use is broadly unauditable, especially at a granular level within works. In turn, such a dichotomy destabilises the international creative economy blindly without means of asserting its own framework. Thus, redesign of copyright frameworks should not focus on trying to ascertain appropriate authorship thresholds as to when an artwork has had enough human intervention, if it is prima facie clear that it is an original literary or artistic work without any confusion as to its stated author. Any copyright framework that seeks to assert a dichotomy of rights in identical works without means of enforcement is a paper tiger – a distraction from the challenges posed to foundational elements of copyright frameworks by new modes of creative production that demand consideration.*



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*INTRODUCTION*

Generative AI (GenAI) tools have foundationally shifted modes of creative production, as entire paintings and songs can be generated within seconds with minimal human direction.[2] With enough computational power, professional musical works can be generated faster than it takes to listen to them.[3] "Infinite" generators run 24/7, creating livestreams of seemingly never-ending new content.[4] This is, of course, paradigm-shifting. In turn, the conventional (though much debated) economic rationale underlying copyright frameworks that rational market participants would not invest in the creation of a work if they were not then granted exclusive rights to that work is foundationally undermined, as creators can invest minimal time, effort and costs to produce fully formed works with the help of GenAI tools.[5] These shifted modes of creative production fundamentally alter the behaviour that copyright now incentivises and challenge our means of determining when an author is unfairly profiting off of the work of another. The incoherence between current copyright framework applications and these new modes of creative production are apparent.

Copyright is turned "upside down", according to Mark Lemley.[6] Edward Lee called "Code Red For Copyright Law".[7] They are both right, yet the severity of the situation is inflated by the non-viable means by which national regulators have sought to respond to these challenges. In both Europe and the United States, courts seek to deny copyright to works developed with these state-of-the-art tools in an effort to separate them from their non-GenAI kin.[8] This misguided approach has radical implications as it creates a dichotomy of rights in otherwise identical works. Although copyright has never applied to *everything* and there have always been

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[2] Text-to-image models include Open AI's DALL-E 3 (available at: https://openai.com/index/dall-e-3/) , Stability AI's Stable Diffusion (available at: https://stability.ai/news/stable-diffusion-3) , Midjourney Inc's Midjourney (available from: https://www.midjourney.com/home), and Google's Imagen 2 (available at: https://deepmind.google/technologies/imagen-2/). Text-to-music models include Suno AI (available at: https://suno.com/), Udio (available at: https://www.udio.com) , and Stable Audio 2.0 (available at: https://stableaudio.com/)

[3] As of the 24th of July 2024, this was true of both Suno and Udio, which both managed to generate one minute's music in less than one minute.

[4] *See for example*: DADABOTS, Phở Queue, https://www.youtube.com/watch?v=uZ-K647LViU.

[5] *See for example*: Robert M Hurt & Robert M Schuchman, *The economic rationale of copyright*, 56 The American Economic Review, 425 (1966); Ansgar Ohly & Diethelm Klippel, Geistiges Eigentum und Gemeinfreiheit 3 § 11 (Mohr Siebeck. 2007); Nadine Klass, et al., *Bringing Europe's cultural heritage online: initiatives and challenges*, *in* EU Copyright Law 959, (Irini Stamatoudi & Paul Torremans eds., 2021); Peter Drahos & John Braithwaite, Information Feudalism: Who Owns the Knowledge Economy 177 (The New Press. 2002); Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society L 167 (2001); U.S. Constitution. Art. I § 8, cl. 8.

[6] Mark Lemley, *How Generative AI Turns Copyright Law Upside Down*, 25 Science and Technology Law Review (2024).

[7] Edward Lee, *The Code Red for Copyright Law*, 76 Florida Law Review (2024).

[8] *See for example*: U.S. Copyright Office Letter to Lindberg re: Zarya of the Dawn (Registration # VAu001480196) (Feb. 21, 2023), https://www.copyright.gov/docs/zarya-of-the-dawn.pdf; Czech Republic Judgment In The Name Of The Republic (Case No. 10 C 13/2023-16) (Oct. 11, 2023), available at: https://justice.cz/documents/14569/1865919/10C_13_2023_10/108cad3e-d9e8-454f-bfac-d58e1253c83a

questions as to whether objects which were not clearly original artworks should be determined copyrightable or not, here we are faced with a wholly different set of circumstances.[9] GenAI tools have been integrated into all manner of professional creative technologies – mere buttons to be pushed within a creative workstation as part of an author's process.[10] As such, this is not a question of debating whether a lamp should be considered an artwork. Instead, this dichotomy does nothing less than call into question the copyright status of each artwork from here on in which *may* have utilised GenAI tools until its production process is understood. Thus, regulatory bodies demand to know if creators have used GenAI to ascertain copyright status. Yet, GenAI disclosure discloses precisely nothing - no more than stating "software was used here". There is an infinite spectrum of uses of GenAI tools, from those that negligibly affect the final work to those that conjure entire works with negligible effort. Being informed that an author has used a GenAI tool provides no information whatsoever about that author's relation to the work itself without granular understanding of their entire creative process. Absurdly, regulatory bodies that wish to enforce this new dichotomy are seeking to undertake a seemingly impossible audit of the creative process of (just about) every artwork from here-on-in to check if it meets an uncertain authorship threshold. Is this really the best path forward?

Hovering a copyrightability question mark over new works not only wrongly casts aspersions on each author's creative process, it risks destabilising the entire creative economy, as each individual author who wishes to use these popular tools is unsure what rights they hold. In turn, a lack of harmonisation of authorship thresholds worldwide means that creators are unsure *where* they will hold rights. As such, this dichotomy undermines both of copyright's pillars, in its inability to protect neither the dignity of creators *nor* the economic market around them. Rather, each new work *may* be in the public domain, *may* be exclusively owned, or *may* hold different rights in different countries. We might then find ourselves jettisoned back to a bygone era where large swathes of professional works can be legally copied and sold outside their country of origin.

Yet even were this dichotomy of rights in otherwise identical works purposively coherent, it is entirely unauditable and unenforceable. In turn, it destabilises and disharmonises the international creative economy blindly without means of asserting its own framework. This is especially problematic, given the new potential for massive scale of production. Without means of enforcement, a copyright framework that denies ownership of GenAI-assisted works inherently incentivises denial of use

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[9] In the USA, for example, landmark cases such as: Burrow-Giles Lithographic Co. v. Sarony, 111 U.S. 53 (1884); Bleistein v. Donaldson Lithographing Co., 188 U.S. 239 (1903); Mazer v. Stein, 347 U.S. 201 (1954). In Europe, for example: Eva-Maria Painer v Standard VerlagsGmbH and Others, C‑145/10, (The Court of Justice of the European Union (Third Chamber)).

[10] Pam Clark, *The next generation of generative AI is now in Photoshop,* Adobe Blog (Apr 23, 2024), https://blog.adobe.com/en/publish/2024/04/23/the-next-generation-generative-ai-now-in-photoshop; *Logic Pro takes music-making to the next level with new AI features,* Apple Newsroom (May 7, 2024), https://www.apple.com/newsroom/2024/05/logic-pro-takes-music-making-to-the-next-level-with-new-ai-features/; Peter Kirn, *Magenta Studio: Free AI tools for Ableton Live,* Ableton Blog (Jul 2, 2019), https://www.ableton.com/en/blog/magenta-studio-free-ai-tools-ableton-live/.

of GenAI-tools in order for an author to achieve full rights to their work.[11] As such, redesign of copyright frameworks should not focus on trying to ascertain appropriate authorship thresholds as to when an artwork has had enough human intervention, if it is *prima facie* clear that it is an original literary or artistic work without any confusion as to its stated author. Any copyright framework that seeks to assert a dichotomy of rights in identical works without means of enforcement is a paper tiger – a distraction from the challenges posed to foundational elements of copyright frameworks by new modes of creative production that demand consideration.

As an experimental musician utilising GenAI tools in my own creative practice, I will first illumine the rich current-state spectrum of GenAI-uses in the creation of musical works. Some of these GenAI-uses do not affect the copyrightable aspects of a work. Others do, but in spectrums ranging from trivial to substantial. Other GenAI tools are specifically designed by the artist themselves for bespoke aesthetic purpose. All of these tools can have radically different levels of interaction or reliance in development of the final work. As such, the amount and nature of GenAI-tool use would need to be granularly understood for each work in a way that even the artists themselves may not know in order to determine whether any work has passed a requisite authorship threshold.

I then run through the current state of uncertainty in international copyright frameworks around whether GenAI-assisted works can hold copyright, reliant on an array of indeterminate national authorship thresholds without international harmonisation nor guidance as to whether the many use cases outlined in the first section would be copyrightable or not. I thus exhibit the clear lack of understanding of how artists are using GenAI-tools in regulatory reasoning to date.

I therefore question the purpose in asserting a dichotomy of rights between identical creative works, as doing so does not clearly serve any of the rationales for copyright while undermining decades of international copyright harmonisation and free trade in creative products.

Using a textbook scenario of how GenAI-tools are currently being utilised within creative communities as a starting point, I then analyse how the vague authorship thresholds espoused internationally would struggle in even these common creative circumstances to ascertain whether these works could hold copyright. I therefore consider the practicable options in maintaining a dichotomy of rights over these works.

I first consider trust-based enforcement systems and outline how disclosure requirements incentivise artists to hide their use of GenAI tools in order to receive rights over innovative work. Further, I exhibit the unworkability of manual maintenance of records for every time a GenAI tool is used and consider the illegality and unfairness of artists losing rights to their work where they have not maintained sufficient archives of their process.

I then audit potential auditing systems and explore the incredible challenges in developing frameworks to ascertain whether artists have used GenAI-tools as part of their practice, let alone *how* they have used them at a level of detail granular enough to determine *which* elements of a work should receive copyright and which should not.

In the final section, having exhibited GenAI-based dichotomies of rights as dubious in purpose and impracticable in practice, I outline some of the core

[11] Indeed, this was already foreseen as a critical issue by Pamela Samuelson in 1986. See: Pamela Samuelson, *Allocating ownership rights in computer-generated works*, 47 U. PITT. L. REV., 1226 (1986).

challenges to copyright frameworks to be considered in the new reality of creative production, where authors can create large numbers of works with minimal investment. If exclusive rights are to be maintained over these works, substantial similarity tests will need to be reconsidered.[12] Critically, copyright no longer provides the same incentives that it was designed to. If we wish to maintain it, copyright will need to be redesigned to adapt to an increasingly interactive creative landscape. Determining GenAI-based authorship thresholds will not help us to respond to these era-defining challenges.

## *I. THE MYRIAD USES OF GEN-AI TOOLS IN CREATIVE PRACTICE; OR WHY GEN-AI DISCLOSURE DISCLOSES NOTHING*

GenAI tools have led to great discussion as to whether GenAI-assisted works should receive copyright, as if GenAI use inherently changes the character of a work.[13] Yet, GenAI tools run the gamut across an infinite spectrum of potential use cases. As they are rapidly integrated into all manner of professional creative software, it is feasible that within the near future, a great majority of creative works will have utilised *some* GenAI tool in their creative production.[14]

GenAI tools are best known for prompt-based text and image generation, both of which have received enormous amounts of press coverage since the launch of OpenAI's Large Language Model- (LLM)-based chatbot and virtual assistant, ChatGPT, in November 2022.[15] LLM's, such as Open AI's ChatGPT, Anthropic's Claude, Google Deepmind's Gemini, and Meta AI's Llama, facilitate for-purpose text-generation in response to user input text prompts, allowing creative written works, such as poems, stories and screenplays, to be generated on-command.[16] Text-to-image models, such as Open AI's DALL-E, Stability AI's Stable Diffusion, Midjourney Inc's Midjourney, and Google's Imagen, are similarly able to respond to

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[12] This is argued convincingly by Lemley in *supra* note 6.

[13] For wide-ranging analysis addressing authorship in relation to generative AI, *see*: *id.*; Lee, *supra* note 7; Edward Lee, *Prompting progress: authorship in the age of AI*, 76 Florida Law Review, 5, 9-10 (2024); Dan L. Burk, *Cheap Creativity and What It Will Do*, Vol. 57 Georgia Law Review, 1673 (2023); P Bernt Hugenholtz & João Pedro Quintais, *Copyright and artificial creation: does EU copyright law protect AI-assisted output?*, 52 IIC-International Review of Intellectual Property and Competition Law, 1212-1213 (2021); Andres Guadamuz, *Artificial intelligence and copyright*, Wipo Magazine (Oct. 2017), https://www.wipo.int/wipo_magazine/en/2017/05/article_0003.

[14] *See generally supra* note 10.

[15] Jen Bartholomew & Dhrumil Mehta, *How the media is covering ChatGPT*, Columbia Journalism Review (May 26, 2023), https://www.cjr.org/tow_center/media-coverage-chatgpt.php; Paul R Brewer, et al., *Artists or art thieves? media use, media messages, and public opinion about artificial intelligence image generators*, AI & Society (2024).

[16] *Hello GPT-4o,* Open AI (May 13, 2024), https://openai.com/index/hello-gpt-4o/; *Introducing the next generation of Claude*, Anthropic (March 4, 2024), https://www.anthropic.com/news/claude-3-family; Sundar Pichai & Demis Hassabis, *Our next-generation model: Gemini 1.5* Google Blog (Feb 15, 2024), https://blog.google/technology/ai/google-gemini-next-generation-model-february-2024/; *Introducing Meta Llama 3: The most capable openly available LLM to datem* AI, Meta Blog (Apr 18, 2024), https://ai.meta.com/blog/meta-llama-3/.

user text input by producing bespoke images.[17] While there was initially some scepticism that text-to-music generation tools would be able to analogously create music that could pass for non-AI generated music, with early text-to-music generators maintaining their own aesthetically unique glitchy imperfections and garbled vocal stylings, they evolved staggeringly quickly.[18] In September 2023, Stable AI launched Stable Audio 1.0, the "first commercially viable AI music generation tool capable of producing high-quality 44.1kHz music" in response to user input text prompts.[19] In the months following, the quality of publicly available AI music generation skyrocketed, with the launches of Suno AI, Udio, and Stable Audio 2.0, all of which allow the user to generate entire songs with convincing vocal performances.[20] The quality of this generation of text-to-music GenAI tools was immediately controversial, as the Recording Industry Association of America and the world's largest record labels, including Sony Music, Universal Music Group and Warner Records, are sued Suno AI and Udio in two separate lawsuits for copyright infringement after the plaintiffs were able to use the GenAI tools to generate songs that sounded similar to non-GenAI works that they owned, such as Mariah Carey's "All I Want For Christmas Is You" and Green Day's "American Idiot".[21]

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[17] *DALL·E 3 is now available in ChatGPT Plus and Enterprise,* Open AI (Oct 19, 2023), https://openai.com/index/dall-e-3-is-now-available-in-chatgpt-plus-and-enterprise/; *Stable Diffusion Launch Announcement,* Stability AI (Aug 10, 2022), https://stability.ai/news/stable-diffusion-announcement; Barry Collins, *Midjourney 5.1 Arrives - And It's Another Leap Forward For AI Art,* Forbes (May 3, 2023), https://www.forbes.com/sites/barrycollins/2023/05/03/midjourney-51-arrivesand-its-another-leap-forward-for-ai-art/; Eli Collins, *New and better ways to create images with Imagen 2,* Google Blog (Feb 1, 2024), https://blog.google/technology/ai/google-imagen-2/ .

[18] *See for example*: Andrea Agostinelli, et al., *MusicLM: Generating Music From Text,* Google Research, https://google-research.github.io/seanet/musiclm/examples/ .

[19] *Introducing Stable Audio 2.0*, Stability AI (Apr 3, 2024), https://stability.ai/news/stable-audio-2-0.

