

ENVISIONING A COMPULSORY-LICENSING SYSTEM FOR DIGITAL SAMPLES THROUGH EMERGENT TECHNOLOGIES

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ABSTRACT

Despite the rapid development of modern creative culture, federal copyright law has remained largely stable, steeped in decades of tradition and history. For the most part, copyright finds strength in its stability, surviving the rise of recorded music, software programs, and, perhaps the most disruptive technology of our generation, the internet.

On the other hand, copyright's resistance to change can be detrimental, as with digital sampling. Although sampling can be a highly creative practice, and although copyright purports to promote creativity, current copyright law often interferes with the practice of sampling. The result is a largely broken system: Those who can legally sample are usually able to do so because they are wealthy, influential, or both. Those who cannot legally sample often sample illegally.

Many scholars have suggested statutory solutions to this problem. Arguably, the most workable solutions are rooted in compulsory licenses. Unfortunately, implementing these solutions is practically difficult.

Two recent developments invite us to revisit these proposals. First, with the passage of the Music Modernization Act (“MMA”), Congress has evinced a willingness to “modernize” parts of copyright law. Second, emergent technologies—from the MMA’s musical-works database to blockchain to smart contracts—can be leveraged to more easily implement a compulsory-licensing solution. This time around, rather than simply discuss why this solution is favorable, this Note will focus on how it can be implemented.

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INTRODUCTION

**“Why must I feel like that?
Why must I chase the cat?”¹**

On a late night in January 1982, George Clinton stumbled into a Detroit studio,² escaping the winter cold.³ Clinton was “feeling pretty good” after a night of partying, so he careened over to the studio’s recording microphone to translate his energy into music.⁴ While songwriters David Spradley and Garry Shider physically supported Clinton, shifting back and forth to keep him steady in front of the microphone,⁵ Clinton rattled off lyrics and adlibs, including the now famous line, “[b]ow wow wow, yippie yo, yippie yea,” creating what would become the funk classic “Atomic Dog.”⁶

Clinton’s “Atomic Dog” inspired generations of musicians. Its influence united even the most disparate artists, appearing as a “sample” in songs by west-coast hip-hop legend Tupac Shakur⁷ and east-coast rap powerhouse The Notorious B.I.G.⁸ While Clinton’s record “didn’t go gold, . . . it has since helped a lot of other artists go platinum.”⁹ “Atomic Dog” is a story of cultural influence; the reach of Clinton’s song extends far beyond the song itself.

1. GEORGE CLINTON, *Atomic Dog*, on COMPUTER GAMES (Capitol Records 1982).

2. Kit O’Toole, *DeepSoul: George Clinton - “Atomic Dog,”* BLINDED BY SOUND (Oct. 22, 2012, 5:59 PM), blindedbysound.com/features/deepsoul/deepsoul-george-clinton-atomic-dog [<https://perma.cc/5V62-KAZA>].

3. *Bridgeport Music, Inc. v. UMG Recordings, Inc.*, 585 F.3d 267, 272 (6th Cir. 2009).

4. *Id.*

5. *Id.* at 272–73.

6. *Id.* at 272.

7. *See* 2PAC, *Can’t C Me*, on ALL EYEZ ON ME (Death Row Records 1996).

8. BIGGIE SMALLS, *Cars, Sex, Rolex*, on HIP HOP CLASSICS: CONNECT THA DOT (Charly Records 2006). Clinton especially appreciates Public Enemy’s use of his songs “because when they sample[d] my music they were really clever and made new arrangements from the songs.” Michael A. Gonzales, *George Clinton Talks About His Favorite Parliament-Funk Samples*, COMPLEX (Jan. 31, 2012), <https://www.complex.com/music/2012/01/george-clinton-talks-about-his-favorite-parliament-funkadelic-samples> [<https://perma.cc/A6G5-MZZX>].

9. Gonzales, *supra* note 8. The artists who sampled Clinton’s work returned the favor by inadvertently revitalizing his career:

By the 1980s, however, most of Clinton’s records were out of print and in danger of being forgotten. These albums may never have been reissued, except for one thing: Clinton became a favorite of hip-hop producers who integrated snippets of Clinton’s songs, so-called “samples,” into their music. The sampling of Clinton’s work in new music introduced his sound to an entirely new generation and revitalized Clinton’s legacy, including the republication of most of his works.

Sampling—the practice of taking part of a recording, potentially altering it in some way, and using it in a new recording¹⁰—is foundational for many genres of music, primarily hip-hop and rhythm and blues.¹¹ But *why* do artists sample tracks like “Atomic Dog”? Many of these musicians instinctually “chase the cat,” looking for the perfect sample to supplement their melodic or lyrical content.¹² Some of hip-hop’s most famous songs were created by artists who spent hours digging through record stores, looking for forgotten songs to bring back to life.¹³

Other artists use samples to communicate thoughts and emotions in a way that a strictly original composition cannot. Kanye West’s “Gold Digger,”¹⁴ for example, would arguably not have had the same cultural impact without Ray Charles’s iconic voice interjecting, “[s]he

W. Michael Schuster, *Fair Use, Girl Talk, and Digital Sampling: An Empirical Study of Music Sampling’s Effect on the Market for Copyrighted Works*, 67 OKLA. L. REV. 443, 445–46 (2015) (citations omitted).

10. *Sampling*, BLACK’S LAW DICTIONARY (10th ed. 2014). A more in-depth definition of sampling is provided in Thomas P. Wolf, Note, *Toward a “New School” Licensing Regime for Digital Sampling: Disclosure, Coding, and Click-Through*, 2011 STAN. TECH. L. REV. N1, N13–N16 (2011).

11. Robert Rogoyski, *The Melody Machine: How To Kill Copyright, and Other Problems with Protecting Discrete Musical Elements*, 88 J. PAT. & TRADEMARK OFF. SOC’Y 403, 412 (2006).

12. Interestingly, artists have recently found it difficult to uncover good, never-before-used samples. Shawn Setaro, *The Musicians Behind Your Favorite Songs Are Coming for Their Credit*, COMPLEX (July 30, 2018), <https://www.complex.com/music/2018/07/musicians-behind-favorite-songs-coming-for-their-credit> [<https://perma.cc/YKR8-YNCE>]. Producers are meeting this need by composing short melodies specifically made for sampling, provided the producers receive credit and payment for their work. *Id.* These producers are gaining notoriety and, consequently, making a living in this niche industry. *Id.*

13. See, e.g., Insanul Ahmed, Noah Callahan-Bever & Toshitaka Kondo, *The Making of Mobb Deep’s ‘The Infamous,’* COMPLEX (Apr. 25, 2011), <https://www.complex.com/music/2011/04/the-making-of-mobb-deep-the-infamous> [<https://perma.cc/8ZF5-8VVT>] (“We was digging in the old record stores, getting our hands dirty, [and] dusty.”); Kathy Iandoli, *The Lost Art of Cratedigging*, CUEPOINT (Sept. 23, 2014), <https://medium.com/cuepoint/the-lost-art-of-cratedigging-4ed652643618> [<https://perma.cc/L8A3-TUNV>] (“The Roosevelt Hotel Record Conventions were legendary . . . Everyone from myself to Salaam Remi to Rashad Smith to J Dilla to DJ Premier to Lord Finesse to Showbiz to the Beatminers to 45King to Kid Capri to Q-Tip all under one roof at 7:30 am.”). Unfortunately, not everyone credited the artists of the songs they sampled. See Ahmed et al., *supra* (“And I’m not telling anybody what sample it was . . . It’s good and it’s bad because I was reveling in the mystery of the sample, but if people wanted to know so bad then that just shows how much love people have for the track.”). Some of the most heavily sampled artists—like Clyde Stubblefield, whose drumming has been sampled in “over 1,300 songs”—have received next to nothing for their work. Adrian York, *The Story of the Funky Drummer: The Most Exploited Man in Modern Music*, CONVERSATION (Mar. 2, 2017, 5:51 AM), <http://theconversation.com/the-story-of-the-funky-drummer-the-most-exploited-man-in-modern-music-73473> [<https://perma.cc/4MNS-LWZ4>].