[20] *Id.;* Brian Hiatt, *A ChatGPT for Music Is Here. Inside Suno, the Startup Changing Everything* Rolling Stone (Mar 17, 2024), https://www.rollingstone.com/music/music-features/suno-ai-chatgpt-for-music-1234982307/; Brian Hiatt, *AI-Music Arms Race: Meet Udio, the Other ChatGPT for Music,* Rolling Stone (Apr 10, 2024), https://www.rollingstone.com/music/music-features/udio-ai-music-chatgpt-suno-1235001675/.

[21] As of December 1, 2025, these lawsuits have been partially settled. Warner Music struck a licensing partnership with Suno, leaving UMG and Sony Music in the suit, while both Warner Music and UMG have announced partnerships with Udio, leaving Sony Music in the suit. For lawsuits, *see* UMG Recordings, Inc. v. Suno, Inc., No. 1:2024cv11611 (D. Mass. filed June 24, 2024); UMG Recordings, Inc. v. Uncharted Labs, Inc., No. 1:24-cv-04777 (S.D.N.Y. filed May 30, 2024); Jason Koebler, *Listen to the AI-Generated Ripoff Songs That Got Udio and Suno Sued,* 404 Media (Jun 24, 2024), https://www.404media.co/listen-to-the-ai-generated-ripoff-songs-that-got-udio-and-suno-sued/. For settlements, see: *Universal Music Group and Udio Announce Udio's First Strategic Agreements For New Licensed AI Music Creation Platform*, Universal Music Group (Oct 29, 2025), https://www.universalmusic.com/universal-music-group-and-udio-announce-udios-first-strategic-agreements-for-new-licensed-ai-music-creation-platform/; *Warner Music Group and Udio To Collaborate To Build a New Licensed Music Creation Service*, Warner Music Group (Nov 19, 2025), https://www.wmg.com/news/warner-music-group-and-udio-collaborate-to-build-a-new-licensed-music-creation-service; *Warner Music Group and Suno Forge Groundbreaking Partnership,* Warner Music Group (Nov 25, 2025),

Yet, text-to-audio generators were also immediately used to create critically acclaimed and innovative work. In 2023, electronic music producer patten (stylised lowercase), renowned for his work on the prestigious and influential record label Warp Records, released a highly acclaimed album *Mirage FM* - the first album to be entirely stitched together from text-to-audio generated samples.[22] Last year, Udio was used as the main "instrument" in developing a new genre of club music called GenCore.[23] Gencore spotlights the specific sonic imperfections present in Udio generations as core elements of its aesthetic, while integrating voice-cloned (a type of deepfake synthetic audio technology that substitutes voices) personas who satirically ridicule AI copyright hysteria amidst the heaving glitchy beats.[24] According to its creator's 3 Rules of Gencore, recreation "using traditional (non-generative) means must be very difficult, very expensive, or simply impossible."[25] In these instances, text-to-audio generators have been used to create samples that would not be possible without GenAI tools in the development of innovative new works and genres.

The same has been true of text-to-video generators, which rapidly developed from a medium that was considered the hardest to convincingly replicate to one whose convincingness is considered politically dangerous in only a couple of years.[26] Entirely AI-generated films are now lauded for their ingenuity by top filmmakers and critics alike.[27]

While much of the publicity and resulting debate around GenAI tools focuses on top-to-bottom tools that can create entire works within seconds, there are in fact a vast array of available GenAI tools that range from those that marginally alter a work to those that create entire works from scratch. Let us consider the world of music alone. There are AI audio production plug-ins that are devoted entirely to specific effects, like reverb or delay. By analysing the music recorded, these plug-ins seek to work out the best types and levels of effects to apply to each individual track, such that they will sit well together.[28] Other tools automate EQ'ing – the process of changing the frequency ranges (the highs, the mids and the lows) of each element within a track so that all of the individual elements (such as each instrument) sit

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https://www.wmg.com/news/warner-music-group-and-suno-forge-groundbreaking-partnership. "

[22] Patten, *Mirage FM*, (555-5555 2023); Chal Ravens, *patten Taps Into Text To Audio AI's Musical Potential* Bandcamp Daily (Apr 25, 2023), https://daily.bandcamp.com/features/patten-mirage-fm-interview; *patten - Mirage FM,* Boomkat (Apr 14, 2023), https://boomkat.com/products/mirage-fm .

[23] The first GenCore mix can be heard on the podcast episode "NM Presents: Illegal Generation Vol. 1 by the Bootcut Boys w/ intro by Lil Internet" from New Models (2024).

[24] *Id.*

[25] The rules of Gencore are laid out in the podcast episode "NM Presents: "Illegal Generation Vol. 2" by Lil Internet" from New Models (2025).

[26] *See for example*: Stuart A. Thompson, *A.I. Videos Have Never Been Better. Can You Tell What's Real?,* The New York Times (June 29, 2025), https://www.nytimes.com/interactive/2025/06/29/business/ai-video-deepfake-google-veo-3-quiz.html

[27] *See for example:* Ben Davis, *The Subtly Unsettling Logic of This Prize-Winning A.I. Film*, Artnet (July 1 2025), https://news.artnet.com/art-world/total-pixel-space-jacob-adler-a-i-film-festival-2662774

[28] *See for example*: Neoverb (available here: https://www.izotope.com/en/products/neoverb.html), and Trash (available here: https://www.izotope.com/en/products/trash.html)

nicely together - usually to avoid clashing between too many of the same frequencies across different instruments, such as too much bass or too much treble.[29]

Especially helpful for the money-saving musician are AI music mastering tools. Music mastering is a highly specialised post-production process that usually serves as the final step of audio production, in which a specific mastering engineer (usually *not* the person who has produced and mixed the music) takes the final mix of the songs and subtly amends them so that they will sound as good as possible in all of the different acoustic environments that they might be played – from a highly compressed (and therefore lower quality) mp3 file coming out of a laptop speaker to a high-definition surround sound system in a large amphitheatre.[30] The technique is so poorly understood, even by most musical professionals, that it is sometimes referred to as the "dark art" of music production, yet one "that's all but necessary to make music sound great."[31] It is of no surprise then that AI-mastering tools, which analyse the tracks and perform this "dark art" on songs, have been latched onto by musicians who are unable to afford sending their music to a professional mastering engineer, whose fees can be weighty.[32]

AI tools such as these do not directly affect those elements of a song traditionally considered compositional, rather changing the *sound* of individual elements within the song, or indeed the entirety of the song. In turn, it may be debatable whether they are considered GenAI tools at all, depending on how their outputs manifest. Naturally, however, there is a great spectrum of their prospective uses. Some genres of music intentionally utilise effects and mixing as core spaces of their compositional expression. For example, dub music, as pioneered in Jamaica in the 1960's, is built off of taking existing recordings (usually reggae songs) and innovatively experimenting with different effects and mixing techniques to recompose the songs into wholly other works.[33] As such, GenAI mixing and effects tools can be utilised to take a song that is fully composed and just make it sound *crisper*, or they can be used to alter the sound of the music to the point where it sounds like something else entirely (and of course, the entire gradual spectrum between these two states). Regardless, whether effects are used subtly or transformatively, they have not been expressly recognised as copyright protectable elements in either the United States or in Europe.[34]

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[29] *See for example*: Sonible (available at: https://www.sonible.com/smarteq4/ ; and Neutron https://www.izotope.com/en/products/neutron.html). For a basic understanding of EQ'ing, see: *EQ 101 for music producers,* Native Instruments Blog (Aug 1, 2023), https://blog.native-instruments.com/eq-101/ .

[30] Jordan Kisner, *The Dark Art of Mastering Music,* Pitchfork (May 19, 2016), https://pitchfork.com/features/article/9894-the-dark-art-of-mastering-music/ .

[31] *Id.*

[32] Mike Levine, *LANDR Mastering Plug-in – A Mix Real-World Review,* MIX (Dec 13, 2023), https://www.mixonline.com/technology/landr-mastering-plug-in-a-mix-real-world-review .

[33] Michael Veal, Dub: Soundscapes and shattered songs in Jamaican reggae 2 (Wesleyan University Press. 2013); Paul Sullivan, Remixology: Tracing the dub diaspora 8 (Reaktion Books. 2013).

[34] For an examination of copyrightable elements in US copyright law, see: Lewis Sorokin, *Out of Tune: Recomposing the Link between Music and Copyright*, 14 Drexel L. Rev. (2022); Jamie Lund, *Fixing music copyright*, 79 Brook. L. Rev. (2013). For international analysis of copyrightable elements, see: Andreas Rahmatian, *The Musical Work in Copyright Law*, 73 GRUR International (2024).

Other GenAI tools focus on specific instruments, from synthesizers to drums.[35] Some of these focus on the tones of the instruments themselves. One of the great boons of GenAI musical tools is that they can create sounds that are strange hybrids of more traditional musical elements, such as a sound that is halfway between a piano and an electric guitar. By playing with parameters, composers can thus generate highly unique tones (say, something between a harp, a violin and a bass guitar) to create melodies, harmonies or sonic textures.

Some of these GenAI tools also allow for compositional elements. For example, there are AI-drum plugins that will analyse the music that you have created and generate both different drum samples to create beats with as well as drum patterns that the tool concludes will best complement the work.[36] Thus, a songwriter who does not know how to drum program can record the bare-bones of their song (just their voice and a guitar, for example) and then cycle through options for both drum sounds and patterns until they find options that they believe suit the work. A more advanced producer can use the same tool more intensively – utilising the generative capacities with more specific understandings of the parameter adjustments to generate something more in line with whatever their vision of the beat is.

In this way, GenAI tools are both able to "fill in the gaps" in instances where a musician only has expertise in certain instruments, or can themselves be used expertly to specifically generate more sophisticated or strange sounds and patterns that would be difficult or time-consuming to create without GenAI tools. Naturally, there is an entire spectrum between those who simply generate an entire drum track with the press of one button, barely intervening into the tool's preset settings, and someone who specifically designs a very sophisticated drum track using GenAI tools. Yet even the former may sit there re-generating over and over, unsure of what they want, waiting for the tool to generate something that fits the song they are writing. This is itself a highly creative process that requires an ear for selection and arrangement, akin to the myriad artists who record session musicians jamming, waiting until they play something that the artist likes. As such, even within those musicians pressing a button to generate a drum line or a bass line, there is a spectrum between those choosing the first thing generated and those who tirelessly reflect upon, curate and arrange a large amount of generated material. Indeed, many highly acclaimed albums, including those that have been recognised as some of the greatest of all time such as the Avalanches' "Since I Left You" and DJ Shadow's "Endtroducing", are entirely patched together from samples of other music.[37]

Still other GenAI tools serve as musical assistants, providing musical information for recordings and suggesting means by which to develop the composition and production of the work.[38] For example, there are tools which are

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[35] *See for example*: Session Loops' DrumNet (available at: https://sessionloops.com/drumnet) and BeatSurfing's RANDOM (available at: https://beatsurfing.com/audio-plugins/random/)

[36] Such as Session Loops' DrumNet (available at: https://sessionloops.com/drumnet). Professional music software Logic Pro is also integrating tools these tools. *See*: *supra* note 10.

[37] *The 500 Greatest Albums of All* Time, ROLLING STONE (Dec 31, 2023), *https://www.rollingstone.com/music/music-lists/best-albums-of-all-time-1062063/* ; *The 200 Best Albums of the 2000s*. PITCHFORK (Oct 2, 2009), *https://pitchfork.com/features/lists-and-guides/7710-the-top-200-albums-of-the-2000s-20-1/*; 1001 ALBUMS YOU MUST HEAR BEFORE YOU DIE: REVISED AND UPDATED EDITION (Robert Dimery ed., UNIVERSE, 2010), 779, 874

[38] *See e.g., InstaChord 2*, W.A. PRODUCTIONS https://www.waproduction.com/plugins/view/instachord-2 (last visited Dec. 12, 2025).

able to analyse simple compositions (such as those with basic melodies and lyrics, written on one instrument) and recommend different chord progressions, harmonies and arrangements.[39] GenAI software can then be used to fill out tracks with additional instrumentation.[40] In this way, GenAI tools are making it easier for simple pop songs to be quickly converted into grand orchestral works, or remixed into slamming electronic club tracks. By the same token, half-written melodies can receive suggestions as to how best to finish them, or songwriters with only a verse or chorus can cycle through options that sound like appropriate compositional next steps. This may be one of GenAI's most helpful creative uses: generating a litany of prospective options to continue to build upon an artist's work when they are suffering writer's block.

Other tools being developed try to split the difference between more compositionally involved tools for use within audio production software and "out-of-the-box" text-to-music song generators, by adding more musical language understanding to the latter.[41] In these tools, creators can both describe the style of the song, as well as write out the chord progression or the tempo, then generate this work. Creators are then also able to cycle through the same song in different genres, or otherwise use language to describe a new style entirely.[42] These tools are working towards a world where music production software will function more like an AI-assistant - "Turn this rock song I recorded into a slow bossanova version, 90 bpm, and add in a bridge after the second verse that goes from Gsharp minor to Csharp minor 4 times. Then show me a techno version – 144 bpm – that is just the chorus."

One of the most publicised (and indeed, controversial) uses of GenAI tools for musical composition is voice cloning (also known as audio deepfakes).[43] Voice cloning is a process whereby synthetic copies of a human voice are created that can then speak or sing text.[44]

The technique first went viral in April 2023 when a song called "Heart On My Sleeve" featuring synthetic voice clones of pop stars the Weeknd and Drake was released by an online creator known as @ghostwriter, without any involvement from the stars in question.[45] The ensuing uproar across artistic communities resulted 12 months later in an appearance at the United States' Congress from musician FKA twigs before the Senate Judiciary Subcommittee on Intellectual Property in support of the Nurture Originals, Foster Art, And Keep Entertainment Safe (NO FAKES)

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[39] *Id.*

[40] *Supra* note 10.

[41] Or Tal, et al., *Joint Audio and Symbolic Conditioning for Temporally Controlled Text-to-Music Generation*, arXiv preprint arXiv:2406.10970, 6 (2024).

[42] *Id. See also* a demo page for the model at: https://pages.cs.huji.ac.il/adiyoss-lab/JASCO/

[43] *See, for example*: Catherine Stupp, *Fraudsters Used AI to Mimic CEO's Voice in Unusual Cybercrime Case,* Wall Street Journal (Aug 30, 2019), https://www.wsj.com/articles/fraudsters-use-ai-to-mimic-ceos-voice-in-unusual-cybercrime-case-11567157402 ; Rashard Rose & Marshall Cohen, *Political consultant behind fake Biden AI robocall faces charges in New Hampshire,* CNN (May 23, 2024), https://edition.cnn.com/2024/05/23/politics/new-hampshire-ai-robocall-biden-charges/index.html; *Deepfake audio of Sir Keir Starmer released on first day of Labour conference,* Sky News (Oct 9, 2023), https://news.sky.com/story/labour-faces-political-attack-after-deepfake-audio-is-posted-of-sir-keir-starmer-12980181.

[44] *What is Voice Cloning?,* ElevenLabs Blog (Jan 22, 2024), https://elevenlabs.io/blog/what-is-voice-cloning .

[45] Mark Savage, *AI-generated Drake and The Weeknd song goes viral,* BBC (Apr 27, 2023), https://www.bbc.com/news/entertainment-arts-65298834 .

Act, which seeks to protect artists from unauthorised GenAI uses of name, image and likeness.[46] At the time of writing, the NO FAKES Act is still under consideration in its draft form.

Despite the controversy surrounding unauthorised use of artists' likeness, popular musicians have themselves released music featuring voice cloning. In his highly publicised feud with rapper Kendrick Lamar, Drake graduated from unauthorised voice *clonee* to unauthorised voice *cloner,* releasing a song with AI-generated voices of West Coast hip-hop legends (and heroes of Lamar) Tupac Shakur and Snoop Dogg dissing Lamar (in the case of Shakur, from beyond the grave).[47] Drake quickly removed the song from his Instagram (where he had initially published it) after receiving a cease-and-desist letter on behalf of the Shakur estate which threatened litigation for "[n]ot only… a flagrant violation of Tupac's publicity and the estate's legal rights … [but] also a blatant abuse of the legacy of one of the greatest hip-hop artists of all time."[48] Lamar's responding song, "Not Like Us", which speculates that Shakur's fans will kill Drake for daring to voice clone the legend, immediately topped the charts and broke multiple streaming records (many of which were previously held by Drake), including Spotify's largest ever single day streams for a hip hop song, most streams in a week by a rapper, and the fastest rap song to accumulate 100 million, 200 million, 300 million, 400 million, and 500 million streams.[49] It went on to sweep the Grammy's, becoming the tied most awarded song in Grammy's history.[50] (Another diss track responding to Drake during the feud, Metro Boomin's "BBL Drizzy", sampled an AI-generated song that comedian King Willonius created using Udio, also named "BBL Drizzy", making it

[46]Ethan Millman, *FKA Twigs Developed Her Own Deepfake,* Rolling Stone (Apr 30, 2024), https://www.rollingstone.com/music/music-news/fka-twigs-ai-deep-fake-senate-regulation-1235012242/; Chris Coons, et al., The Nurture Originals, Foster Art, and Keep Entertainment Safe (NO FAKES) Act one pager (2023).

[47] Vicky Wong & Bonnie McLaren, *Drake: AI Tupac track gone from rapper's Instagram after legal row*, BBC (Apr 26, 2024), https://www.bbc.com/news/newsbeat-68904385.

[48] *Id.*; Bill Donahue, *Tupac Shakur's Estate Threatens to Sue Drake Over Diss Track Featuring AI-Generated Tupac Voice*, Billboard (Apr 24, 2024).

[49] Preezy Brown, *Kendrick Lamar's "Not Like Us" Breaks Drake's 2021 Spotify Record For Most Streams In A Day,* Vibe (May 7, 2024), https://www.vibe.com/music/music-news/kendrick-lamar-not-like-us-breaks-spotify-streams-record-drake-1234876810/; Kelli Johnson, *Kendrick Lamar shatters streaming records,* Fox 11 Los Angeles (May 15, 2024), https://www.foxla.com/news/kendrick-lamar-billboard-hot-100; Gabriel Bras Nevares, *Kendrick Lamar Breaks Yet Another Drake Spotify Streaming Record With "Not Like Us",* HotNewHipHop (26 May, 2024), https://www.hotnewhiphop.com/807204-kendrick-lamar-not-like-us-drake-streaming-record-spotify-200-million-hip-hop-news; *Kendrick Lamar's "Not Like Us" Becomes Fastest Hip-Hop Song in History To Reach 300 Million Spotify Streams,* Hypebeast (Jun 11, 2024), https://hypebeast.com/2024/6/kendrick-lamar-not-like-us-fastest-hip-hop-song-300-million-spotify-streams-record-announcement; Will Schube, *Kendrick Lamar Claims Another Victory Over Drake With 'Not Like Us' Video Views,* HipHopDX (Jul 10, 2024), https://hiphopdx.com/news/kendrick-lamar-not-like-us-views-drake-family-matters; Sam Moore, *Kendrick Lamar's 'Not Like Us' Returns To No. 1 After Breaking Another Drake Record,* HipHopDX (Jul 16, 2024), https://hiphopdx.com/news/kendrick-lamar-not-like-us-returns-number-1-billboard-hot-100.

[50] Douglas Markowitz, *Kendrick Lamar Sweeps the 2025 GRAMMYs With Song Of the Year Win*, Grammy Awards (Feb 3, 2025), https://www.grammy.com/news/kendrick-lamar-not-like-us-wins-song-of-the-year-2025-grammys

the first prominent example of AI sampling in commercial music production.[51] This first use of AI-sampling immediately went viral, garnering millions of streams.)[52]

As such, much of the publicity around voice cloning has honed in on the controversy of unauthorised use of other artists' likenesses. However, voice cloning technology offers utility far beyond swapping out one voice for that of another artist. Rather, GenAI audio deepfake tools allow musicians not only to replace voices with other voices, but also instruments with other instruments.[53] This is an incredibly useful tool, as it means that an artist can whistle their prospective guitar solo and immediately convert it into the sound of a guitar without even being able to play a single guitar chord. Indeed, an artist can sing every single part of a song without knowing how to play *any* of the instruments, and then have each instrument subbed in for the sound they initially made. By the same token, each instrument can be converted into any other instrument, or any other sound, such that an artist could create an entire symphony with each instrument converted into a different animal sound (pigs for flutes, birds for violins, legal scholars beatboxing for the drums). This is a truly paradigm-shifting compositional affordance made possible by GenAI tools, bound to lead to sonically adventurous new works that were previously impossible to create.

They are especially valuable when used with AI isolators, which allow musicians to isolate a single element (such as a vocal performance or a guitar solo) from a song and use it elsewhere.[54] This was the highly publicised technique used to remove John Lennon's vocal performance from an old Beatles demo, such that the surviving Beatles could re-record the entire instrumental track beneath it without hearing the musty old piano from the original.[55] Thus, the Beatles were able to give us another chart-topping AI-assisted hit, setting the record for longest gap between number one singles by an artist (54 years!)[56] If you combine AI isolators with AI voice cloning technologies, anyone can take any song, choose any element they like, and change the sound of the element such that it is no longer recognisable. You could take your favourite Miles Davis solo, turn it into the sound of children laughing, play it backwards, and then fill it out by generating an automated 3-piece band – bass, keyboards, drums. It would take no time at all and might sound beautiful. Without a doubt, composers have at their disposal an incredible new array of tools whose possibilities have *barely* been illumined.

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[51] Kristin Robinson, *Metro Boomin's 'BBL Drizzy' Is More Than a Joke – It Could Signal the Future of Sampling,* Billboard (May 15, 2024), https://www.billboard.com/business/tech/metro-boomin-bbl-drizzy-future-ai-sampling-1235682587/.

[52] Maxwell Zeff, *The Saga of 'BBL Drizzy',* Gizmodo (May 11, 2024), https://gizmodo.com/saga-bbl-drizzy-drake-kendrick-lamar-metro-boomin-1851470820.

[53] *Eg.* Replay (available at: https://www.tryreplay.io/)

[54] *See for example*: Ultimate Vocal Remover v5 (available at: https://ultimatevocalremover.com/). These tools are also being integrated into professional music software, such as Logic. *See*: *supra* note 10.

[55] Laura Snapes, *The Beatles: 'final' song Now and Then to be released thanks to AI technology,* The Guardian (Oct 27, 2023), https://www.theguardian.com/music/2023/oct/26/the-beatles-final-song-now-and-then-ai-technology.

[56] Ben Beaumont-Thomas, *The Beatles set record 54-year gap between No 1 singles as Now and Then tops UK chart,* The Guardian (Nov 11, 2023), https://www.theguardian.com/music/2023/nov/10/the-beatles-54-years-no-1-singles-now-and-then-uk-chart.

As such, there is a great spectrum of GenAI tools for use in music, from those that simply spruce up the sheen of the sound to those that suggest added instrumentation for pre-written songs to those that generate entire songs from simple text prompts. Yet, the level of generation by the model itself is not necessarily an accurate arbiter as to the level of authorial control over the output. Many artists are themselves developing and refining models for their own use to generate their own specific bespoke works. Here, model design is expressly authorial, laboured over by artists as part of the process in determining the final output. Prior to the recent advent of text-to-music tools that drastically reduced the amount of labour required to create a fully formed AI-generated work, the most prominent GenAI artistic works were products of highly labour intensive artist-led model-training and refining – the polar opposite of instant junk art or "AI slop". High profile artists such as Refik Anadol and Mario Klingemann have trained bespoke machine-learning data sets for years to create aesthetically unique artworks.[57] In 2022, Anadol trained a machine learning model on the New York Museum of Modern Art 's (MOMA) collection to create a work titled "Unsupervised – Machine Hallucinations*"* that reinterpreted the collection into a continuously evolving generative piece (yet one that retained Anadol's aesthetically recognisable style).[58] This work was itself then added to the MoMA's permanent collection along with another GenAI work by artist Ian Cheng, which changes in real time according to the activity of its owner's blockchain wallet.[59]

Prior to text-to-music generators, the most high-profile AI-generated music was the pioneering work of lauded experimental electronic musician Holly Herndon, who had trained a machine learning model on musicians she knew (as well as herself) with her creative and life partner Mat Dryhurst (with assistance from AI expert Jules LaPlace).[60] She referred to the model as her AI baby "Spawn", which she used to create the first album to utilise singing neural networks.[61] Since then, Herndon and Dryhurst have worked with other AI experts to build technologies (along with accompanying ethical frameworks) to evolve what they refer to as "spawning", "the ability to generate new media in the likeness of someone else".[62] In 2021, Herndon

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[57] Refik Anadol, et al., *Modern Dream: How Refik Anadol Is Using Machine Learning and NFTs to Interpret MoMA's Collection,* MoMA Magazine (Nov 15, 2021), https://www.moma.org/magazine/articles/658; Malarie Gokey, *Can machines be creative? Meet the Google coders teaching them to make art,* Digital Trends (May 29, 2016), https://www.digitaltrends.com/computing/google-machine-learning-and-art/.

[58] Harrison Jacobs, *MoMA Acquires Refik Anadol's Popular Generative Artwork 'Unsupervised',* ARTnews (Oct 10, 2023), https://www.artnews.com/art-news/artists/moma-acquires-refik-anadol-unsupervised-digital-art-nfts-1234681622/.

[59] *Id.*

[60] Sasha Geffen, *Holly Herndon – PROTO,* Pitchfork (May 14, 2019), https://pitchfork.com/reviews/albums/holly-herndon-proto/; Scott Wilson, *Interview: Holly Herndon & Mat Dryhurst*, Fact, Issue 4, 2022 [available at: https://www.factmag.com/2023/05/25/holly-herndon-mat-dryhurst-interview/]; Emily Mackay, *Holly Herndon: Making music with her AI child Spawn,* BBC (May 11, 2019), https://www.bbc.com/culture/article/20190511-holly-herndon-making-music-with-her-ai-child-spawn; Holly Herndon, *Holly+* 👯‍♀️🗣️🦾, Mirror.xyz (Jul 13, 2021), https://holly.mirror.xyz/54ds2IiOnvthjGFkokFCoaI4EabytH9xjAYy1irHy94 .

[61] *Id.*

[62] Wilson, *supra* note 60.

and Dryhurst built a voice-cloning tool called "Holly+", which allows artists to sing live with their voice converted into Herndon's in real time.[63] Holly+ was used to produce the first voice-cloned song on Spotify, a cover of Dolly Parton's "Jolene" converted into Herndon's voice.[64] Voctro Labs, the AI research lab that helped Herndon develop Holly+ along with the other first virtual singers for Yamaha, has since been acquired by Voicemod, which is producing but one of a number of competing real life voice changers currently available.[65]

Herndon & Dryhurst were not alone in trying to create new forms of music with AI models. The Dadabots, whose sworn goal to "Eliminate Humans From Music" elicited no controversy whatsoever within artistic communities at its inception, have been developing AI modelled music since 2012, and are now known for their infinite music generators which endlessly live-stream generated music.[66] They have emerged as prominent innovators in an underground musical ecosystem that evolved out of university hackathons, events where coders meet up to develop pioneering new technologies.[67] Where only recently, designing one's own GenAI training set to create a bespoke model for one's own music required specialised knowledge and was practiced only by a highly niche community, the barrier to entry has been radically reduced in recent years. Now, open source access to generative audio models such as RAVE: Realtime Audio Variational autoencoder and Dance Diffusion, along with vibrant community tutorials and troubleshooting, allows musicians to train their own models on any audio they choose, enabling them to create their own bespoke GenAI tools.[68] The Dadabots state on their website that they "want to give [musicians] artistic superweapons and see what fires out of their brains. But really if we can make it really accessible, there will be kids taking it places no one's ever dreamed."[69] Within a vast array of Discord servers, this ethos is manifested, as some individual servers devoted to bespoke GenAI-model building for music generation have tens of thousands of members alone. These servers are bursting with musical works developed using GenAI tools built by the users themselves. Musicians can livestream the outputs of their models, where the infinite stream is itself the work.[70] Where only a few years ago, much of the output of these infinite streams was glitchy, abstract and noisy, many of them are now remarkably coherent – bespoke artistic creations of infinite length developing custom-made music at the behest of their creator.

We can thus summarise that artists can use GenAI tools in ways that do not meaningfully affect copyrightable elements of a work. Artists can also use GenAI tools for specific ideas for copyrightable elements of a work within a larger work (such as a bass line suggestion within a song). Artists can use GenAI tools to create

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[63] Herndon, *supra* note 60; TED, What if You Could Sing in Your Favorite Musician's Voice? | Holly Herndon | TED (https://www.youtube.com/watch?v=5cbCYwgQkTE 2023).
[64] *Voicemod Acquires Voctro Labs to Power the AI Singing Generation,* Voicemod (Feb 7, 2023), https://www.voicemod.com/latest-press-releases/voicemod-acquires-voctro-labs-to-power-the-ai-singing-generation.
[65] These include Voicemod (available at: https://www.voicemod.net/), Voice.ai (available at: https://voice.ai/) and Altered (available at: https://www.altered.ai/real-time/)
[66] See, for example: DADABOTS, Pho Queue (https://www.youtube.com/watch?v=uZ-K647LViU 2024). For more information on the Dadabots' many works, visit their website at: https://dadabots.com/
[67] DADABOTS, *DADABOTS FAQ*, *available at* https://dadabots.com/faq/.
[68] Most of this activity takes place in underground music community Discord servers. These include such the Dadabots own DADABOTS KVLT server, among many others.
[69] DADABOTS, *supra* note 67.
[70] Such as DADABOTS, *supra* note 66.

entire works within seconds. These GenAI tools may themselves be developed wholly or in part by the artist themselves as a part of their creative practice. Artists can use any of these GenAI tools to vastly different degrees and with massively different levels of interaction or reliance. The output of these GenAI tools are beholden not only to the creative decisions of those who use the GenAI tools, but also those who designed the GenAI tools and those whose creative work was used in the training input of these GenAI tools. The GenAI-element may form a tiny part of the final work, or be used across the entire work but only to a tiny degree. Further, these tools are *constantly* evolving as are the heterogenous ways in which creators use them. Thus, solely stating that an artist has used GenAI in their process reveals nothing about their relationship to the work itself.

As some works are laboured over for years and GenAI-tools are being integrated into all elements and stages of creative production in all manner of utilities, it is nigh on impossible to expect every artist to remember every time they have applied a GenAI-tool to an aspect of their work in the often long and arduous process of creative development. Even were they to, it would be nigh on impossible to individually evaluate every time that an artist used the GenAI tool as to whether it has passed an uncertain threshold into over-reliance on the tool. Despite this unworkability, this interaction threshold system is what is being relied on by international regulatory bodies.

Let us then examine how, and *why*, international copyright frameworks seek to differentiate receiving authorship by asserting an unclear dichotomy somewhere within this infinite quagmire of use cases.

## *II. THE DESTABILISED MARKET*

Despite decades of international copyright harmonisation to avoid the economic pitfalls of drastically variant national copyright frameworks, there is no consensus nor harmonisation across international legal frameworks as to when AI-assisted outputs should receive copyright. In turn, this open question sits in uncomfortable tension with professional software integrating GenAI tools for easy access, rendering the copyright status of any work that has used one of these tools in its production as unclear. Most countries are yet to clarify how their respective legal frameworks should apply to AI-assisted works, while those that have take differing approaches. Problematically, none have provided a specific enough framework that any artist playing in the grand spectrum of GenAI use cases could be certain exactly when their work is sure to receive copyright, let alone one that can be easily internationally harmonised.