14. KANYE WEST, *Gold Digger*, on LATE REGISTRATION (Roc-A-Fella Records 2005).

gives me money when I'm in need."¹⁵ Similarly, Selena Gomez's "Bad Liar"¹⁶ would likely not produce the same unsettling feeling without the Talking Heads's eerie bass line thumping throughout the song.¹⁷ Ultimately, these incentives ushered a new art form into the forefront of American music.

By the late 1980s, sampling had permeated popular genres, like hip-hop, and forced itself into the public discourse. But the growth of sampling was met with an unfortunate reaction—over time, copyright law ate away at sampling's prominence. Under the modern system, copyright law automatically grants protection to creative, original works upon their fixation.¹⁸ Should an artist wish to sample a copyrighted song, she must license its copyright from the copyright owner.¹⁹ If she samples the song without licensing its copyright—whether that occurs because the copyright owner refuses to license the copyright, because the license is too expensive for the artist, or because the artist chooses not to contact the copyright owner—then, the copyright owner can sue for copyright infringement.²⁰

Unless the artist can invoke one of the available defenses to copyright infringement,²¹ the court may rule against the artist, issue an injunction,²² and require the defendant to pay damages.²³ Until recently, defendants often could not employ a highly-applicable defense—the *de minimis* defense—because of a Sixth Circuit case that

15. RAY CHARLES, *I Got a Woman*, on RAY CHARLES (Atlantic Records 1957). For more information on the interesting relationship that "Gold Digger" has with copyright law, see generally JAMES BOYLE, *THE PUBLIC DOMAIN: ENCLOSING THE COMMONS OF THE MIND* 122 (James Boyle ed., 2008).

16. SELENA GOMEZ, *Bad Liar* (Interscope Records 2017).

17. TALKING HEADS, *Psycho Killer*, on TALKING HEADS: 77 (Sire Records 1977); see Luke M. Britton, *David Byrne Responds to Selena Gomez Sampling Talking Heads on 'Bad Liar,'* NEW MUSICAL EXPRESS (May 18, 2017, 9:58 PM), <https://www.nme.com/news/music/david-byrne-responds-selena-gomez-sampling-talking-heads-bad-liar-2073673> [<https://perma.cc/FBW9-C2P6>] (discussing the Talking Heads's positive response to Gomez sampling its song).

18. See Copyright Act, 17 U.S.C. § 102(a) (2018) ("Copyright protection subsists, in accordance with this title, in original works of authorship fixed in any tangible medium of expression . . .").

19. Otherwise, the artist would infringe on one or more of the exclusive rights granted to copyright owners. *Id.* § 106.

20. *Id.* § 501(a).

21. See 4 MELVILLE B. NIMMER & DAVID NIMMER, *NIMMER ON COPYRIGHT* § 13.05–13.09 (2010) (detailing possible defenses).

22. 17 U.S.C. § 502.

23. *Id.* § 504.

implied sampling without a license is always illegal.²⁴ However, in 2016, the Ninth Circuit heard its own sampling case, affirmed a finding of de minimis use, and created a circuit split.²⁵ Because the Supreme Court and Congress have yet to resolve the split, the uncertainty caused by these cases has largely stymied the practice of sampling, creating two cognizable costs. First, by discouraging sampling, copyright law undermines the interest it purports to promote—creativity. Second, copyright law creates artificially high costs that can cause *legal* samplers to suffer a net-monetary loss on their projects, despite commercial and critical success.

Possible legislative solutions exist. For example, compulsory licenses, which would automatically grant artists the right to use a song—without requiring approval of the copyright owner—upon the satisfaction of certain conditions, are a promising solution. In fact, a compulsory-licensing system currently fuels the market for cover songs—recordings in which an artist performs a rendition of an already existing song—and arguably benefits all parties involved. To reduce costs and truly serve the interests of copyright law, a similar system should be implemented for digital sampling.

Granted, a compulsory-licensing system for digital samples would likely be less effective than the compulsory-licensing system for cover songs. Specifically, service providers, like YouTube, Spotify, and the Harry Fox Agency, often facilitate the licensing process for covers, allowing legally unsophisticated individuals to participate in the cover market. For several reasons, providing a similar service for digital samples is more complex. This complexity could dissuade service providers from assisting legally unsophisticated individuals and ultimately leave sampling where it is today—as a pervasive, largely illegal practice. This Note argues that three emergent technologies—the Music Modernization Act (“MMA”) database, blockchain, and smart contracts—provide a workable avenue for implementing a compulsory-licensing solution despite these potential difficulties.

The argument proceeds in four parts. Part I explores how copyright law and digital sampling interact in statute and in court. Part II asserts that the current system creates two cognizable costs: (1) creative costs; and (2) financial costs. Part III describes a possible solution to this problem—a compulsory-licensing system—and outlines the difficulties in implementing this solution for digital

24. *Bridgeport Music, Inc. v. Dimension Films*, 410 F.3d 792, 798 (6th Cir. 2005).

25. *VMG Salsoul, LLC v. Ciccone*, 824 F.3d 871, 880 (9th Cir. 2016).

sampling. Finally, Part IV argues that emergent technologies, specifically the MMA database, blockchain, and smart contracts, could facilitate this solution in spite of these difficulties.

I. THE LAW: COPYRIGHT'S INCONGRUENCE WITH SAMPLING

The modern copyright system often clashes with sampling, even though copyright purports to promote creativity. This Part introduces the issue in two steps. First, it provides an overview of the portions of copyright law that govern sampling. Second, it discusses how courts have interpreted these provisions to respond to sampling's prevalence, focusing on two divergent appellate court decisions.

A. Statutory Background

Copyright law is rooted in the constitutional power to “promote the Progress of Science and useful Arts”;²⁶ in practice, copyright encourages creativity by granting creators limited monopolies in their original works.²⁷ Without these government-sanctioned monopolies, the reasoning goes, individuals could easily steal and distribute creative media—from the words that compose a book to the sounds that make up a song.²⁸ And, if this became prevalent, a slippery slope could result: creators might generate less revenue from their works, making it harder to earn a living off their practice, potentially forcing them to stop producing any creative media at all, and, ultimately, depriving the public of creative works altogether.²⁹ Therefore, to protect creative expression, two copyrights are granted when an original musical work is “fixed” in a tangible medium³⁰: (1) a sound-recording copyright, which protects the actual audio that is stored in a music file; and (2) a

26. U.S. CONST. art. I, § 8, cl. 8.

27. *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 429 (1984).

28. See BOYLE, *supra* note 15, at 2–4 (explaining that intellectual property is easy to steal because it is nonexcludable and nonrivalrous).

29. See *Sony*, 464 U.S. at 429 (“[The monopoly] is intended to motivate the creative activity of authors and inventors by the provision of a special reward, and to allow the public access to the products of their genius after the limited period of exclusive control has expired.”); Jennifer Jenkins, *In Ambiguous Battle: The Promise (and Pathos) of Public Domain Day, 2014*, 12 DUKE L. & TECH. REV. 1, 6 (2013) (“Copyright’s central economic rationale is that exclusive rights spur creativity.”). *But see* Glynn S. Lunney, Jr., *Copyright Lost*, 59 IDEA: INTELL. PROP. L. REV. 193, 198 (2018) (“Sure, copyright generated market power, . . . [b]ut, more critically, it also reduced creative authorship.”).