On the most permissive end of the spectrum (and in turn, the clearest threshold to cross), China's Beijing Internet Court was the first court in the world to grant copyright to an AI-generated image in the case of Li v. Liu.[71] The plaintiff in the case, Li, used Stable Diffusion, a text-to-image generative AI model, to generate a picture of a woman. The text that Li prompted the model with was relatively extensive. Per the official translation, the initial prompt was:

> "(ultraphotorealistic:1.3) extremelyhighqualityhighdetailRAWcolorphoto,
> inlocations,japanidol, highlydetailedsymmetricalattractiveface,

[71] Li v. Liu, Jing 0491 Min Chu No. 11279, (Beijing Internet Court). Official English translation available at: https://english.bjinternetcourt.gov.cn/pdf/BeijingInternetCourtCivilJudgment112792023.pdf

> angularsimmetricalface, perfectskin, skinpores dreamyblackeyes,reddish-brownplaitshairs, uniform, longlegs, thighhighs, softfocus, (filmgrain, vividcolors, filmemulation, kodakgoldportra100, 35mn, canon50f1.2), LensFlare, GoldenHour, HD, Cinematic, BeautifulDynamicLighting".

The negative prompting – those attributes that the plaintiff did not want to see - was even more extensive:

> "((3d, render, cg, painting, drawing, cartoon, anime, comic:1.2)), badanatomy, badhands, text, error, missingfingers, extradigit, fewerdigits, cropped, worstquality, signature, watermark, username, blurry, artistname (longbody), badanatomy, liquidbody, ma1formed, mutated, badproportions, uncoordinatedbody , unnaturalbody, disfigured, ugly, grossproportions, mutation, disfigured, deformed, (mutation), (child:1.2), b&w, fat, extranipples, minimalistic, nsfw, lowres, badanatomy, badhands, text, error, missingfingers, extradigit, fewerdigits , cropped, worstquality, lowquality, normalquality, jpegartifacts, signature, watermark, username, blurry, disfigured, kitsch, ugly, oversaturated, grain, low-res, Deformed, disfigured, poorlyrawnface, mutation, mutated, extralimb, ugly, poorlydrawnhands, missinglimb, floatinglimbs, disconnectedlimbs, malformedhands, blur, outoffocus, longneck, longbody, ugly, disgusting, poorlydrawn, childish, mutilated, mangled, old, surreal, text, b&w, monochrome , conjoinedtwins, multipleheads, extralegs, extraarms, meme, elongated, twisted, fingers, strabismus, heterochromia, closedeyes, blurred,watermark, wedding, group, darkskin, dark-skinnedfemale, tattoos, nude, lowres, badanatomy, badhands, text, error, missingfingers, extradigit, fewerdigits, cropped, worstquality, lowquality, normalquality, jpegartifacts, signature, watermark, username, blurry".

Li then adjusted the parameters and regenerated the image 3 more times before he was satisfied with the output, which he posted on the Chinese social media platform Xiaohongshu. The Chinese court considered four elements in determining whether the image was a copyrightable work: "1. Whether it falls under the realm of literature, art, or science; 2. Whether it is original; 3. Whether it is expressed in a certain form; 4. Whether it is an intellectual achievement".[72] The Court found that due to the extensive prompting and refinement of the tool's generative parameters, "the picture involved reflects the plaintiff's intellectual investment" and "reflects the plaintiff's personalized expression."[73] Therefore, the contentious elements, "originality" and "intellectual achievement", are both satisfied, and the image holds copyright. Although the threshold to be passed is not entirely clear given the detailed level of prompting, this is the closest a court has come to asserting a *de minimis* level of human creative interaction to receive authorship over a GenAI-assisted work.

This can be contrasted with the USA, whose Copyright Office (USCO) expressly rejected copyright over the images in the *Zarya of the Dawn* graphic novel, which were created using the text-to-image GenAI program, Midjourney, on the grounds that the author Kristina Kashtanova "lack[ed] sufficient control" over the output, was not able to "predict what Midjourney will create ahead of time" and did not "dictate a specific result", asserting that the USCO "will not knowingly register works produced by a machine or mere mechanical process that operates randomly or automatically without sufficient creative input or intervention from a human

[72] *Id.* at 10.
[73] *Id.* at 15.

author".[74] Yet the USCO did allow copyright over the *non*-GenAI elements of the work, leading to a policy of granular differentiation within works between GenAI-elements and non-GenAI-elements. Only a few weeks later, the USCO clarified its position with a Copyright Registration Guidance document, asserting that the copyrightability of AI-generated material "will depend on the circumstances, particularly how the AI tool operates and how it was used to create the final work" in a "case-by-case inquiry".[75] Despite this supposed openness to a certain threshold of human interaction, the USCO also states in the document that "if a work's traditional elements of authorship were produced by a machine, the work lacks human authorship and the Office will not register it."[76] This Guidance Document, which also imposed a new duty to "disclose the inclusion of AI-generated content in a work submitted for registration.", then served as the USCO's position in anticipation of a more detailed report."[77] While the US Copyright Board later claimed to have "examined hundreds of works that incorporate AI-generated material and has issued registrations to well over 100 so far", leading some to believe that the USCO *was* granting copyright to AI-generated images, the carefully worded statement dodged whether it had issued copyright to the AI-generated elements of the works (and failed to provide specifics about *any* of the works themselves).[78] It was therefore unclear whether GenAI-elements had been granted copyright, or whether this was solely an extension of the granular differentiation policy. Indeed, every published decision from the US Copyright Review Board of AI-generated content had expressly denied copyright.[79] The USCO later confirmed that the registration solely covered "the human author's contribution to the work", excluding AI-generated material.[80]

Finally, in January 2025, the USCO released its long-awaited clarifying report around copyrightability of AI outputs ("the Report") after receiving over 10,000 comments from stakeholders.[81] Although it rhetorically appeared to soften the USCO's position by acknowledging widespread "assistive uses" of AI tools, the Report ultimately maintains the previous position of a GenAI-dichotomy between "purely AI-generated material, or material where there is insufficient human control over the expressive elements" (which would *not* receive copyright) and material

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[74] U.S. Copyright Office Letter to Lindberg re: Zarya of the Dawn (Registration # VAu001480196) (Feb. 21, 2023), https://www.copyright.gov/docs/zarya-of-the-dawn.pdf, 2, 8-9 (*hereinafter* Zarya of the Dawn decision)

[75] Copyright Registration Guidance: Works Containing Material Generated by Artificial Intelligence, 88 FED. REG. 16,190 (Mar. 16, 2023) (to be codified at 37 C.F.R. § 202), available at: https://www.federalregister.gov/documents/2023/03/16/2023-05321/copyright-registration-guidance-works-containing-material-generated-by-artificial-intelligence, 16192

[76] *Id.*

[77] *Id.* at 16193

[78] Shira Perlmutter, USCO Letter on AI and Copyright Initiative Update February 23 (Chris Coons, et al. eds., 2024). available at: https://copyright.gov/laws/hearings/USCO-Letter-on-AI-and-Copyright-Initiative-Update-Feb-23-2024.pdf?loclr=blogcop

[79] Lee, *supra* note 7, at 9.

[80] United States Copyright Office, Copyright and Artificial Intelligence Part 2: Copyrightability. (2025), 3. available at: https://www.copyright.gov/ai/Copyright-and-Artificial-Intelligence-Part-2-Copyrightability-Report.pdf?loclr=blogcop

[81] *Id.* at Preface

where "AI tools… assist rather than stand in for human creativity" (which would).[82] In case this be mistaken for a significant change in position, the Report then asserts that *all* current-state uses of prompting would not receive copyright in the output and that where one feeds one's own "expressive inputs" (ie pictures or songs) into GenAI tools, copyright would only cover those expressive elements which were *already* copyrightable in the input but "would not extend to the AI-generated elements standing alone". [83] Yet, the Report then clarifies that if an author modifies something AI-generated *without* a GenAI tool, they can receive copyright solely to that expressive modification (as separated from that which was already AI-generated).[84] In turn, the US doubled down on its approach of hoping to separate every single stage of the creative process as a GenAI- or non-GenAI-enabled action, granting copyright to original expressive decisions made *without* GenAI and denying copyright to original expressive decisions made *with* GenAI.

The Chinese approach and the US approach are, on the one hand, *prima facie* divergent, as the former allows copyright for an entirely AI-generated image while the other rejects it. It is thus regrettably clear that, from these two countries alone, a new generation of works will hold copyright in one major market and not the other. On the other hand, both ostensibly claim that an AI-assisted work *can* hold copyright, given a requisite threshold of human intervention in the output is surpassed. Thus, they both exist on different ends of the same spectrum of uncertainty – an infinite quagmire of potential use cases to be assessed on a case-by-case basis in each country individually. As it stands, a partially AI-generated work is *more likely* to hold copyright in China, *less likely* to hold copyright in the USA, but not entirely certain in either.

Worse, these uncertain thresholds are unlikely to remain stable. While the USA currently seeks to differentiate GenAI- and non-GenAI-elements in every work, the increasing ubiquity of GenAI tools in professional creative production software will render the sustained rejection of copyright over *all* AI-generated elements unfeasible. Eventually, even the US' framework will need to assign full copyright over a work that has *some* minimal AI-generated elements, lest it seeks to audit every bass line and drum track for the entire next generation of creative works. Thus, creative markets hang in the balance, ready to be instantly destabilised as regulatory bodies adapt their thinking to the loudness of new circumstance.

One would imagine that such an issue would be of special interest in the EU, which has gone to great legislative lengths to cohere copyright across Europe with the stated objective of aligning a single European market.[85] Despite the profound efforts the EU has exerted in seeking to harmonise its copyright acquis, it has proved a challenging endeavour, and European copyright law remains a "piecemeal patchwork".[86] Given this difficult history, it beggars belief that there has been barely a mention in Europe of the impacts on the single European market if all new creative works would hold different copyright statuses predicated on disparate unclear authorship thresholds. As it stands, there is very little legislation or case law across Europe providing any clarity as to when GenAI-assisted works receive copyright in each country. The case law of the Court of Justice of the European Union has

[82] *Id.* at iii
[83] *Id*. at iii, 22-24
[84] *Id.* at 25
[85] Agnès Lucas-Schloetter, *Is there a concept of European copyright law? History, evolution, policies and politics and the acquis communautaire*, *in* EU COPYRIGHT LAW 12, (Irini Stamatoudi & Paul Torremans eds., 2021).
[86] *Id.*

essentially amounted to four interrelated criteria that an AI-assisted output must meet to be designed a copyrightable "work" – namely, that the output is (1) in relation to production in the literary, scientific or artistic domain; (2) the product of human intellectual effort; and (3) the result of creative choices that are (4) expressed in the output.[87] The most contentious criteria here are the third and fourth, demanding an uncertain level of requisite creativity and expression.[88] For the most part, national legislation across Europe has not specifically outlined which works are protected or not. However, on the 10th of October 2025, the Italian Artificial Intelligence Law entered into force, which now specifies that "created with the aid of artificial intelligence tools" can only be protected when created by humans "provided that they constitute the result of the author's intellectual work."[89] Although this Proposal was ostensibly drafted to provide clarity around this issue, this legislative criterion provides little guidance as to what threshold must be met for a work to be considered "the result of the author's intellectual work". Within the rich array of potential GenAI-use-cases laid out in the previous section, there is no certainty where authorship would be granted. The Proposal could truly signal interpretation more akin to the Chinese approach, the US approach, or indeed any other.

The only case law in Europe over whether a GenAI-output can receive copyright comes from the Czech Republic, where the court took a hardline approach rejecting authorship of an image created using OpenAI's text-to-image generator Dall-E. [90] The image was generated from the text prompt - "Create a visual representation of two parties signing a business contract in a formal setting, such as a conference room or a law firm office in Prague. Show only hands."[91] (One wonders if hands look different in Prague). In its judgment, the court did not think of Dall-E as a tool for an artist, but as a substitute for the artist themselves, rejecting authorship on the grounds that the picture "does not meet the defining characteristics of a copyrighted work" as "[t]he plaintiff did not personally create the work; it was created by artificial intelligence."[92] With reasoning akin to that of the USCO, the judgment misguidedly anthropomorphises the tool. This is seemingly an unfortunate byproduct of the ill-defined usage of "artificial intelligence" to refer to an array of disparate technologies. While image- or music-creation tools have existed for a long time without any risk of them being considered anything other than creative tools for use by artists, user interface decisions for LLM's around chatbot and virtual assistant functionality, along with other human-imitating capacities, have led to widespread anthropomorphising of AI tools which now "hallucinate" and are said to "see, hear, and speak".[93] This is a dangerously wrong-headed perception of GenAI creative tools, as it detaches the current debates around ascribing authorship to

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[87] Hugenholtz & Quintais, *supra* note 13, at 1193-1200, 1212.
[88] *Id.*
[89] Legge 23 settembre 2025, n. 132, *Disposizioni e deleghe al Governo in materia di intelligenza artificiale* [Provisions and Delegations to the Government on Artificial Intelligence], art. 25, G.U. Serie generale, n. 223 (25 September 2025) (It.).
[90] Czech Republic Judgment In The Name Of The Republic (Case No. 10 C 13/2023-16) (Oct. 11, 2023), https://justice.cz/documents/14569/1865919/10C_13_2023_10/108cad3e-d9e8-454f-bfac-d58e1253c83a
[91] *Id.*
[92] *Id.*
[93] Nicholas Barrow, *Anthropomorphism and AI hype*, 4 AI AND ETHICS, 708 (2024).

GenAI-assisted works from the long history of copyrightability debates in the face of new modes of cultural production.

As evidenced in the previous section, there are an array of GenAI-technologies that authors can use in their creative practice of variant nature to variant degrees. Regrettably, the court's factually incorrect and precedentially useless reasoning is that the tool is the creator, and as a tool is not a human, there is no creator. This hardline rejection avoids the actual question at play here: what is the threshold of interaction with a GenAI tool by which the artist *would* own the work they create? Although the denial of copyright over a single-prompt GenAI image may not be especially contentious across the continent, the reductive reasoning which fails to adequately interrogate the vast spectrum of GenAI-tool use in creative practice is unsustainable in its simplicity for harmonised European policy.

Thus, there are divergent tests for copyrightability worldwide, harmonised only in their collective uncertainty as to when GenAI-assisted works can receive copyright, to be determined on a case-by-case basis. With express rejection of works using GenAI tools in the USA and in Europe, myriad prospective works currently live in a regulatory no-mans-land, with an entire class of new songs, images and videos that have been developed using state-of-the-art widely available tools holding no legal certainty as to their copyright status internationally. Although we do not need an *identical* framework worldwide, there cannot be an entirely open season as to which works receive copyright in certain countries and which do not. Within the infinite use-cases of GenAI tools, what should this harmonised standard of requisite human interaction be?