30. Copyright Act, 17 U.S.C. § 102(a) (2018).

musical-composition copyright, which protects the sequence and pattern of notes, often represented through sheet music.³¹

Unlicensed sampling often infringes on at least one of these two copyrights because the sample is either an unauthorized reproduction of the original song or a derivative work based on the original.³² For many years, most musicians simply ignored copyright law and sampled freely.³³ Once courts determined that sampling copyrighted works constituted prima facie copyright infringement, three options became available to potential samplers. First, they could sample works that are in the public domain. Second, these artists could attempt to license or purchase the copyrights in the sounds they sampled.³⁴ Third, they could rely on an available copyright-infringement defense. The two most relevant defenses for sampling are fair use³⁵ and de minimis use.³⁶ Fair use—an “equitable rule of reason”³⁷—is a prominent defense that restricts copyright protections by permitting certain forms of infringement.³⁸ Unfortunately, fair use rarely applies to samples unless the use of the sample provides some form of commentary on the

31. Jeremy Beck, *Music Composition, Sound Recordings and Digital Sampling in the 21st Century: A Legislative and Legal Framework to Balance Competing Interests*, 13 UCLA ENT. L. REV. 1, 20 (2005).

32. See *Newton v. Diamond*, 388 F.3d 1189, 1192–93 (9th Cir. 2004) (determining that significant unauthorized use constitutes copyright infringement).

33. See Mark Tavern, *8 Possible Reasons Why De La Soul's Problems Are '3 Feet High and Rising'*, DJBOOTH (Feb. 28, 2019), <https://djbooth.net/features/2019-02-28-de-la-soul-three-feet-high-and-rising-contract-problems> [<https://perma.cc/9XZU-ANHK>] (“Unauthorized samples were rampant in early hip-hop, and copyright law was untested as a means to stop them.”).

34. 17 U.S.C. § 201(d). As Part II will discuss, this option is the modern approach to legal sampling, but it carries significant costs that can diminish creativity and create a significant financial burden.

35. 17 U.S.C. § 107.

36. De minimis use is not explicitly found in the Copyright Act as it is a judicially created doctrine. See *Newton*, 388 F.3d at 1193 (outlining the de minimis doctrine).

37. *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 448 (1984) (quoting H.R. REP. NO. 94-1476, at 65 (1976), as reprinted in 1976 U.S.C.C.A.N. 5659, 5679).

38. The Copyright Act contains a nonexclusive list of possible fair uses, including criticism, comment, and teaching. 17 U.S.C. § 107.

sampled work.³⁹ Even then, the defense's success is highly variable,⁴⁰ making it—at best—a last resort.⁴¹

De minimis use makes sampling unactionable when the portion copied is “small and . . . insignificant” and does not result in demonstrable harm.⁴² While seemingly the perfect defense for most samples, judicial interpretation of the de minimis defense, as applied to the sound-recording copyright,⁴³ has placed it in legal limbo. District courts have straddled the issue; some have permitted the de minimis defense,⁴⁴ while others have denied it.⁴⁵ Appellate courts have followed suit: the two courts that have addressed this issue have reached opposite conclusions, creating a circuit split and making the viability of the de minimis defense as uncertain and unreliable as fair use.

B. Case Law Background

1. “*Thou Shalt Not Steal.*”⁴⁶ The first appellate decision on the applicability of the de minimis defense to sampling-based infringement of the sound-recording copyright came from the Sixth Circuit in *Bridgeport Music, Inc. v. Dimension Films*.⁴⁷ *Bridgeport* involved a sample of a two-second guitar solo from “Get Off Your Ass and Jam”

39. See, e.g., *Estate of Smith v. Cash Money Records, Inc.*, 253 F. Supp. 3d 737, 749–50 (S.D.N.Y. 2017) (finding that defendant's sample is permitted by fair use because it “fundamentally alters the message of the original work”).

40. See Max Foreman, *How Music Copyright Works: Sampling, Covers, Mixtapes & Fair Use*, PRO AUDIO FILES (Mar. 22, 2018), <https://theproaudiofiles.com/music-copyright> [<https://perma.cc/7YAZ-N5WZ>] (“By these guidelines, even parody artists have to walk a fine line. For example, Weird Al Yankovic's parody songs may qualify as fair use, but he still receives written permission to parody copyrighted works . . .”).

41. See Mike Schuster, David Mitchell & Kenneth Brown, *Sampling Increases Music Sales: An Empirical Copyright Study*, 56 AM. BUS. L.J. 177, 200 (2019) (“In light of the perceived unpredictability of copyright cases and harsh consequences of losing (supracompensatory damages and injunctive relief), risk averse record companies usually settled.”).

42. *Warner Bros. Inc. v. Am. Broad. Cos., Inc.*, 720 F.2d 231, 242 (2d Cir. 1983).

43. Courts have also discussed the doctrine's applicability to the musical-composition copyright. See, e.g., *Newton v. Diamond*, 388 F.3d 1189, 1190 (9th Cir. 2004) (“This appeal raises the . . . issue of whether . . . the practice of ‘sampling,’ requires a license to use . . . the composition of the original recording.”). This Note will focus on the sound-recording copyright.

44. See, e.g., *Poindexter v. EMI Record Grp. Inc.*, No. 11 Civ. 559(LTS)(JLC), 2012 WL 1027639, at *4 (S.D.N.Y. Mar. 27, 2012) (determining that sampling a single note is a de minimis use).

45. See, e.g., *Grand Upright Music Ltd. v. Warner Bros. Records, Inc.*, 780 F. Supp. 182, 183 (S.D.N.Y. 1991) (holding that defendants' conduct in a music copyright case is not excusable just because “stealing is rampant in the music business”).

46. *Id.*

47. *Bridgeport Music, Inc. v. Dimension Films*, 410 F.3d 792 (6th Cir. 2005).

by Funkadelic,⁴⁸ which was pitched down and looped throughout the song “100 Miles and Runnin’” by N.W.A.⁴⁹ At the district court level, the federal judge granted summary judgment to the defendant after finding that the sample at issue was de minimis and therefore not actionable.⁵⁰ In its decision, the district court applied the “fragmented literal similarity” test,⁵¹ which determines whether a sample is de minimis by evaluating the sample’s qualitative and quantitative significance in the original work.⁵² The more significant the sample is to the original source, the less likely a de minimis defense will succeed.⁵³ The district court judge found that the sample was so quantitatively minor that “no reasonable juror, even one familiar with the works of George Clinton, would recognize the source of the sample without having been told of its source.”⁵⁴

On appeal, the Sixth Circuit considered whether samplers could invoke the de minimis defense at all.⁵⁵ In holding they cannot, the court turned to the Copyright Act’s provision that limits the exclusive rights granted via sound-recording copyrights.⁵⁶ One of these limits permits artists to imitate copyrighted sounds as long as the imitation does not sample the original sound recording⁵⁷: “The exclusive rights of the owner of copyright in a sound recording . . . do not extend to the making or duplication of another sound recording that consists *entirely* of an independent fixation of other sounds, even though such sounds

48. Ironically, given Clinton’s apparent support for artists who sample his songs, the publishing company that owns the copyrights to Clinton’s music, like “Get Off Your Ass and Jam,” is often on the plaintiff’s side of copyright-infringement cases. *See, e.g.*, *Bridgeport Music, Inc. v. UMG Recordings, Inc.*, 585 F.3d 267, 272 (6th Cir. 2009); *Bridgeport Music, Inc. v. Rhyme Syndicate Music*, 376 F.3d 615, 619 (6th Cir. 2004).

49. *Bridgeport Music, Inc. v. Dimension Films*, 410 F.3d at 795–96; *see* Archive of Songs at Issue in *Bridgeport*, MUSIC COPYRIGHT INFRINGEMENT RESOURCE, <http://mcir.usc.edu/cases/2000-2009/Pages/bridgeportdimension.html> [<https://perma.cc/LE6W-4HQM>] (providing users the ability to listen to portions of the songs at issue).

50. *Bridgeport Music, Inc. v. Dimension Films*, 410 F.3d at 797–98.