Where European and US copyright frameworks have both traditionally required only a very low threshold of creativity to receive copyright in the resulting work, it is apparent from the hardline rejections of GenAI works in the USA and the Czech Republic that something more significant than *de minimis* creative input is required. The USCO's published decisions and reports have provided the most specific (although still murky) criteria as to a different standard, focusing on a lack of sufficient human control over the output.[94] Yet, as basic GenAI tools are more readily integrated into professional visual and music software, this ostensibly conservative regime may instead serve as a radical rejection of the copyright system, denying copyright over the next generation of creative works for their use of contemporary compositional tools.[95] Despite its admirable comparative specificity over the European free-for-all, the US approach sits in stark opposition to the creative utilities of GenAI creative tools. The lack of control, the lack of predictability and the freedom to *not* need to dictate a specific result are not solely helpful as replacements for labour. They are core utilities in an emergent modality of creative practice which can create works impossible to create through any other process. It is for this reason that artists go through the significant labour of designing their own GenAI models to specialise outputs towards their own goals. Yet even an entirely bespoke GenAI model developed by an artist to generate aesthetically specific output, such as those by Refik Anadol or Holly Herndon, does not generate output that is predictable or controlled. Indeed, much of the joy of creating art with GenAI models comes from the excitement of *not* knowing what will come out. Thus, GenAI tools specifically designed for use by creators to create are absurdly deemed to have removed creative

[94] US Copyright Office, *supra* note 80, at iii; Zarya of the Dawn decision*, supra* note 74, at 9.
[95] Edward Lee has also written about the "near limitless" ways that AI inpainting can be used to amend an image. *See*: *Prompting progress: authorship in the age of AI*, *supra* note 13, at 5, 9-10.

intention. If the world were to maintain these criteria as suggested by the USCO, then something extraordinary would happen. There would no longer be copyright over an enormous number of new works that otherwise resemble the old works. Although there is a rich corpus of case law in different national frameworks around when artworks are able to receive copyright, traditionally these cases have debated the status of works that lived within the grey area of non-artistic and artistic works.[96]

Now, large numbers of completed creative works of an expressly original artistic nature with clear stated authors may not be able to hold copyright. Their aesthetics are deemed unattributable to a human creator, despite their existence being the direct product of human creators (be it those who trained the model, those who created the input material used to train the model or those who directed the model). Thus, GenAI-assisted works have been treated more like raw materials than they have the outputs of creative decision making. Yet, this is inherently problematic when the raw material in question is clearly an artistic work. A pop song developed using GenAI-tools has far more in common with the same pop song developed without GenAI-tools than it does the keys of a piano. Yet, if a GenAI-assisted work holds no copyright, it lives in the public domain, able to modified by an artist in order to receive copyright, provided they are not using GenAI tools when they modify it.

This renders passing a requisite threshold of GenAI-usage twofold: what level of interaction with the initial GenAI tool will grant an author ownership of the output, and what level of creative modification to a GenAI output (which is deemed unauthored) will beget authorship?

Naturally, this can be an iterative process, whereby a work (or individual elements of a work) are amended multiple times with the use of GenAI tools. Thus, in order for a coherent international market to form predicated on a dichotomy of rights over identical works, there must be (1) a detailed level understanding of *how* each work is produced (which may be impossible to achieve with many works), in order for (2) the works to be evaluated against a certain *specific enough* standard (which is currently neither certain nor harmonised).

There are significant challenges in reconciling *both* of these elements which may be insurmountable. Why, then, would we go to such trouble? If we choose to take such a difficult path, we must understand *why* asserting this dichotomy of rights over new works is so crucial. What purpose does it serve? It is to this question we now turn.

## *III. RATIONALES FOR THE DICHOTOMY*

Rationales for copyright are not uniform, and national copyright frameworks have developed with expressly divergent philosophical foundations.[97] Copyright frameworks in Anglophone nations such as the USA have for the most part treated copyright as an alienable economic property right, predicated on incentivising innovative creation and enrichment of the public domain through the educational and

[96] *Supra* note 9.

[97] Rebecca Giblin, *A New Copyright Bargain: Reclaiming Lost Culture and Getting Authors Paid*, 41 COLUM. JL & ARTS, 372 (2017); BRAD SHERMAN & LIONEL BENTLY, THE MAKING OF MODERN INTELLECTUAL PROPERTY LAW 141 § 1 (Cambridge University Press. 1999); PETER BALDWIN, THE COPYRIGHT WARS: THREE CENTURIES OF TRANS-ATLANTIC BATTLE, 259-261 (Princeton University Press. 2014).

entertaining social utility of creative works.[98] The so-called Copyright Clause in the US Constitution expressly states that the purpose of granting exclusive rights to authors over their works is to "promote the Progress of Science and useful Arts".[99] Conversely, Continental European *droit d'auteur* frameworks have rather focused on the interests of the creator themselves as having an inalienable relationship to the work that they create, irrespective of the interests of the work's audience or the public at large, that must be protected regardless.[100] Despite these divergent philosophical foundations, global markets have largely incentivised convergent harmonisation of copyright frameworks over the last century. As such, the USA joined the Berne Convention, and abolished the requirement for formal registration of works to receive copyright, while Continental Europe adopted work-for-hire in certain instances, such that creators could be hired to create copyrightable works for their employers without receiving their own inalienable rights to the work.[101] Although the European Union has not fully harmonised copyright law across Europe, it has sought to do so as much as is practicable.[102] Its rationales are evident from the Recitals of the various texts of harmonising European copyright legislation, which focus on the necessity for establishing a functioning single internal market across Europe, and to stimulate creation and exploitation of new works with increased legal certainty (among others).[103]

As such, the rationales for harmonised international copyright law have been pragmatic without outright theoretical justification in all instances. Furthermore, the purposes of copyright are often laid out in tandem, without uniform hierarchy as to which of these purposes should prevail over others if they are to come into conflict.

In Rebecca Giblin's analysis of the vast history of variant copyright rationales, she concludes that "two rationales stand ahead of the rest in justifying copyright policies over time" – instrumentalist "incentives" theories that incentivise economic and social aims, and naturalist "rewards" approaches that reward authors in their own right – with both rationales coexisting in any international or domestic copyright framework.[104] Giblin thus summarises that:

> "copyright law is predominantly sold as a means of:
> 1. Incentivizing initial cultural production (so that society benefits from access to knowledge and culture);
> 2. Incentivizing ongoing investment in existing works (to ensure their preservation and continued availability - those access aims again); and
> 3. Rewarding authors for their creative contributions."[105]

Which of these purposes is served by the dichotomising of AI-generated from non-AI-generated output?

GenAI tools themselves appear to already incentivise the first, massively lowering the barrier to entry for cultural production. They can be utilised as digital assistants to be conversed with, directed by artists with no technical skill towards

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[98] BALDWIN, *id.* at 9.
[99] US Constitution, Article I, Section 8, Clause 8.
[100] BALDWIN, *supra* note 97, at 9.
[101] *Id.* at 395.
[102] Lucas-Schloetter, *supra* note 85, at 12-13.
[103] *See for example*: Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society, *OJ L 167* Recitals 1-4.
[104] Giblin, *supra* note 97, at 373.
[105] *Id.* at 374.

creating cultural products in line with the artist's vision. Just as children begin learning the piano at a young age, no doubt children who play with GenAI tools, immediately iterating on fully-formed works, will develop a proficiency and creative control of final works that those of us toying with them for the first time in our advanced years will find difficult to compete with. Thus, dichotomising AI-generated from non-AI-generated works does not so much incentivize cultural production as it does *disincentivise* a specific mode of cultural production in favour of *other* modes of cultural production. This broadly aligns with the USCO's new requirement in the *Zarya of the Dawn* decision for human-made "traditional elements of authorship", which appears inherently at odds with the Constitutional purpose of intellectual property law to "promote the Progress of Science and useful Arts".[106]

Seemingly, dichotomising *does* serve the second purpose – as it expressly preferences protection of older works that have not utilised state-of-the-art creative tools over those that have. Yet, it also perverts this purpose, given it was never meant to be served at the expense of stimulating new works. Counter-intentionally, this dichotomy *may,* in a sense, stimulate access to newer works by denying them authorship and releasing them immediately into the public domain. To the excitement of "copyleft" activists everywhere, the necessity for copyright to stimulate a market could be placed on trial: a protected "traditional" work market competing against an unprotected new market. While this radical experiment is not the intention of the copyright bodies that seek to enforce this dichotomy between creative works unnaturally separated into authored and unauthored, it would appear to be the clear effect of such enforcement (assuming this dichotomy could be meaningfully enforced). In turn, nations with legacy cultural exports but lagging on contemporary creative products (and vice versa) may take stances for or against the legitimacy of AI-assisted creative products to try to fuel investment in their preferred sectors to stimulate their creative economies, creating opportunities for exploitation of IP arbitrage.[107]

And what of rewarding authors? Once more, the purpose is flipped. This dichotomy fears *wrongly rewarding* authors for creative contributions that it views as illegitimate and undeserving of protection of the state, despite the ubiquity of GenAI-assisted works in contemporary art. This fear is a historic one with the advent of new technologies, with direct analogues in the legal battles of copyrightability of photographs, which were argued incapable of being artistic.[108] Rather, this denial of authorship to the stated human authors of AI-generated works is circularly justified on the basis that they need not be rewarded, as they are not the human authors of their own works.[109] In order to do so, it must be claimed that works have been created *by* AI tools (not *with* them). Yet since tools do not have personhood, the works *cannot* be authored by them. By this logic, the tool must be both asserted as the author and not capable of being the author in tandem. It is thus determined that the human authors asserting their authorship have not authored their works because

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[106] *See* Zarya of the Dawn decision, *supra* note 74, at 8; US Constitution, Article I, Section 8, Clause 8. Edward Lee has also argued this in *Prompting progress: authorship in the age of AI*, *supra* note 13, at 4. Notably, the USCO pulled focus away from this requirement in its later Report. See: US Copyright Office, *supra* note 80.

[107] *See* Pamela Samuelson, *Intellectual Property Arbitrage: How Foreign Rules Can Affect Domestic Protections*, UNIVERSITY OF CHICAGO LAW REVIEW 224 (2004).

[108] Burrow-Giles Lithographic Co. v. Sarony*, supra* note 9.

[109] *See,* for example: US Copyright Office, *supra* note 80; Czech Republic Judgment In The Name Of The Republic, *supra* note 90.

authorship is for humans.[110] This confused reasoning, a byproduct of the often misleading linguistics of AI, has diverted from a plainer framing: that human authors are utilising tools whose mechanics they understand, which include randomness, unpredictability and the need for iteration, as they always have with many other creative tools, software and artistic practices. New tools create capacity for new creative processes, but they do not render the threshold higher than the usual *de minimis*. Newly productive tools change creative processes, not authors. Low effort works remain unimpressive and masterpieces remain hard to come by, regardless of their processes. Newfound everyman accessibility to genericism does not undermine the legitimacy of an entire mode of creative production, nor change the human author behind it. Rather, it devalues works which are easily produced by anyone, raising the bar of what is considered interesting – again, regardless of the process.[111]

The hollowness of the rationale of protecting human authors by denying human authorship was recently exhibited when the USCO finally registered copyright for the first "human author" in the US of an AI-generated image – the AI creation company, Invoke.[112] This is especially illustrative, as even the circumstances that appear the most detached from human authorship – namely, a corporate AI company bulk content-generating – do not actually have an authorship problem. They have a *scale* problem – one which exists for both individual artists creating huge amounts of considered work and AI-content companies, mass-generating slop.

It is unclear, then, what the *purpose* of such a dichotomy is. Confronted and confuddled by the defining new reality of 21st century creative production, wherein human authors can easily create works with minimal effort and direction (though likely not very valuable or interesting ones), its justifications are mired in instantly-archaic tool anthropomorphising ("this was made *by* this momentarily futuristic tool, not *with* it") and antiquated philosophical debates over "what *is* authorship" (much to the chagrin of the clear and present authors). This dichotomy certainly does not clearly serve any of the traditional rationales of copyright, servicing neither markets nor creators. Instead, it confuses authors and investors alike, no longer aware of their rights worldwide, apparently for their own benefit. It is therefore questionable whether it serves the intentions of copyright at all, speaking nothing of how difficult it would be to enforce.

Indeed, even if the requisite authorship threshold were to be decided and internationally harmonised, enforcement would require strict, legible certainty as to *how* we are to ascertain whether it has been surpassed. To do so, it must be robust enough to meaningfully engage with the myriad natures and levels of GenAI-tool use possible in the development of a work. We would thus need to be able to granularly differentiate GenAI- and non-GenAI-elements. Is this even possible?

## *IV. THE OLD HARD DRIVE DEBACLE*

Let's consider the following scenario, broadly emblematic of the intentions of the current vanguard of GenAI-using artists. A group of musicians meet up every

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[110] *Id.*

[111] Zachary Cooper, William Lehr & Volker Stocker, *The New Age: Legal and Economic Challenges to Copyright and Creative Economies in the Era of Generative AI*, The Digital Constitutionalist (December 2024), https://digi-con.org/the-new-age-legal-economic-challenges-to-copyright-and-creative-economies-in-the-era-of-generative-ai/

[112] The copyright was of course only for the "selection, coordination, and arrangement" of the AI-generated material. See: *A Single Piece of American Cheese*, Registration No. VAu001543942 (2024)

week to make music together. They are committed to creating pioneering state-of-the-art work, using the most exciting new tools available to them. By the same token, they are friends and they are there to have a good time. Some nights, enraptured by the seemingly endless array of new instruments at their disposal, they spend hours experimenting with GenAI-tools. They try to create strange new genres by mashing their favourite styles together. They experiment with text-to-music generators by typing out unintuitive word combinations, just to see what the machine spits out. They use AI-isolators to pull the weirdest sounds out, to remix and jam over. On other nights, inspired by their AI-generated creations, they try to recreate and recombine these odd-sounding new elements *without* using any GenAI tools. Some nights are productive, others descend into debauchery. Each month, new AI tools are released that function differently to the old ones. Some get used a bunch, others are used once, then are deleted. The longer the musicians play, they more they rework and remix ideas that might have been generated and might not have been - who remembers? They iterate and reiterate in various states of sobriety. After some months, they have an impressive back-catalogue of strange and innovative new works, a veritable litany of new genre ideas and undeniably great songs, all lumped together in the same folder helpfully labelled "music". Some time passes before they decide that it might actually be worth releasing some of this music. Critically, no one remembers which tunes on the hard drive were entirely AI-generated, entirely AI-free, and everything in between. How can a framework built on requisite human interaction with *each* use of *each* GenAI tool preside over this situation?

Although stumbling across old unreleased works is common for any artist (or indeed, hard drives and studios *full* of them), it is not clear how any of the respective copyright frameworks reliant on understanding AI-generated, part-AI-generated and non-AI-generated materials would even begin to approach a situation where the production process for a work is not known (let alone known at granular enough detail to separate the copyrightability of *all* expressive elements). Let us consider the possibilities.

## *V. THE RESPONSIBILITY OF THE ARTIST AND TRUST SYSTEMS*

There are two means by which we can try to ascertain whether GenAI tools have been used in the production of a work – the first is to track the work while it is created, the second is to reverse engineer the work once it is completed. Any other system is a trust system. Currently, without means of tracking or reverse engineering, copyright frameworks are relying on trust systems.

As a starting point, let us consider the current US approach – it is the responsibility of the musicians to be conscious of exactly what has been generated and to disclose as much. We come up against an immediate challenge here. Almost every country on earth (181 of 195) is party to the Berne Convention for the Protection of Literary and Artistic Works, which states that copyright protection exists from the first moment that a work is fixed and that no formal registration of a work for copyright is required.[113] This means that any creative work nominally appears to have automatic copyright, unless the governing authority discovers that GenAI tools were used to create it. As we have outlined, the musicians are not sure

[113] Berne Convention for the Protection of Literary and Artistic Works (as amended on September 28, 1979), Art. 5(2). For the list of countries that has ratified the Berne Convention, see: https://intellectualpropertyrightsoffice.org/berne_convention/

whether they have used GenAI in each work or not. This situation is bound to become increasingly ubiquitous for artists as time passes, who are unlikely to remember exactly how each work they have created was developed (particularly if they have been especially prolific across their career and as the tools are currently mere buttons to be clicked within software). In practice, they would be expected to keep a record of every time they used an inbuilt GenAI tool – a requirement wholly at odds with the nature of creative practice, demanding artists to laboriously update their "GenAI use" documentation over and over across the course of their day. This begs the question - why would any artist go to the effort of keeping a record of every time they used a tool in their process when they have never had to do this for any other creative tool and it is entirely in service of them *losing* rights to their work?

Illustratively, when AI company Invoke disclosed use of GenAI in the creation of its "A Single Piece of American Cheese" artwork, the USCO denied its copyright registration outright.[114] In response, Invoke submitted a *sped-up timelapse video* of the production of the image, so that the USCO could watch exactly where and how GenAI was used across the process, leading the USCO to register copyright for the non-GenAI elements and in turn setting a truly absurd precedent that is certain to give creators pause in disclosing any GenAI use if they have not had the forethought of filming their process top to bottom.[115]

Artists that have failed to track every time they used a GenAI tool are thus naturally incentivised to claim that none of the material is generated, given they will receive automatic copyright if they haven't used GenAI and that any attempt on their end to exactly describe when and how GenAI was used for a work would be falsified regardless.[116]

How might we avoid this? A simple answer is that we do not allow false representations and punish them accordingly. Perhaps a large fine or a criminal charge would adequately deter our musicians from lying about their process. There are a few issues with this scenario. The first is that the musicians have not tracked their process, meaning *any* representation here must be false. The hard-line approach to such a situation would be that if an artist is unsure whether they have used GenAI tools in their creative process, the work will be treated under the assumption that GenAI tools *were* used in the development of the work. It would also be presumed that they were relied upon in such a way that the artist has not been able to meet the requisite threshold for authorship.

Yet such a framework would render every work where an artist does not remember how it was developed that has prospectively had any GenAI tool used in its development as non-copyrightable. It would therefore directly contradict the provisions of the Berne Convention that grant copyright protection from the moment that the work is fixed, instead creating an illegal presumption that works do *not* hold copyright unless it is certain that no GenAI tools were used in the development of the work. This could meaningfully be the case with almost every single digital work developed after the availability of GenAI tools. Even if a proof threshold were not illegal, it would be practically unworkable. Proving the *non-use* of GenAI tools in the development of a work would be impossible without total surveillance of the complete development of a work from conception to completion. Further, we can

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[114] Katelyn Chedraoui, *This Company Got a Copyright for an Image Made Entirely With AI. Here's How*, CNET (February 10, 2025), https://www.cnet.com/tech/services-and-software/this-company-got-a-copyright-for-an-image-made-entirely-with-ai-heres-how/

[115] *Id.*

[116] This was also argued in: Samuelson, *supra* note 11, at 1226.

question if this is the reality that we wish to bring about – one where any artist that does not remember exactly whether or how they used any of the GenAI tools at their immediate disposal would need to choose between losing the copyright to their new work or lying (and risking punishment).

The alternative (and Berne-compliant) route lies in the opposite presumption: that all works automatically hold copyright unless it is proved that GenAI tools were used in the development of the work in such a way that the relevant threshold to receive authorship was not surpassed. This is essentially what occurred in the case of the *Zarya of the Dawn* graphic novel. The author was immediately granted copyright on the day of registration and only had their copyright removed after the USCO was made aware of their social media statements about using Midjourney in the development of the work.[117] This would mean that any artist who had used GenAI tools would need to keep that fact well-hidden if they wanted to feel certain that they would maintain copyright over their work. In the case of our musicians, it would allow them to maintain copyright over the entirety of their corpus but would inhibit them from publicising their use of GenAI tools in its development.

Although we are not able to speculate about every reason that an artist may want to bring attention to their use of GenAI tools in the creation of their work, it is perhaps fair to generalise that those most likely to wish to advertise their GenAI use would be those whose use of GenAI tools was most interesting and innovative, and those least interested in advertising their use of a GenAI tool would be those whose use of GenAI tools was most pragmatic - perhaps for efficiency or where the output would be more respected if a GenAI tool had *not* been used. Thus, in direct inverse of copyright's intention, an inability to speak openly about use of GenAI tools for fear of losing copyright apparently disincentivises declaring those GenAI uses that copyright should best protect – those where it is most innovative. In turn, those who were not going to declare their GenAI-use anyway are unaffected, while those most excited to share their GenAI-use must now decide between advertising their innovation and holding full rights to their work. This has absurdly brought about an era of new works whose inventive processes are hidden - entire creative ecosystems carrying open secrets that GenAI is being used but never declared.[118] In a dystopian scenario, artists will do so at risk of severe punishment for wrongfully seeking equal rights for their beloved creations.

Thus, any framework reliant on the artist to themselves declare the level and nature of GenAI use in the development of their work must be either illegal (for *almost* every country), unworkable in its proof requirements, or counter-productive in its disincentivising declarations of innovative use while incentivising the hiding of pragmatic and efficient use. Any framework that would hope to maintain generated, non-generated and part-generated dichotomies would therefore need to rely on authority auditing and enforcement measures. We can consider their unlikely effectiveness next.

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[117] Zarya of the Dawn decision, *supra* note 74, at 1-2.

[118] Already, Hollywood studios are widely hiding the extent of their use of GenAI tools, including through the use of Non-Disclosure Agreements. See: Lila Shapiro, *Everyone Is Already Using AI (And Hiding It),* VULTURE (June 4, 2025), https://www.vulture.com/article/generative-ai-hollywood-movies-tv.html

*VI. THE RESPONSIBILITY OF THE AUTHORITY*

Seemingly, our musicians are unlikely to mention their use of GenAI tools if it will endanger their rights to their material, if there is no means of proving otherwise. Why would they choose to hold less rights to their work? As such, an auditing and enforcement system would be crucial to enforce a dichotomy of rights over identical works.

Already, this would be a profound exceptionalism for a creative technology, in that the mere existence of a new creative tool would bring about an auditing system for all creative works solely to police whether they *might* have been developed using this technology. What's more, each respective legal framework needs to know not only *whether* GenAI tools have been used, but also *how* they were used.[119] In the US' *Zarya of the Dawn* application and in the Chinese case of *Li v Liu*, extensive details of the creative production process were provided and relied upon to adequately assess whether there had been requisite human authorship.[120] Granular understanding of the process is necessary for the USCO to separate which elements of a work receive copyright and which do not. Unfortunately, even an ability to ascertain whether GenAI tools were used *at all* will be decidedly difficult in many cases.

Naturally, the most convenient means would be inbuilt provenance mechanisms such as AI watermarking, a "process of embedding into the output of an artificial intelligence model a recognisable and unique signal (i.e. the watermark) that serves to identify the content as AI-generated."[121] An array of different provenance techniques have been developed for text, image, video and audio content, yet they remain unreliable.[122] They produce false positives, meaning content *not* generated by GenAI tools could have its copyright revoked.[123] GenAI models can also be targeted with "spoofing attacks" to intentionally deceive detectors into wrongly classifying human-written text as AI-generated in order to cause reputational damage to specific

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[119] See: Li v. Liu, *supra* note 71, at 10-15; Hugenholtz & Quintais, *supra* note 13, at 1212-1213; Copyright Registration Guidance: Works Containing Material Generated by Artificial Intelligence, 88 FED. REG. 16, 190 (Mar. 16, 2023) (to be codified at 37 C.F.R. § 202), available at: https://www.federalregister.gov/documents/2023/03/16/2023-05321/copyright-registration-guidance-works-containing-material-generated-by-artificial-intelligence, 16192.

[120] Zarya of the Dawn decision, *supra* note 74, at 1-12; Li v. Liu, *supra* note 71, at 2-10.

[121] *Generative AI and watermarking* (2023), European Parliamentary Research Service, at 2 [available at: https://www.europarl.europa.eu/RegData/etudes/BRIE/2023/757583/EPRS_BRI(2023)757583_EN.pdf].

[122] For an overview, *see*: European Union Intellectual Property Office, *Automated Content Recognition: Discussion Paper – Phase 1 'Existing technologies and their impact on IP'* (2020); Melissa Heikkilä, *Why Big Tech's watermarking plans are some welcome good news,* MIT Technology Review (Feb 13, 2024), https://www.technologyreview.com/2024/02/13/1088103/why-big-techs-watermarking-plans-are-some-welcome-good-news/. For text, see: ARA Alkhafaji, et al., *Digital text watermarking techniques classification and open research challenges: A review*, 62 Journal of Technology Reports of Kansai University (2020). For images, see: Mahbuba Begum & Mohammad Shorif Uddin, *Digital image watermarking techniques: a review*, 11 Information (2020). For video, see: Mahima Jacob & Saurabh Mitra, *Video Watermarking Techniques: A Review*, 4 International Journal of Recent Technology and Engineering (2015). For audio, see: Guangyu Chen, et al., *Wavmark: Watermarking for audio generation*, arXiv preprint arXiv:2308.12770 (2023).

[123] Vinu Sankar Sadasivan, et al., *Can AI-generated text be reliably detected?*, arXiv preprint arXiv:2303.11156 (2023).

targets.[124] Watermarks are also not standardised, which means that those generated by one technology will not be universally readable by any other technology.[125]

Big tech is broadly relying on three methods of watermarking AI-generated content: visible watermarks that can be seen by humans, invisible watermarks which can only by detected by machines, and watermarks embedded in the metadata of the file.[126] None of these methods has proven robust.

Visible watermarks, such as those that Meta and OpenAI claimed that they will attach to all of their AI-generated images, can be easily cropped or edited out of an image.[127] Thus, other technical standards have received greater attention, and none more than C2PA, an open-source cryptographic internet protocol that encodes "provenance information", a technical term for details about the origins of a piece of content.[128] The project, originally started by Adobe, Arm, intel, Microsoft, and Truepic, now also includes Google, OpenAI, Sony, BBC, Meta, the Publicis Groupe, and Amazon on its steering committee, with over 1500 other companies, such as Nikon, Canon and TikTok, also involved in the project.[129] C2PA uses cryptography to encode provenance information through a set of hashes that bind to the elements of a work, such as each individual pixel.[130] Yet, such a protocol only works if the protocol has also been adopted by the respective environments the work travels across in the digital ecosystem.[131] This means that if a C2PA encoded image is uploaded to a site that does not use the C2PA protocol, the information will not be readable.[132] Currently, LinkedIn and TikTok are the only major social media platforms conserving, extracting and displaying C2PA credentials, albeit in a limited manner, while most popular social media platforms, such as Facebook, Instagram, X, and

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[124] *Id.* at 3.

[125] Siddarth Srinivasan, *Detecting AI fingerprints: A guide to watermarking and beyond*, Brookings (Jan. 4, 2024), https://www.brookings.edu/articles/detecting-ai-fingerprints-a-guide-to-watermarking-and-beyond/.

[126] Nick Clegg, *Labeling AI-Generated Images on Facebook, Instagram and Threads,* Meta (Feb 6, 2024), https://about.fb.com/news/2024/02/labeling-ai-generated-images-on-facebook-instagram-and-threads/; *Watermarking AI-generated text and video with SynthID,* Google DeepMind Blog (May 14, 2024), https://deepmind.google/discover/blog/watermarking-ai-generated-text-and-video-with-synthid/.

[127] Heikkilä, *supra* note 122; *C2PA in DALL·E 3*, OpenAI (2024), https://help.openai.com/en/articles/8912793-c2pa-in-dall-e-3; Srinivasan, *supra* note 125.

[128] *Id.*

[129] Tate Ryan-Mosley, *Cryptography may offer a solution to the massive AI-labeling problem*, MIT Technology Review (Jul 28, 2023), https://www.technologyreview.com/2023/07/28/1076843/cryptography-ai-labeling-problem-c2pa-provenance/?truid=; Heikkilä, *supra* note 122. List of members on the project available at: https://c2pa.org/membership/.

[130] *C2PA and Content Credentials Explainer*, C2PA (accessed Dec 4, 2025), available at: https://spec.c2pa.org/specifications/specifications/2.2/explainer/Explainer.html; Ryan-Mosley, *id.*

[131] *Id.*

[132] *Id.*

Youtube, and all instant messengers, such as Whatsapp, Telegram and Signal, strip content of its C2PA credentials.[133]

C2PA therefore has the same issue that any watermarking embedded into metadata is faced with – namely, that the watermark can be removed by simply re-creating the file. In the case of a visual work, this is easily achieved by screenshotting the image (or indeed, taking a high-res photograph of it).[134] By the same token, for an audio work, the watermark can be removed by simply recording the work playing. Additionally, mandatory provenance information has been criticised for its ability to stifle freedom of speech, deter technology whistleblowing and generally enable mass-surveillance and government abuse.[135]

Perhaps more promising, then, are invisible watermarks, undetectable to humans but machine-readable in the work itself (rather than in metadata attached to the work).The first Big Tech company to publicly launch an invisible watermarking tool was Google Deepmind with its SynthID tool, an optional watermark that users can choose to attach when using Google's Imagen AI-image generator.[136] The popular GenAI image generator Stable Diffusion also uses invisible watermarking, as does

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[133] *Id; C2PA Implementation Guidance,* C2PA (accessed Dec 4, 2025), https://spec.c2pa.org/specifications/specifications/2.2/guidance/Guidance.html ("Asset metadata (including any C2PA Manifest Store present) may be routinely removed or corrupted by legacy or non-C2PA capable platforms during distribution. This is common, for example, on social media platforms that display asset renditions (e.g., altering the resolution, form factor or quality of the digital content) that do not have the appropriate C2PA Manifests declaring those modifications.); Patrick Corrigan, *LinkedIn Adopts C2PA Standard*, LinkedIn (May 15, 2024), https://www.linkedin.com/pulse/linkedin-adopts-c2pa-standard-patrick-corrigan-kwldf/;*Partnering with our industry to advance AI transparency and literacy*, TikTok Newsroom (May 09 2024), https://newsroom.tiktok.com/partnering-with-our-industry-to-advance-ai-transparency-and-literacy. Ingo Boltz, *Content Credentialed Media in Election Observation Missions – First Lessons Learned*, Electoral Integrity Project (Sept 26, 2024); John Collomosse et al., *To Authenticity, and Beyond! Building Safe and Fair Generative AI Upon the Three Pillars of Provenance*, 44 IEEE Comput. Graphics & Applications 82, 84 (May–June 2024)

[134] C2PA, *supra* note 130; Heikkilä, *supra* note 122.

[135] Sam Gregory & Raquel Vazquez Llorente, *Regulating Transparency in Audiovisual Generative AI: How Legislators Can Center Human Rights,* Tech Policy Press (Oct 18, 2023), https://www.techpolicy.press/regulating-transparency-in-audiovisual-generative-ai-how-legislators-can-center-human-rights/. See the C2PA's own Harms Modelling with a list of Identified Harms: *C2PA Harms Modelling* (2024), available at: https://c2pa.org/specifications/specifications/1.0/security/Harms_Modelling.html.

[136] Sven Gowal & Pushmeet Kohli, *Identifying AI-generated images with SynthID*, Google DeepMind Blog (Aug 29 2023), https://deepmind.google/blog/identifying-ai-generated-images-with-synthid/; Melissa Heikkilä, *Google DeepMind has launched a watermarking tool for AI-generated images,* MIT Technology Review (Aug 29, 2023), https://www.technologyreview.com/2023/08/29/1078620/google-deepmind-has-launched-a-watermarking-tool-for-ai-generated-images/..

Meta in its AI-image generation.[137] SynthID uses two separate neural networks.[138] The first (almost) replicates the original image, but subtly changes some of the pixels in a way that is invisible to the human eye.[139] The second neural network searches for human-invisible patterns within the image, and informs users whether it has detected a watermark, hasn't detected a watermark, or *suspects that there might be* a watermark.[140] While Pushmeet Kohli, the vice-president of research at Google DeepMind, claims that SynthID is more resistant to circumvention than previous invisible watermarking attempts, he also conceded that the tool is still "experimental" and not yet immune from tampering nor indeed ready for wider dissemination.[141] Kohli also refused to answer whether Google would use the tool more widely for images outside those generated by Imagen as well as in Google's other AI-image generation systems.[142] As such, its utility has been met with scepticism from other AI researchers and the model's accuracy remains entirely unclear[143].