51. *Id.* at 797.

52. Mark R. Carter, *Applying the Fragmented Literal Similarity Test to Musical-Work and Sound-Recording Infringement: Correcting the Bridgeport Music, Inc. v. Dimension Films Legacy*, 14 MINN. J.L. SCI. & TECH. 669, 678 (2013).

53. *See* NIMMER, *supra* note 21, § 13.03[A][2][a] (“If . . . the similarity is only as to nonessential matters, then a finding of no substantial similarity should result.”).

54. *Bridgeport Music, Inc. v. Dimension Films*, 410 F.3d at 798.

55. *Id.*

56. *Id.*

57. *Id.* at 800–01.

imitate or simulate those in the copyrighted sound recording.”⁵⁸ In other words, if an artist independently recreates portions of a song with his own voice and instruments, even if the recreation sounds identical to the original recording, then he does not violate the sound-recording copyright. The Sixth Circuit then inferred the inverse of this provision’s conditional, concluding: if an artist recreates a portion of a song that is not entirely independent—by sampling—then he violates the sound-recording copyright.⁵⁹ Therefore, the court reasoned, samplers cannot invoke the *de minimis* defense at all.⁶⁰

The Sixth Circuit’s message was unequivocal—“[g]et a license or do not sample.”⁶¹ The unanimous opinion even went so far as to invoke biblical language from a prominent district court decision on digital sampling: “Thou shalt not steal.”⁶² Although the court emphasized that its decision was not guided solely by interests of judicial economy,⁶³ its desire to reduce difficult-to-decide digital-sampling litigation was evident—*Bridgeport* was merely one of nearly five hundred copyright-infringement claims that the plaintiffs brought against approximately eight hundred defendants.⁶⁴ The Sixth Circuit specifically noted that its easy-to-enforce rule⁶⁵ would be especially helpful considering the sheer quantity of digital-sampling cases that require “mental, musicological, and technological gymnastics” to resolve.⁶⁶

2. *Opening the Door for De Minimis Analysis in Sampling.* *Bridgeport* stood for over ten years as the sole federal appellate decision on this issue. Then, in 2016, the Ninth Circuit threw its hat in the ring with its decision in *VMG Salsoul, LLC v. Ciccone*.⁶⁷ *VMG Salsoul* presented the perfect case to advocate for *de minimis* analysis in digital sampling; at issue was a 0.23-second sample of horns from the song “Love Break” that was modified and used in two versions of

58. 17 U.S.C. § 114(b) (emphasis added).

59. See *Bridgeport Music, Inc. v. Dimension Films*, 410 F.3d at 800–01 (“In other words, a sound recording owner has the exclusive right to ‘sample’ his own recording.”).

60. *Id.* at 798.

61. *Id.* at 801.

62. *Id.* at n.12 (quoting *Grand Upright Music Ltd. v. Warner Bros. Records, Inc.*, 780 F. Supp. 182, 183 (S.D.N.Y. 1991)).

63. *Id.* at 803.

64. *Id.* at 795.

65. *Id.* at 801.

66. *Id.* at 802.

67. *VMG Salsoul, LLC v. Ciccone*, 824 F.3d 871 (9th Cir. 2016).

Madonna's "Vogue."⁶⁸ Two different "horn hits"—quick, abrupt notes or chords played by horn instruments—are used in "Vogue": a single horn hit, in which the chord is played one time; and a double horn hit, in which the chord is played two times in quick succession.⁶⁹ In one version of "Vogue," the horn hits are used a total of four times;⁷⁰ in the other, the horn hits are used six times.⁷¹

The Ninth Circuit determined that the sample was *de minimis* because a reasonable juror could not find that an average listener would recognize the horn hit sample.⁷² The court emphasized that the defendants, when sampling "Love Break," truncated and transposed the horn hits and that the sample was mixed in with other sounds and effects.⁷³ Interestingly, the court was persuaded to support the defendants' position by the *plaintiff's* expert witness.⁷⁴ Originally, the plaintiff's expert concluded that the double horn hit was sampled directly from the plaintiff's sound recording.⁷⁵ However, after listening to an isolated version of the horn hits from both "Vogue" and "Love Break," the expert concluded that his earlier assertion was wrong.⁷⁶ The double horn hit in "Vogue" was actually a duplication of the single horn hit in "Love Break," rather than a direct sample of the double horn hit in "Love Break."⁷⁷ The court decided that if the plaintiff's expert—an individual who specializes in analyzing samples—could not correctly identify the source of a sample, then an average listener would do no better.⁷⁸

After determining that the sample was *de minimis*, the Ninth Circuit considered whether the Copyright Act permits the *de minimis*

68. *Id.* at 874. Defendants disputed the claim that they sampled from the plaintiff's song. *Id.* at 877. However, viewing the facts in the light most favorable to the plaintiff, the court found "sufficient evidence (including direct evidence) to create a genuine issue of material fact as to whether copying in fact occurred." *Id.*; see *Archive of Songs at Issue in VMG Salsoul*, MUSIC COPYRIGHT INFRINGEMENT RESOURCE, <http://mcir.usc.edu/cases/2010-2019/Pages/vmgsalsoulvmadonna.html> [<https://perma.cc/H6ER-WLHM>] (providing users the ability to listen to portions of the songs at issue).

69. *VMG Salsoul*, 824 F.3d at 875–76.

70. *Id.* at 876.

71. *Id.*

72. *Id.* at 880.

73. *Id.*

74. *Id.*

75. *Id.*

76. *Id.*

77. *Id.*

78. *Id.*

defense in sampling.⁷⁹ The court began by stating that no other copyright case has abrogated the de minimis doctrine except for *Bridgeport* and its progeny.⁸⁰ Then, focusing on the text of the Copyright Act, the court found that Congress intended to treat sound recordings like all other protected works.⁸¹ Thus, in the Ninth Circuit's view, the Sixth Circuit's decision to differentiate sound recordings from all other mediums by denying it the de minimis defense was incorrect.

The Ninth Circuit further reasoned that § 114(b), which allows artists to imitate copyrighted sounds as long as they do not sample the original recording, does not prohibit sampling generally.⁸² The Sixth Circuit, the court argued, committed a logical fallacy by inferring the inverse of § 114(b)'s conditional to arrive at its conclusion.⁸³ Rather, the statute simply limits the existing exclusive rights granted to copyright owners by permitting artists to imitate sounds without fear of infringement.⁸⁴ The court argued that legislative history supported this particular reading of the section.⁸⁵ Specifically, a House Report stated that “infringement takes place whenever all *or any substantial portion* of the actual sounds . . . are reproduced in phonorecords”⁸⁶ By limiting infringement to “all *or any substantial portion* of the actual sounds,” Congress intended to secure the de minimis defense for digital samples since a de minimis sample is not, by definition, a “substantial portion” of the recording.⁸⁷

II. THE PROBLEM: COSTS CREATED BY CURRENT LAW

It is difficult to determine whether, or the extent to which, *Bridgeport* and *VMG Salsoul* have impacted digital sampling, especially since few subsequent judicial analyses have tackled the issue. Despite this dearth of opinions, some individuals contend that *Bridgeport* exacerbated modern “clearance culture” and reduced

79. *Id.*

80. *Id.* at 881.

81. *Id.* at 881–82 (quoting Copyright Act, 17 U.S.C. § 102 (2018)).

82. *Id.* at 883 (quoting 17 U.S.C. § 114(b)).

83. *Id.* at 884; *see supra* notes 56–60 and accompanying text.

84. *VMG Salsoul*, 824 F.3d at 883. Importantly, this rule only applies to sound-recording copyrights. 17 U.S.C. § 114. An artist that wishes to mimic copyrighted sounds would likely still have to license or purchase the musical-composition copyright associated with the work.

85. *VMG Salsoul*, 824 F.3d at 883.

86. *Id.* (quoting H.R. REP. NO. 94-1476, at 106 (1976), as reprinted in 1976 U.S.C.C.A.N. 5659, 5721 (emphasis in original)).

87. *Id.* at 884.

sampling's prevalence.⁸⁸ Indeed, the decrease in mainstream musicians participating in the practice⁸⁹ and anecdotes from samplers suggest that a discord between digital sampling and copyright persists. This Part presents two of these anecdotes and discusses the costs that they identify.

A. Creative Costs

“Common are speakers who honor the scroll Scrolls written daily creates a new sound.”⁹⁰

Perhaps no musical group better embraced the practice of sampling than 1980s hip-hop outfit De La Soul did on its debut album *3 Feet High and Rising*. The album is composed almost entirely of samples—over seventy to be exact⁹¹—repurposing everything from drum patterns to television skits.

Despite *3 Feet High and Rising*'s cultural influence, the album is nearly impossible to legally find online;⁹² a result of the complexities of copyright licenses. Although the group *did* license the samples on *3 Feet High and Rising* and other early albums, the licenses applied only to “vinyl and cassette,” a narrow designation that does not encompass online streaming services.⁹³ These albums are so sample-heavy that the label that owns them is both hesitant to release them digitally and reluctant to try to “clear” all of their samples, or procure all the necessary licenses.⁹⁴ These samples are likely much more expensive to

88. E.g., Christian Palmieri & Monica B. Richman, *Music Sampling: Has the Tune Changed?*, 35 ASS'N CORP. COUNS. DOCKET, no. 1, 2017, at 52, 54; Christopher Weldon, Note, *The De Minimis Requirement as a Safety Valve: Copyright, Creativity, and the Sampling of Sound Recordings*, 92 N.Y.U. L. REV. 1261, 1277 (2017); Wolf, *supra* note 10, at N25. Recently, the European Court of Justice ruled on a sampling case that may further restrict sampling on an international level. See *Kraftwerk Win 20-Year Sampling Case over Metal on Metal*, BBC (July 30, 2019), <https://www.bbc.com/news/entertainment-arts-49162546> [<https://perma.cc/JTF4-LQ5G>] (providing an overview of the case).

89. KEMBREW MCLEOD & PETER DICOLA, CREATIVE LICENSE: THE LAW AND CULTURE OF DIGITAL SAMPLING 161 (2011).

90. DE LA SOUL, *The Magic Number*, on 3 FEET HIGH AND RISING (Warner Bros. Records 1989).

91. Mark Savage, *Three Feet High and Missing: Why De La Soul's Albums Aren't Available Online*, BBC (Aug. 13, 2016), <https://www.bbc.com/news/entertainment-arts-37020559> [<https://perma.cc/MNF9-DHTW>].

92. *Id.*

93. *Id.*

94. *Id.*

license today than they were at the time of the albums' initial releases,⁹⁵ and missing even the most minor sample could result in a costly lawsuit.⁹⁶ As a result, De La Soul's early albums can only be streamed through illegal, low-quality sources that provide no monetary compensation to the group.⁹⁷

Since confronting this legal roadblock, De La Soul has drastically changed how it creates music. On *3 Feet High and Rising* and other early albums, De La Soul "honor[ed] the scroll," or used samples to pay homage to its predecessors, ultimately "creat[ing] a new sound" that was patently its own. The group's recent work⁹⁸ sounds vastly different, likely due to its new creative direction. Rather than gamble with sampling other artists' music, De La Soul decided to sample its *own* music.⁹⁹ For three years, De La Soul recorded "free-styled, unrehearsed, jam sessions" that it later chopped up and manipulated into new music.¹⁰⁰ While De La Soul's revival has received generally

95. Matthew Newton, *Is Sampling Dying?*, SPIN (Nov. 21, 2008), <https://www.spin.com/2008/11/sampling-dying> [<https://perma.cc/54QL-EF5A>] ("In the old days, samples were \$2,500 or \$1,500," says RZA. "I paid \$2,000 for a Gladys Knight sample That was a big intro, and the hook was repetitious. Something like that nowadays would cost \$10,000."").

96. For example, the *VMG Salsoul* parties accrued at least three years of legal fees. See *VMG Salsoul, LLC v. Ciccone*, No. CV 12-05967 BRO(CWx), 2013 WL 8600435 (C.D. Cal. Dec. 2, 2013), *aff'd* 824 F.3d 871 (9th Cir. 2016).

97. Savage, *supra* note 91. Eventually, De La Soul decided to briefly give away its unavailable works, like *3 Feet High and Rising*, for free. Tom Barnes, *De La Soul Talks the Group's Bold New Album and Legendary Past*, MIC (Apr. 10, 2015), <https://mic.com/articles/115016/de-la-soul-talks-the-group-s-bold-new-album-and-legendary-past#.sFwk5mbtM> [<https://perma.cc/JZ36-3DH2>]. A year following the release, the group had yet to receive any major backlash. *Id.* Recently, De La Soul's record label announced it would digitally release De La Soul's early discography. Tavern, *supra* note 33. However, these releases have since been postponed indefinitely. *Id.* A recent Facebook post from De La Soul indicates that they will never be released. De La Soul, FACEBOOK (Aug. 8, 2019), <https://www.facebook.com/353220391381474/posts/2309715455731948> [<https://perma.cc/XW3E-U97D>].

98. De La Soul's latest album, *and the Anonymous Nobody...*, was funded through a Kickstarter crowdsourcing campaign that raised over \$600,000. Kickstarter Page for De La Soul's *and the Anonymous Nobody...* Campaign, KICKSTARTER, <https://www.kickstarter.com/projects/1519102394/de-la-souls-new-album> [<https://perma.cc/UMS6-TSHA>].

99. *Id.*

100. *Id.*

positive reviews,¹⁰¹ it does not seem poised to match the cultural impact¹⁰² or commercial success¹⁰³ of De La Soul's early albums.

Depending on one's frame of reference, De La Soul's metamorphosis is either a sensible adaptation or an artistic tragedy. At least from the perspective of the sampled artists, copyright served its purpose: copyright defended the artists' work from an unauthorized, uncompensated taking and protected their pecuniary interest in the growing market for licensing samples. On the other hand, from De La Soul's perspective, the copyright system appeared to work contrary to its animating purpose: rather than encourage De La Soul's creative expression, copyright stifled it by preventing De La Soul from legally proliferating and monetizing its original sample-heavy style.

This balance between economic protectionism and creative stimulation is precarious, and courts and legislators should be especially cognizant of it when defining the line between infringement and noninfringement.¹⁰⁴ Case law and legislative history indicate that a thumb is placed on the scale in favor of the De La Souls of the music industry: While the immediate effect of copyright is to compensate creators, its ultimate goal is to benefit the public by promoting

101. See, e.g., Stereo Williams, *Review: De La Soul, Still Rising After All These Years on 'and the Anonymous Nobody...'*, SPIN (Aug. 22, 2016), <https://www.spin.com/2016/08/review-de-la-soul-and-the-anonymous-nobody> [<https://perma.cc/K9ME-L267>] (“[T]he Long Island rap legends decided to forego heavy sampling and studio synth shortcuts As a result of that approach . . . De La Soul have [sic] delivered one of their [sic] most ambitious and consistently rewarding albums.”). *But see* Nate Patrin, *De La Soul and the Anonymous Nobody... Review*, PITCHFORK (Sept. 3, 2016), <https://pitchfork.com/reviews/albums/22353-and-the-anonymous-nobody> [<https://perma.cc/8H5M-PHYH>] (“The live-band production and original musical composition is a good juke around any worries about sample rights [B]ut when it takes one of the greatest producers ever . . . to make a cut sound alive, it's easy to wish the rest of the album had more to work with.”).