Indeed, the history of watermark viability is not on its side.[144] Renowned computer scientist Prof. Ben Zhao, who has received a significant amount of attention in recent years working on projects that seek to foundationally disrupt machine-learning tools' functionality, is unconvinced of the ongoing viability of any watermarking technique, stating that "there are few or no watermarks that have proven robust over time."[145] Even cutting edge invisible watermarks have proven easy to remove and useless.[146] Due to this unreliability of current provenance mechanisms, sole reliance on technological solutions to determine synthetic content has been roundly advised against by scholars and human rights organisations in

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[137] *Id.; What's New Across Our AI Experiences,* META (Dec 6, 2023), https://about.fb.com/news/2023/12/meta-ai-updates/; *Labeling AI-Generated Images on Facebook, Instagram and Threads*, META (Feb. 6, 2024), https://about.fb.com/news/2024/02/labeling-ai-generated-images-on-facebook-instagram-and-threads/. The invisible watermarking script used by Stable Diffusion is available at: https://github.com/ShieldMnt/invisible-watermark.

[138] Gowal & Kohli, *supra* note 136; Heikkilä, *supra* note 136..

[139] *Id.*

[140] *Id.*

[141] Heikillä, *id.*

[142] *Id.*

[143] Xuandong Zhao et al., *Invisible Image Watermarks Are Provably Removable Using Generative AI*, arXiv preprint, arXiv preprint arXiv:2306.01953 (Oct. 31 2024); Kate Knibbs, *Researchers Tested AI Watermarks—and Broke All of Them*, Wired (Oct 3, 2023), https://www.wired.com/story/artificial-intelligence-watermarking-issues/; *id.*

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[145] These projects include Nightshade, a data-poisoning tool which damages training data such that it will lead to incorrect GenAI outputs, Glaze, a style-masking tool for artists to prevent their work being scraped in training data, and Fawkes, a tool that, similarly to invisible watermarking tools, embeds photos with invisible pixel-level changes that confuse facial recognition systems. *See long*lists of press coverage at: *Nightshade Publications & Media Coverage*(2024), available athttps://nightshade.cs.uchicago.edu/media.html; *Glaze Publications & Media Coverage*(2024), available athttps://glaze.cs.uchicago.edu/media.html; *Image "Cloaking" for Personal Privacy*(2024), available at https://sandlab.cs.uchicago.edu/fawkes/#press; Quote from Heikillä, *supra* note 136.

[146] Nikola Jovanović et al., *Watermark Stealing in Large Language Models,* arXiv preprint arXiv:2402.19361 (Jun. 24, 2024); Melissa Heikkilä, *It's easy to tamper with watermarks from AI-generated text,* MIT Technology Review (March 29, 2024), https://www.technologyreview.com/2024/03/29/1090310/its-easy-to-tamper-with-watermarks-from-ai-generated-text

major policy-building forums, such as US Senate hearings and European Parliament briefings.[147] Yet even if watermarks *did* prove robust, there are significant challenges to their universal roll-out. Competing proprietary watermarks will come at a cost, while open-source AI models can more readily have their watermarking removed.[148] In turn, as patents for new watermarking technologies come rolling in, both expenses and risk of litigation for AI developers and users will likely start to climb, contributing significant hurdles to the kind of cheap, easy-to-use, standardised AI watermarking that would be necessary for the stability of any copyright framework's reliance.[149]

Problematically, if copyright frameworks expressly delineate likelihood of receiving ownership on whether a generative tool has been used in the creative process and seek to enforce as much through technological solutions and standards, developers are expressly incentivised to build tools that do *not* watermark to provide alternatives for creatives who are interested in using GenAI as part of their practice. Thus, such an approach could counter-productively assist in the development of a black market for GenAI creative tools. If the tools are already illegal for shirking watermarking requirements, they will likely also shun other regulatory standards (such as rejecting generation of works in a specific artist's likeness). The proliferation of open-access models in the GenAI ecosystem would render the removal of such tools from public availability challenging.

Still, international interest in marking GenAI deepfake content for rhetorically higher-stakes reasons, such as combatting AI-generated disinformation, may lead to harsh penalties for those who develop non-watermarking GenAI tools that could reduce development and public availability to an extent. President Biden vowed to "help develop effective labeling and content provenance mechanisms, so that Americans are able to determine when content is generated using AI and when it is not" in the initial US Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence in October 2023.[150] Also in October 2023, the G7 leaders adopted "[d]evelop[ing] and deploy[ing] reliable content authentication and provenance mechanisms, where technically feasible, such as watermarking or other techniques to enable users to identify AI-generated content" as one of the 11 International Guiding Principles for Organizations Developing

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[147] European Parliamentary Research Service , *supra* note 121*; Testimony of Sam Gregory, Executive Director, WITNESS Before the U.S. Senate Committee on Commerce, Science and Transportation Subcommittee on Consumer Protection, Product Safety and Data Security at "The Need for Transparency in Artificial Intelligence" Hearing.* (2023); Claire Leibowizc, *Why watermarking AI-generated content won't guarantee trust online*, MIT TECHNOLOGY REVIEW (August 9, 2023), https://www.technologyreview.com/2023/08/09/1077516/watermarking-ai-trust-online/

[148] *Supra* note 125.

[149] Special thanks to Bill Rosenblatt for his insights around watermarking patent wars.

[150] Notably, however, no such provisions appear in Trump's replacement Executive Order. See: Joseph R. Biden Jr, *Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence* (2023). (Available at: https://www.whitehouse.gov/briefing-room/presidential-actions/2023/10/30/executive-order-on-the-safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence/); *cf.* The White House, *Removing Barriers To American Leadership in Artificial Intelligence* (2025). (Available at: https://www.whitehouse.gov/presidential-actions/2025/01/removing-barriers-to-american-leadership-in-artificial-intelligence/).

Advanced AI Systems.[151] Both Europe and China have gone further - mandating watermarking for GenAI tools.[152] China's Cyberspace Administration released requirements for AI-generated content to include watermarks in August 2023, while Article 50(2) of the EU AI Act explicitly states that GenAI-system providers must ensure that "the outputs of the AI system are marked in a machine-readable format and detectable as artificially generated or manipulated" and that "their technical solutions are effective, interoperable, robust and reliable".[153]

However, given the lack of robust, reliable technical solutions currently available, this requirement must only be met "as far as this is technically feasible, taking into account the specificities and limitations of various types of content, the costs of implementation and the generally acknowledged state of the art, as may be reflected in relevant technical standards."[154] Still, it is clear that international action against the potential pernicious societal effects of deepfakes is leading to a seemingly higher-stakes interest in the development of technological solutions to detect synthetic content irrespective of the copyrightability woes of IP stakeholders.

Yet, given experts believe that watermarking alone will not be sufficient, extensive alternative measures have been advised in European and US briefings to support watermarking techniques, such as mandatory processes of documentation and transparency for foundation models, pre-release testing, third-party auditing, pre- and post-release human rights impact assessments and media literacy campaigns.[155] However, not all of these processes are relevant to creative works, as developing purely aesthetic synthetic content, like sounds or colours, is fundamentally other in nature to developing synthetic content that is ostensibly representative of lived reality, like a deepfake video. Thus, the ability for copyright enforcement bodies to piggyback off the synthetic content detection frameworks that will be developed to combat other societal harmful effects may be limited. If an artist lived in a country where AI generation without watermarking was banned at the developer level, should they also refrain from using GenAI tools developed in other countries, where developers were not held to the same watermarking requirements? Even if every country on earth were to agree to harmonised mandatory testing, auditing and transparency processes (a very large *if* indeed), as long as there are open models all over the world being developed to generate content, the ability to accurately audit the standards of every single model and output on earth to determine if a work has involved generation would be nigh on impossible.

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[151] Hiroshima Process International Guiding Principles for Advanced AI Systems 4 (2023). Available at: https://digital-strategy.ec.europa.eu/en/library/hiroshima-process-international-guiding-principles-advanced-ai-system

[152] Regulations on the Management of Deep Synthesis for Internet Information Services (2023). Available at: https://www.cac.gov.cn/2022-12/11/c_1672221949354811.htm; Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence and amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act)Text with EEA relevance. OJ L, 2024/1689 (2024). Art. 50(2) (hereinafter "EU AI Act")

[153] *Id.*

[154] EU AI Act, *supra* note 152, Art. 50(2).

[155] Gregory & Llorente, *supra* note 135; European Parliamentary Research Service, *supra* note 121, 55.

Rather, the inverse – certifying content as *legitimate* - appears comparatively more achievable than certifying content as *illegitimate*, although still formidable and currently without a robust system to do so. This inverse need not fear the aforementioned removal techniques, as any removal of the watermark delegitimises the work. Rather, the process would need to ensure that the watermark itself disappears if the work is altered.

Legitimacy certification also benefits from institutional reputation and standing. As the world becomes more replete with synthetic content, we are more likely to be sceptical of the authenticity of all content that we see. It is inherently much more difficult for institutions to confirm the illegitimacy of content that they were *not* involved with than to confirm the legitimacy of content that they *were* involved with. Trusted sources will be able to certify that content they have created or audited is not doctored without needing to rely on technological watermarking solutions. This comparative ease in certifying legitimate, rather than illegitimate, content may direct international efforts in differentiating the two to invest more heavily in the former, unless watershed technological innovation renders the latter more achievable.

If ultimately international frameworks build themselves around trust certification of *human-generated* content, these will be of limited value in determining the copyrightability of creative works. For any creative work to receive a "human-generated" certification would then require either institutional or cryptographic approval, which would require front-to-back surveillance of the artistic process to ensure that no generated material was ever used in the process prior to certification. Indeed, institutional approval might itself be interpreted to be a registration formality, and in turn illegal under the Berne Convention.[156]

Thus, the applicability of anti-disinformation measures to combat synthetic content is questionable. It is also questionable whether it is desirable to have the same level of punishment for shirking of watermarking provisions for false representations of reality, as opposed to generated aesthetic content. Indeed, the enforcement of highly punitive measures roundly failed to curb illegal file sharing over the past few decades.[157] Instead, it is broadly held that the availability of convenient legal alternatives to file-sharing was far more effective at combatting copyright infringement than punitive enforcement measures.[158] Yet, where the crackdown on file-sharing targeted "pirates", an analogous crackdown here would punish artists for using tools to create works and not rightly reporting their processes.

On the one hand, it may therefore render it more effective. It is unclear if artists' will to use these tools to create is as great as the will of pirates to consume. In the current state of artistic backlash against GenAI tools, it might not be the case that many artists will endanger themselves simply to use them. Yet, as they become more mainstream and integrated into regular creative processes, artists who utilise GenAI tools in their practice will be more likely to reject a system that delegitimises the integrity of their work.

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[156] Berne Convention for the Protection of Literary and Artistic Works (as amended on September 28, 1979), Art. 5(2).

[157] *See*: The Film and TV Piracy Report 2022. (2023). Available at: https://www.ctam.com/wp-content/uploads/MUSO-2022-Film-And-TV-Piracy-Report.pdf

[158] *See, for example*: Sarah J Frick, et al., *Pirate and chill: The effect of netflix on illegal streaming*, 209 Journal of Economic Behavior & Organization (2023); Alex Tofts, *Flood of new streaming video services could turn viewers toward piracy,* Broadband Genie (Nov 17, 2022), https://www.broadbandgenie.co.uk/blog/20190926-streaming-piracy-survey; Hyojung Sun, Digital Revolution Tamed: The Case of the Recording Industry 135 (2019).

On the other hand, this punishment would be for wrongful creation instead of wrongful consumption. Or rather, fraudulent creation. Such a system would entrench the vilification of this type of creative technology against all others, with undeclared use incurring a harsh penalty unlike any other creative tool. Naturally, this does not stimulate innovation, as it disincentivises use of an innovative new tool. It does not reward the dignity of the artist using the tool. It is a severe market regulator – one that expressly disincentivises production with the threat of punishment for inadequate record-keeping. By what metric, then, would this punishment be justifiable?

Thus, as it stands, there is no wholly reliable technical tool to detect whether content incorporates GenAI output *at all*, let alone to granularly determine exactly *which* part of a work was developed using GenAI and *how* it has been altered. Still, let us imagine that we *were* able to accurately watermark every single GenAI output and that our example musicians were not able to remove these watermarks. If they were to spend years altering the content such that it was turned into an entirely other creative representation deeply reflective of the labour and expression of the artists themselves, the watermark would remain. Thus, while a robust watermarking system does not exist and may never exist, even if it *did* exist, it would not convey the information required for a regulatory body to assess whether a human creator has developed the work enough to meet a requisite threshold for authorship. Rather, the robust watermarking system would need to be accompanied by a robust tracking system, able to granularly record an artist's alterations to a generated work. This would be especially necessary in a system, such as the US', which separates out which specific elements of the work are copyrightable and which are not, in order to maintain a hyper-delineated understanding of *exactly* which elements of the work have reached the threshold. Naturally, such a system would need to be able to track a work as it changed environments – perhaps entering the physical realm to be worked on or moving across different digital environments. It would need to be robust enough that it could handle a song being re-recorded or an image being re-printed. In turn, for a watermarking system to hold enough information to qualitatively evaluate every possible use of a GenAI tool to assess whether it meets a requisite authorship threshold necessitates nothing less than top-to-bottom tracking of the entire artistic process, which is to say surveillance of the artist themselves. Naturally, to surveil an artist through their entire creative process – one which is often of extremely personal and private self-exploration – would not only be scandalously radical solely to determine whether a common creative tool had been used, but also a clear breach of the European Convention of Human Rights Right to Privacy and of the First Amendment of the United States Constitution.[159]

Let us pretend, then, that there *is* a means of meaningfully auditing the exact nature and amount that an artist has utilised a GenAI tool to the point that an enforcement body was able to consider whether the artist had reached a requisite authorial threshold. Let us imagine that our musicians did not want their contributions to be evaluated by a governing body to determine whether they had contributed enough to be authors of their work. Or, let us just imagine that our musicians, uncertain about GenAI contributions to their work, do not wish to endanger themselves by wrongly declaring GenAI-tool use. Thus, they are incentivised to re-record their work *without* GenAI tools. While some copyright frameworks, such as the UK's, require labour to receive copyright, many others, such

[159] European Convention of Human Rights (1953), Art. 8; U.S. Constitution, First Amendment.

as European and US frameworks, expressly do *not* grant copyright based on labour.[160] Yet, if use of GenAI tools is to be determined as a risk to authorship, it is labour and labour alone, devoid of creativity, that will convert a work from uncopyrightable to copyrightable. Although this might be considered preferable to simply using GenAI tools to create something, as the artist must at least understand how to replicate the work that they have generated, pure replication – "copying" – is not a creative act. Here, the technician is rewarded, best able to replicate something existing, rather than the artist. (In an especially incongruous passage of the USCO's Report, this recreation is seemingly encouraged, stating that "using AI as a brainstorming tool", such as in "song ideation", should "not affect the copyrightability of the resulting human-authored work", provided that the final work is "referencing, but not incorporating" the GenAI output.[161] How is one supposed to "reference" a new song idea that no one has ever heard without recreating its elements?)