102. See, e.g., *500 Greatest Albums of All Time*, ROLLING STONE (May 31, 2012, 2:45 PM), <https://www.rollingstone.com/music/music-lists/500-greatest-albums-of-all-time-156826/de-la-soul-3-feet-high-and-rising-47355> [<https://perma.cc/CHL5-ZG5T>] (listing *3 Feet High and Rising* at number 346).

103. *3 Feet High and Rising* sold half a million copies in four months and is currently certified platinum (one million lifetime sales). *Gold & Platinum*, RIAA, <https://www.riaa.com/gold-platinum> [<https://perma.cc/MSM7-69AV>] (search “*3 Feet High and Rising*” and click “more details”). Although *and the Anonymous Nobody...* had a strong debut, it has yet to reach the half a million mark two years after its release. See *id.* (click “advanced search” and search “De La Soul” in the “artist” box) (listing the De La Soul albums that have sold more than 500,000 copies—a list that does not include *and the Anonymous Nobody...*).

104. See *Warner Bros. Inc. v. Am. Broad. Cos., Inc.*, 720 F.2d 231, 240 (2d Cir. 1983) (“The idea-expression dichotomy originated in the case law and is now codified in the statute in an effort to enable courts to adjust the tension between these competing effects of copyright protection.” (citation omitted)).

creativity.¹⁰⁵ Rewarding the copyright owner through private benefits is “a secondary consideration.”¹⁰⁶ Indeed, creators “must be permitted to build upon and refer to the creations of prior thinkers”¹⁰⁷ to “promote the Progress of Science and useful Arts.”¹⁰⁸ Yet, for some reason, these considerations do not seem to extend to artists who sample.

B. Financial Costs

**“They say I got the city on fire
I ain’t boomin’, that’s a goddamn lie.”¹⁰⁹**

In late September of 2016, Detroit rapper Danny Brown released his fourth album, *Atrocity Exhibition*.¹¹⁰ The album was universally acclaimed.¹¹¹ Critics ranked *Atrocity Exhibition* higher than some of the year’s blockbuster albums, such as Kanye West’s *The Life of Pablo*¹¹² and Ariana Grande’s *Dangerous Woman*,¹¹³ despite Brown’s abrasive voice, content, and style.¹¹⁴ Brown seemed poised to establish

105. Sony Corp. of Am. v. Universal City Studios, Inc., 464 U.S. 417, 429, 432 (1984).

106. *Id.* at 429 (quoting United States v. Paramount Pictures, 334 U.S. 131, 158 (1948)).

107. Princeton Univ. Press v. Mich. Document Servs., Inc., 74 F.3d 1512, 1518 (6th Cir. 1996), *rev’d en banc on other grounds*, 99 F.3d 1381 (6th Cir. 1996).

108. U.S. CONST. art. I, § 8, cl. 8.

109. DANNY BROWN, *Really Doe, on ATROCITY EXHIBITION* (Interscope Records 2017) (featuring a verse and chorus by Kendrick Lamar).

110. Christopher R. Weingarten, *Danny Brown Details New LP ‘Atrocity Exhibition,’* ROLLING STONE (Aug. 16, 2016, 1:02 PM), <https://www.rollingstone.com/music/music-news/danny-brown-details-new-lp-atrocity-exhibition-252309> [<https://perma.cc/QB2D-6ZAK>].

111. Reviews for Danny Brown’s *Atrocity Exhibition*, METACRITIC, <https://www.metacritic.com/music/atrocity-exhibition/danny-brown> [<https://perma.cc/3VSZ-BJS8?type=image>] (awarding *Atrocity Exhibition* a score of eighty-five as of September 10, 2019). Metacritic is a website that collects critics’ reviews for different types of media, including music albums, and compiles the scores into one “metascore.” *About Metacritic*, METACRITIC, <https://www.metacritic.com/about-metacritic> [<https://perma.cc/3X54-YZW4?type=image>].

112. Reviews for Kanye West’s *The Life of Pablo*, METACRITIC, <https://www.metacritic.com/music/the-life-of-pablo/kanye-west> [<https://perma.cc/5M4K-2X5F?type=image>] (awarding *The Life of Pablo* a score of seventy-five as of September 10, 2019).

113. Reviews for Ariana Grande’s *Dangerous Woman*, METACRITIC, <https://www.metacritic.com/music/dangerous-woman/ariana-grande> [<https://perma.cc/LC82-5XXY?type=image>] (awarding *Dangerous Woman* a score of seventy-six as of September 10, 2019).

114. Rachel Aroesti, *Danny Brown Review - A Brash, Extreme Rendering of a Hip-Hop Hellscape*, GUARDIAN (Nov. 11, 2016, 6:31 PM), <https://www.theguardian.com/music/2016/nov/11/danny-brown-review-electric-brixton> [<https://perma.cc/6U2G-KF3M>] (“With the Detroit rapper’s whiny, abrasive flow perched upon avant garde rock and post-punk dissonance . . . he takes us on a splintered, anxiety-fueled journey through drug withdrawal and into the abyss.”).

himself as a top artist in hip-hop, but monetary concerns would soon threaten to jeopardize the unique quality of his work. Almost two years after the release of his album, Danny Brown tweeted (and subsequently deleted): “Never spend 70k on samples for an album that no one buys cause you will be in debt.”¹¹⁵

Although some courts insisted that the market for samples would self-regulate,¹¹⁶ the sampling industry has instead created an artificially high financial barrier to entry. Rather than toe an uncertainly drawn line and risk costly litigation, established musicians are forced to shell out big money for licenses and frequently delay albums to clear samples.¹¹⁷

For smaller artists, licensing is often not an option. First, many smaller artists are outright denied the opportunity to negotiate a licensing fee.¹¹⁸ Those who are permitted to negotiate usually must produce a recording that demonstrates how and what percentage of the song is going to be sampled prior to receiving permission.¹¹⁹ If the

115. See Brian “Z” Zisook, *Danny Brown: “Never Spend \$70k on Samples for an Album That No One Buys,”* DJBOOTH (July 8, 2018), <https://djbooth.net/features/2018-07-08-danny-brown-regrets-spending-70k-on-samples> [<https://perma.cc/ER56-XA28>] (immortalizing Danny Brown’s words).

116. See *Bridgeport Music, Inc. v. Dimension Films*, 410 F.3d 792, 801 (6th Cir. 2005) (“[T]he market will control the license price and keep it within bounds. The sound recording copyright owner cannot exact a license fee greater than what it would cost the person seeking the license to just duplicate the sample in the course of making the new recording.”).

117. E.g., Miles Bowe, *Kamaiyah’s Don’t Ever Get It Twisted Mixtape Delayed due to Sample Clearance Issues*, FACT (Apr. 20, 2017), <https://www.factmag.com/2017/04/20/kamaiyah-dont-ever-get-it-twisted-mixtape-delayed-due-to-sample-clearance-issues> [<https://perma.cc/83L7-6Z3N>]; Josiah Hughes, *Wale’s Attention Deficit Gets Delayed over Sample-Clearance Issues*, EXCLAIM! (Aug. 17, 2009), <http://exclaim.ca/music/article/wales-attention-deficit-gets-delayed-over-sample-clearance-issues> [<https://perma.cc/6RUR-BWT9>]; Nicolas James, *Schoolboy Q’s “Oxymoron” Delayed due to Sample Clearance Issues, New Leak Coming Soon*, HOTNEWHIPHOP (Sept. 21, 2013), <https://www.hotnewhiphop.com/schoolboy-q-s-oxymoron-delayed-due-to-sample-clearance-issues-news.7335.html> [<https://perma.cc/JQ52-VJK5?type=image>]; French Montana (@FrenchMonTanA), TWITTER (Aug. 16, 2016, 3:53 PM), <https://twitter.com/frenchmontana/status/765652756979998720> [<https://perma.cc/LBV2-W3BN>] (“Due to some sample clearances that are still being worked out, I have to move the album release date. - FM #MC4”); Sam Sodomsky, *Nicki Minaj Delays Release of New Album* Queen, PITCHFORK (Aug. 1, 2018), <https://pitchfork.com/news/nicki-minaj-delays-release-of-new-album-queen> [<https://perma.cc/VF8S-V8PK>].

118. Chris Robley, *Can I Sample Copyrighted Music If It’s Less Than 6 Seconds?*, DIY MUSICIAN (June 4, 2015), <https://diymusician.cdbaby.com/music-rights/clear-samples-to-copyrighted-music> [<https://perma.cc/KXM4-KK9W>] (“Lots of times, big labels and publishers don’t want to bother with independent artists’ sample clearance requests. (‘Come back when you’re signed, and maybe we’ll negotiate with you then!’)”).

119. See MCLEOD & DICOLA, *supra* note 89, at 153–54 (stating that the requested licensing fee can change depending on how the sample is used); Saleem Razvi, *A Guide to Clearing Samples*

copyright owner denies permission, the sampler must either edit out the sample or abandon his work entirely—two time-consuming and drastic changes.

Second, even if the artist gets a foot in the door, licenses are prohibitively expensive.¹²⁰ A musician looking to sample must obtain two clearances: one for the sound-recording copyright and one for the musical-composition copyright.¹²¹ The first clearance usually requires an advance payment in the range of \$250 to \$5000 and a percentage of the income generated by the song, often between 15 and 50 percent.¹²² The second clearance usually requires an advance payment, often at least \$1000, and a rollover payment made when sales reach a certain threshold.¹²³ Other costs, like identifying the copyright owner, paying an advance to meet with the copyright owner, and hiring an attorney to negotiate a reasonable licensing cost, only make matters worse.¹²⁴ Properly licensing one sample-heavy song could end up costing more than half of the profit generated by the entire *album* that features the song.¹²⁵ Indeed, “musicians who use multiple samples per song . . . cannot hope to obtain the necessary licenses without pushing their revenue to zero or less.”¹²⁶ Thus, most small artists either do not sample or sample illegally, without permission from the copyright owner.¹²⁷

Danny Brown found himself somewhere in between the large and small artists, able to license his samples but unable to keep up with the financial costs they created. Critics praised his album, but to say that it

in Music Production, DJTECHTOOLS (Nov. 28, 2013), <https://djtechtools.com/2013/11/28/a-guide-to-clearing-samples-in-music-production> [<https://perma.cc/ETR8-QQ89>] (advising artists to include “what [they] sampled (how long the sampled portion is, time, seconds/bars)” when attempting to license a copyrighted work).

120. See Lucas Garrison, *This Woman Clears the Samples on Your Favorite Albums, Here's How*, DJBOOTH (May 24, 2016), <https://djbooth.net/features/2015-05-24-how-sample-clearance-works> [<https://perma.cc/S58Z-KRR2>] (“When you’re putting together a budget for an album, you’re going to put together \$100,000 to \$150,000 in upfront fees to clear your samples . . .”).

121. Richard Stim, *When You Need Permission to Sample Others' Music*, NOLO, <https://www.nolo.com/legal-encyclopedia/permission-sampled-music-sample-clearance-30165.html> [<https://perma.cc/D4XF-FRLZ>].

122. *Id.*

123. *Id.*

124. See MCLEOD & DICOLA, *supra* note 89, at 150, 158–63 (describing the various enormous costs of sample clearance).

125. TIM GRIERSON, *PUBLIC ENEMY: INSIDE THE TERRORDOME* 160 (2015).

126. Peter DiCola, Faculty Working Paper, *Sequential Musical Creation and Sample Licensing* 20–21 (Nw. U. L. & Econ. Series, Research Paper No. 10-06).

127. See, e.g., BOYLE, *supra* note 15, at 157 (chronicling a famous case of illegal sampling).

was “boomin’” would have been a “lie.” Still, Brown’s story is unfinished; his fifth album will be released concurrently with this Note.¹²⁸ Whether Brown will continue to sample and incur more debt, or change his sound—à la De La Soul—will be interesting to monitor.

III. THE SOLUTION: A COMPULSORY-LICENSING SYSTEM FOR DIGITAL SAMPLES

As time goes on, the sampling process becomes more cumbersome and expensive, pricing out an increasing number of artists from legally sampling.¹²⁹ Because of this, many artists choose to sample illegally,¹³⁰ perpetuating a largely broken system.¹³¹ One proposed solution is to take a page from the copyright law that governs cover songs¹³² and develop a compulsory-licensing system. This Part describes how that system works, how it could be adapted for digital samples, and the problems inherent in implementing it.

A. *Compulsory Licenses*¹³³

**“I’ll be your Hova, you could be my Destiny’s Child . . .
So don’t stress . . . we don’t need no wings to fly.”¹³⁴**

In 2008, a young and then-unknown Justin Bieber recorded several covers of popular songs, including “With You” by Chris

128. Jonathan Sawyer, *Danny Brown Details New Album ‘uknowhatimsayin_’ & Shares First Single*, HIGHSNOBIETY (Sept. 6, 2019), <https://www.highsnobiety.com/p/danny-brown-uknowhatimsayin-album-release-date-details> [<https://perma.cc/R8WJ-GXPT>] (“A followup to 2016’s *Atrocity Exhibition*, [*uknowhatimsayin_*] is scheduled to arrive October 4 . . .”).

129. See MCLEOD & DiCOLA, *supra* note 89, at 159 (“[T]he publishers and labels want more and more money. It has literally knocked the smaller artists out of the game altogether.”).

130. See *id.* at 162 (describing one artist’s approach of licensing major samples and ignoring minor samples on a sample-heavy track).

131. See BOYLE, *supra* note 15, at 157 (“A system that can only function well through repeated lawbreaking is an unstable and dangerous one.”).

132. A cover song, colloquially referred to as a “cover,” is a recording in which an artist makes her own rendition of an original work. For an example of a cover of a well-recognized song, see PANIC! AT THE DISCO, *Bohemian Rhapsody*, on SUICIDE SQUAD: THE ALBUM (Atlantic Recording Corp. 2016) (covering QUEEN, *Bohemian Rhapsody*, on A NIGHT AT THE OPERA (Hollywood Records, Inc. 1975)).

133. Compulsory licenses are also referred to as statutory licenses, blanket licenses, and liability rules. For consistency’s sake, this Note will only refer to them as compulsory licenses.

134. JUSTIN BIEBER, *As Long as You Love Me*, on BELIEVE (Island Records 2012).

Brown¹³⁵ and “Cry Me a River” by Justin Timberlake.¹³⁶ His music was soon discovered by Scooter Braun, who convinced Bieber’s mom to fly the cover artist to Atlanta. A week later, Bieber was singing for Usher.¹³⁷ Over ten years later, Bieber’s meteoric rise to fame is well-known; he currently boasts six number one albums¹³⁸ and numerous awards.¹³⁹ But within Bieber’s story lies a copyright conundrum: Why was Bieber not liable for copyright infringement for recording renditions of other artists’ songs? The Copyright Act’s answer is a “[c]ompulsory license for making and distributing phonorecords.”¹⁴⁰

A compulsory license is “[a] statutorily created license that allows certain parties to use copyrighted material without the explicit permission of the copyright owner in exchange for a specified royalty.”¹⁴¹ To obtain a license under such a system, the party seeking the license must only satisfy the conditions set forth by the governing statute.¹⁴² Once these requirements are met, the owner of the copyrighted work cannot object to the use of his material and block the license.¹⁴³

135. Justin Bieber, *With You - Chris Brown Cover - Justin Singing*, YOUTUBE (Feb. 10, 2008), <https://www.youtube.com/watch?v=eQOFRZ1wNLw> [<https://perma.cc/WT3Z-5RMN>].