Absurdly, the only aspects of works that would *not* be able to be meaningfully replicated would be those that are dependent on the aesthetic quality of the GenAI tools themselves. Thus, non-GenAI tools would need to be utilised (or perhaps even developed) to try to imitate the specificities of GenAI works. Those endogenous components of GenAI works most ripe for unique GenAI-specific aesthetic experimentation and innovation would be those *most* difficult to receive authorship over. By disincentivising efficient creation of works with GenAI tools, the inefficient reconstruction of those works is then incentivised. What purpose does this serve? It does not stimulate innovation. It does not reward the dignity of its creator. As a market mechanism, it is explicitly inefficient – demanding arbitrary labour to recreate a product.

Of course, it could be argued that this recreation of the generated material would itself also not be copyrightable, as it is not original. In order to audit this, we would require a repository of *every single output that was ever privately generated*, for each work to be compared against. Interestingly, such a method – known as "retrieval-based detection" - is being suggested, wherein "the producer organization simply … keep[s] a (private) log of all the content it generates—a detector tool can then be implemented as a regular plagiarism detector operating on this log."[162] This method was recently partly demonstrated with text content, "detect[ing] 80% to 97% of paraphrased generations across different settings while only classifying 1% of human-written sequences as AI-generated".[163] Yet, retrieval-based detection is an unlikely impractical solution, given it requires the active (costly) involvement of developers, is not universal, is not compatible with open-source models and is not conducive to creative privacy.[164] Further, in order for it to function for recreated visual or musical works, rather than simple text works, any comparative system would need to determine *similarity*, rather than identical copying, to a generated

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[160] Jane C Ginsburg, *The concept of authorship in comparative copyright law*, 52 DePaul L. Rev., 1078 (2002); Andres Guadamuz, *Living in a Remixed World: Comparative Analysis of Transformative Uses in Copyright Law*, Future Law: Emerging Technology, Regulation and Ethics, 349 (2020); Andreas Rahmatian, *Originality in UK copyright law: The old "skill and labour" doctrine under pressure*, 44 IIC-International Review of Intellectual Property and Competition Law (2013).

[161] US Copyright Office, *supra* note 80, at 12.

[162] Alistair Knott, et al., *Generative AI models should include detection mechanisms as a condition for public release*, 25 Ethics and Information Technology, 4 (2023).

[163] Kalpesh Krishna, et al., *Paraphrasing evades detectors of ai-generated text, but retrieval is an effective defense*, 36 Advances in Neural Information Processing Systems, 1 (2024).

[164] *Supra* note 125.

work. Every artistic work would then run the risk of losing its authorship if an artist is unlucky enough to have created something that is too similar to something that was once generated somewhere else by someone else. It would fundamentally render all private GenAI-content generation as instant content generation into the public domain, *unless* a user's output is only compared against material that they generated. This would then require user-specific tracking across models for auditing purposes for GenAI-output detection, solely to determine whether there was any GenAI-output in each respective work.

We can thus summarise that auditing and enforcement would require some combination of significant technological innovation, harmonised international standards enforcement, policing and removal of creative tools that do not meet these standards, and a heightened level of tracking and evidencing of the artistic process. Thus, this requires a significant evolution of techno-regulatory coherence, calling for substantial development of both public regulatory and technological infrastructures in mutual objective and co-dependence.[165] This would amount to a reengineering of international copyright frameworks at large, in order to ensure adequate harmonisation and certainty around which creative works can hold copyright. Yet, even were such an intricate (and unproven) framework to develop, it is still unclear that it would provide the requisite detail to understand the exact nature and amount of human interaction in developing a work, nor how it would meaningfully differentiate uses of GenAI tools that would *not* affect authorship.

If international copyright frameworks must be reengineered regardless, we might consider whether instead of seeking to redevelop them in service of a "generated / non-generated" dichotomy that may never be possible to accurately illumine and which would require a systematic creativity policing system on the hunt for a specific family of GenAI tools unheard of for any other means of creative development, that we might instead accept the new modes of creative production along with the artworks of variable quality that they lead to. With this acceptance, we can instead turn to the considerable challenge of reengineering copyright systems in response to this new reality.

## *VIII. CONCLUDING: CHALLENGES OF THE NEW REALITY*

Debates around whether or not AI-generated materials should receive copyright are moot without adequate means of differentiation. We can therefore engage in the seemingly Sisyphean task of building a worldwide framework to try to adequately enforce this differentiation, with fully formed artworks (with stated authors) now subject to inquiry as to whether they have been authored or not, or we can adapt to a world where new means of creative development radically affect creative productivity so as to foundationally alter the effect of granting exclusive rights to creative works. As the former approach does not serve copyright's purposes of stimulating innovation nor rewarding creators and is seemingly impossible to enforce without infringing upon human rights to expression and privacy, it is time to adapt to the new modes of creative production and tackle their challenges head-on.

Given the great array of creative input in developing GenAI-assisted works (from those whose creativity has been trained on, those whose creativity has designed the tool, and those who use the tool to create), the challenges come less in

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[165] Zachary Cooper & Arno R Lodder, *What's Law Got To Do With IT: An Analysis Of Techno-Regulatory Incoherence*, *in* RESEARCH HANDBOOK ON LAW AND TECHNOLOGY 51-53, (Bartosz Brożek, et al. eds., 2023).

ascertaining whether these works hold authorship, and more in who those authors are. While it may be unworkable to give authorship to every musician in the training data of a model trained on all publicly available music, other models are trained entirely on one artist. Are there circumstances by which an output too closely and clearly resembles a specific input artist such that this artist should receive some rights over the output? Should this exclusively be dealt with at the input stage? Is this solely a personality rights question? To what extent can someone who designs a tool claim authorship over all of its outputs? What should the limits to private ordering be in determining authors? How should regulatory bodies seek to track and enforce authorship? To what extent are we comfortable with corporate legal persons authoring enormous amounts of content? If minimal investment can bring about huge swathes of ownership, should we bring back registration formalities? As artists may be reluctant to share ownership over their final output, they may also be likely to try to hide their use of both GenAI tools and other artists' work.[166] This feeds the greater question – do exclusive rights correctly incentivise a fair allocation of rights to the final work?

Critically, then, we must consider the challenges around substantial similarity. As Mark Lemley writes, substantial similarity tests (while applied differently across different nations) will likely be challenged in their application, as a work may significantly resemble previous works without the author having engaged with them.[167] This is partly evidenced by the major record labels' lawsuits against Udio & Suno, where songs that were similar to existing copyrighted songs were generated.[168] Yet, the labels themselves actively sought to replicate specific songs, meaning they were able to more readily direct the GenAI-tools towards the music they sought to allege copyright infringement against.[169] Still, copyright frameworks that have found infringement for weak similarities between works may need to adjust. Controversial decisions, such as that which found Robin Thicke's "Blurred Lines" had too similar a *feel* to Marvin Gaye's "Got To Give It Up", set difficult precedents to uphold in a post-GenAI world (if this was not already the case).[170] Weak similarities can be more readily defended against in a world where massive amounts of content are generated routinely from unpredictable GenAI machines. Indeed, enforcement of weak similarities could open up regulatory bodies to an unmanageable number of infringement claims, as the fluid spectrum between works is increasingly mined and illumined by artists. Interestingly, in the Court of Justice of the European Union's (CJEU) 2019 *Pelham v Kraftwerk* decision, where they found (after 22 years!) that the (only *just* audible) use of a 2 second Kraftwerk drum sample in Sabrina Setlur's song "Nur Mir" was an infringement of Kraftwerk's phonogram reproduction right, the CJEU expressly stated that sampling will not infringe if it is in a "modified form unrecognisable to the ear."[171] This is exactly what audio cloning technologies can achieve immediately, changing the sound of something such that it is unrecognisable. It has never been easier, then, to take works that you are a fan of, and change them so that they are similar but not the same. Indeed, contemporary GenAI tools such as

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[166] For discussion of this same issue, see: Samuelson, *supra* note 11, 1223.
[167] Lemley, *supra* note 6, 19-21.
[168] *Supra* note 21.
[169] *Id.*
[170] Pharrell Williams et al. v Bridgeport Music et al., No. 15-56880, (United States Court of Appeals for the Ninth Circuit).
[171] Pelham GmbH, Moses Pelham and Martin Haas v Ralf Hütter and Florian Schneider-Esleben, Case C-476/17, (Grand Chamber of the Court of Justice of the European Union). at para. 31.

Udio have slidable similarity meters for the input fed in. Thus, exclusive rights in the age of GenAI incentivise artists who may have preferred to directly sample work of artists they admire to rather hide their inspiration and alter the samples, in order to avoid the hassle of seeking permission from rightsholders.

We might question then, as content is rendered increasingly fluid and easy to modify due to the development of new creative tools, do exclusive rights still provide the correct incentives to service the purposes of copyright? Do we still need to incentivise creative production? We already lived in an era of extravagant creative abundance before we received access to seemingly infinite creativity machines. Creative musical markets are built upon determining which content within the infinite galaxy of songs is to be selected and recommended to the public, through both human curation and algorithmic recommendation.[172] Much of this content is openly shared and remixed for free on platforms like Soundcloud, without consideration of copyright at all. Songs with the most valuable copyright (namely, the biggest songs in the world) in turn will likely have the largest number of unlicensed remixes permeating the internet. This has indeed become a core aspect of virality in the contemporary age, where fan reworking and participation in the dissemination of cultural products have become fundamental drivers of promotion.[173] There are entire genres of music whose modes of compositional expression are not understood or covered by copyright. As such, creative markets around genres like techno and trance are extraordinarily lucrative worldwide while existing broadly free of similarity-based litigation.[174] Rather, similarity is the name of the game within some genres, built on seamless flows of trance-like repetition.[175] As such, it is clear that copyright is not needed to incentivise *all* types of cultural production. As GenAI tools render ever more cultural products cheap to produce, the number of products that require incentive may reduce. Still other higher-investment modes of production may require greater incentive if they are drowned out by lower-investment GenAI-works.

Drastically lowering the technical barrier to entry in creating works will also itself change which works we value. Works that may once have been considered interesting will now be rendered generic. Yet, creative practice will also be opened to others who previously found the skills required alienating. For example, music aficionados who were previously without technical musical skill will be able to use

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[172] *See, for example*: Nedim Karakayali, et al., *Recommendation systems as technologies of the self: Algorithmic control and the formation of music taste*, 35 Theory, Culture & Society (2018); Niko Pajkovic, *Algorithms and taste-making: Exposing the Netflix Recommender System's operational logics*, 28 Convergence (2022); Matt Artz, *Reimagining Recommender Systems: Towards a More Equitable Model for Creators*, *in* EmTech Anthropology: Careers at the Frontier (Matt Artz & Lora Koycheva eds., 2024).

[173] *See, as an example*, the viral sensation of Charli XCX's "Brat" promotional campaign: Ed Lloyd, *Charli XCX's Brat campaign should turn you all green with envy,* The Drum (Jul 23, 2024), https://www.thedrum.com/opinion/2024/07/23/charli-xcx-s-brat-campaign-should-turn-you-all-green-with-envy. or the highly publicised Tik Tok vs Universal dispute: Ben Sisario, *TikTok Just Lost a Huge Catalog of Music. What Happened?,* The New York Times (Feb 1, 2024), https://www.nytimes.com/2024/02/01/arts/music/tiktok-universal-music-explained.html.

[174] Nyshka Chandran, *Clubbing Is Becoming Big Business. What Does This Mean for Dance Music?,* Resident Advisor (Sep 6, 2023), https://ra.co/features/4235.

[175] Robert Fink, Repeating ourselves: American minimal music as cultural practice (University of California Press. 2005).

their depth of knowledge and ability to communicate to develop exciting new works purely through text direction. Why should they not hold rights over the innovative new works they labour over? Perhaps most excitingly, many people with disabilities who were otherwise locked out of certain modes of creation now find at their disposal an array of tools that can assist them in realising previously impossible creative visions.

Thus, there are significant questions as to the effect on creative markets if exclusive rights can be granted over massive amounts of content. Naturally, if substantial similarity tests find weak similarities to infringe without adequate defence, then copyright may incentivise copy-mining, wherein actors seek to create as much content as possible in the hopes of being able to claim rights to valuable content later. It is important, then, that current large rightsholders (such as the major labels who hold massive percentages of valuable music rights) are not able to utilise the rights that they already own to create masses of content to entrench their dominant positions, at the expense of the public domain. If stronger similarity thresholds between works must therefore be allowed to avoid this outcome, what should these new thresholds be? How should substantial similarity tests be redesigned, where similarity may be incidental?

Admittedly, whether copy-mining is truly a risk remains to be seen. Creators without any profile who are responsible for massive amounts of content may be vilified as bad actors and not taken seriously for their claims. However, this is not necessarily true of creators with a high profile. If Taylor Swift started releasing a new record every week due to the newfound efficiencies of GenAI tools, she might be taken more seriously if she were to claim that another artist had infringed upon her massive corpus. Dan Burk argued that in the age of GenAI tools, authenticity will be of critical value.[176] Yet, authenticity comes in many forms, not least of which is an official stamp of approval. High profile artists could still have trusted expert curatorial teams sifting through generated content all day, choosing the catchiest works, and attaching their voices to them. Perhaps this would be considered heretical by their fans, but perhaps not. Pop stars have often been poster children for music created by others. What will likely matter most is the quality of the output. Thus, those with the most money may be able to hire the best teams to curate and arrange the highest quantity and quality of new output.

Thus, weak similarity thresholds, like *feel*, cannot be maintained if they allow powerful actors to copy-mine the public domain. Of course, over-releasing by artists may dwindle the value of their products. Still, it is questionable whether the value of an individual product will be paramount in the creative economies of the 21st century. Algorithms that incentivise creators to produce massive amounts of content to maintain algorithmic visibility and engagement may increase the entire value of an artist's persona due to their high production levels, regardless of the individual quality of each work.

Yet, easily generated works will likely lose the interest of the public at large. While great exciting works that impress the public will still be created (some created using GenAI tools and some not), the vast majority of (non- and GenAI-assisted) works will remain of marginal value, never subject to any litigation. It is unclear then whether an abundance of content will lead to an abundance of frivolous infringement claims. Still, the role of copyright in an age of unforeseen creative gluttony and fluidity demands that the walls we build around works will need to change in character. How then should the copyright system be redesigned in order to avoid the

[176] Burk, *supra* note 13, at 1673.

exploitation of GenAI tools at the expense of the public domain while still being able to protect creators from undue exploitation of their work?

These are trying challenges, yet they are ill-served by doubling down on an uncertain economic landscape where each work *may* hold copyright, to be determined on a case-by-case basis within the infinite spectrum of potential GenAI-use cases. It is not the role of the copyright system to judge the legitimacy of an artwork, nor the process of the artist, nor to dictate the tools that the artist is allowed to use in the creation of their work.[177] Yet, the GenAI dichotomy approach taken by various judicial systems is not only wrong in its intent, it is practically impossible to coherently enforce. If we were faced with a glut of creative works beforehand, this glut is to represent but a fraction of the massive amount of works to be developed. To throw each into a state of uncertainty undermines that which copyright was built to protect: both the dignity of innovative creators and the creative economy itself.

To protect these interests, we must accept the new modes of creative production as a reality and refrain from absurdly demanding artists to plead their case for authorship of their works. We otherwise incentivise innovative artists to deny their use of state-of-the-art creative tools and hide the entirety of their output for fear of revealing their GenAI-assisted productivity. As these tools challenge core foundations of our copyright frameworks, we instead should focus our efforts on ascertaining which elements of copyright are able to sustain their purposes in relation to foundationally shifted modes of creative production, and which are no longer functional. Without question, our frameworks must change. The path of least resistance is radically unsustainable, lest we seek to concede copyright's irrelevancy in the 21st century.

[177] Lee, *Prompting progress: authorship in the age of AI, supra* note 13, at 33-37; Robert A Gorman, *Copyright Courts and Aesthetic Judgments: Abuse or Necessity*, 25 COLUM. JL & ARTS, 1 (2001).