136. Justin Bieber, *Cry Me a River - Justin Timberlake Cover - Justin Singing (Justin Bieber)*, YOUTUBE (Feb. 19, 2008), <https://www.youtube.com/watch?v=KJWZSEkCrAM> [<https://perma.cc/T25F-DR8S>].

137. Casey Lewis, *The Rise and Fall (and Rise) of Justin Bieber: A Timeline*, TEEN VOGUE (Nov. 16, 2015), <https://www.teenvogue.com/story/justin-bieber-career-timeline?verso=true> [<https://perma.cc/M8XR-AENW>].

138. Chart History for Justin Bieber, BILLBOARD, <https://www.billboard.com/music/justin-bieber/chart-history/billboard-200> [<https://perma.cc/C8CU-F34N>].

139. Awards Won by Justin Bieber, IMDB, <https://www.imdb.com/name/nm3595501/awards> [<https://perma.cc/SK6W-Z74Y>].

140. Copyright Act, 17 U.S.C. § 115 (2018). Two other provisions also play a major role in this situation. First, the Digital Millennium Copyright Act’s notice-and-takedown provision ensures that service providers that host covers are not liable for potential copyright infringement if they meet specific conditions. Digital Millennium Copyright Act, 17 U.S.C. § 512 (2018). Second, while the sound recording of covers can be protected by § 115, artists who supplement their covers with videos also need to procure a “synch license” to avoid infringement. Peter K. Yu, *How Copyright Law May Affect Pop Music Without Our Knowing It*, 83 U.M.K.C.L. REV. 363, 392–93 (2014). For brevity and clarity, this Note will not discuss these provisions.

141. *License*, BLACK’S LAW DICTIONARY (10th ed. 2014).

142. 17 U.S.C. § 115(a).

143. *Id.* § 115(c)(2)(C)(i)(II). The licensing structure that the United States uses for covers is a “circumventable statutory license.” Kristelia A. García, *Penalty Default Licenses: A Case for Uncertainty*, 89 N.Y.U. L. REV. 1117, 1167 (2014). Circumventable licenses allow parties to contract out of the compulsory license through private ordering. *Id.* at 1174; see 17 U.S.C. § 115(c)(2)(a)(i) (permitting voluntarily negotiated licenses to substitute for compulsory licenses).

The compulsory-licensing system is a paradigmatic example of a scheme that furthers the purpose of copyright. It arguably benefits all parties involved¹⁴⁴: the musicians who create the covers receive exposure and, if they monetize their covers, generate revenue without having to pay for exorbitantly priced licenses;¹⁴⁵ the artists who create the original songs also receive exposure that can increase their profits;¹⁴⁶ the public is given new creative works that would not otherwise be created;¹⁴⁷ and the websites that host the covers earn money from advertisements. The system works so well that music-based service providers are helping legally unsophisticated individuals comply with the statute. For example, YouTube has implemented an algorithm that identifies cover songs and, if possible, shares the revenue that each cover generates with the copyright owner through a prenegotiated licensing deal.¹⁴⁸ Spotify recently purchased a company that helps users comply with the compulsory-license requirements for cover songs.¹⁴⁹ Because of compulsory licenses, aspiring musicians are given the opportunity to be the “Destiny’s Child”¹⁵⁰ to Bieber’s

144. Of course, some parties might receive fewer benefits, or denounce the benefits that they receive, in the proposed compulsory-licensing system than they would in a traditional copyright system. See Eriq Gardner, *Prince Wants Laws Changed to Eliminate Song Covers (Video)*, HOLLYWOOD REP. (Apr. 22, 2011), <https://www.hollywoodreporter.com/thr-esq/prince-wants-laws-changed-eliminate-181477> [<https://perma.cc/6EPO-THZS>] (detailing Prince’s displeasure with the compulsory-licensing system for cover songs).

145. See *supra* notes 134–40 and accompanying text.

146. See Ashley Fetters, *How Leonard Cohen’s ‘Hallelujah’ Became Everybody’s ‘Hallelujah,’* ATLANTIC (Dec. 4, 2012), <https://www.theatlantic.com/entertainment/archive/2012/12/how-leonard-cohen-hallelujah-became-everybodys-hallelujah/265900> [<https://perma.cc/H5US-NXXZ>] (“[A]n obscure Leonard Cohen song from 1984 was resurrected in the ‘90s, then repurposed and reinvented by other artists so many times it became a latter-day secular hymn . . .”).

147. Some of these works can become immensely popular. See, e.g., Disturbed, *Disturbed - The Sound of Silence [Official Music Video]*, YOUTUBE (Dec. 8, 2015), <https://www.youtube.com/watch?v=u9Dg-g7t214> [<https://perma.cc/KUT5-KNDP>] (displaying 550 million views as of September 2019).

148. See *Lesson: Know How Music Rights Are Managed on YouTube*, YOUTUBE, <https://creatoracademy.youtube.com/page/lesson/artist-copyright#strategies-zippy-link-3> [<https://perma.cc/92SK-F868>] (“Thanks to agreements between YouTube and music publishers, you may be able to share in the revenue from eligible cover song videos on your channel.”).

149. See Eric Auchard & Helena Soderpalm, *Spotify Buys ‘Cover Song’ Licensing Firm to Tackle Copyright Risks*, REUTERS (Apr. 12, 2018, 2:29 PM), <https://www.reuters.com/article/us-spotify-tech-licensing/spotify-buys-cover-song-licensing-firm-to-tackle-copyright-risks-idUSKBN1HJ3BJ> [<https://perma.cc/62KE-E9Y3>] (“The company offers a system for automatically acquiring mechanical licenses . . . which do not require musicians to engage in up-front licensing negotiations before performing songs by other artists.”).

150. Jade Novah, *Destiny’s Child - Bills Bills Bills (Jade Novah Cover)*, YOUTUBE (Dec. 23, 2017), https://www.youtube.com/watch?v=_bXp_XNmgJQ [<https://perma.cc/M4YS-PVX9>].

“Hova,” to connect with artists whom they admire, and to share their creations with the world—all without the need for prohibitive licensing negotiations, legal expertise, or “wings to fly.”

B. Applying a Compulsory-Licensing System to Digital Sampling

Compulsory licenses would improve the digital-sampling market by minimizing transaction costs, allowing less-prominent artists to participate in the market,¹⁵¹ benefitting the sampled musicians,¹⁵² simplifying the law, and reducing litigation.¹⁵³ Most importantly, the proposed system would loosen the overly restrictive grip that copyright law and music labels have on the creative process of sampling.¹⁵⁴ Indeed, the benefits are so palpable that Congress even considered including a compulsory-licensing system for sound recordings, which would have covered digital sampling, when it first created the recording copyright in 1971.¹⁵⁵

Unfortunately, compulsory licenses can be detrimental as well. Some of these costs are potentially unavoidable since creators would have to sacrifice some of their rights for the sake of increased efficiency.¹⁵⁶ Specifically, copyright owners would lose their ability to decline requests to sample their works, which would impair the highly profitable nature of the current licensing system.¹⁵⁷ Because federal copyright law does not formally recognize natural rights¹⁵⁸—rights

151. García, *supra* note 143, at 1127.

152. See Schuster, *supra* note 9, at 444 (analyzing the market effect that a sample-heavy album had on the original works and finding “to a 92.5% degree of statistical significance—the copyrighted songs sold better in the year after being sampled relative to the year before”).

153. Robert M. Vrana, Note, *The Remix Artist’s Catch-22: A Proposal for Compulsory Licensing for Transformative, Sampling-Based Music*, 68 WASH. & LEE L. REV. 811, 852 (2011); see Michael L. Baroni, *A Pirate’s Palette: The Dilemmas of Digital Sound Sampling and a Proposed Compulsory License Solution*, 11 U. MIAMI ENT. & SPORTS L. REV. 65, 93 (1993) (“Because compulsory license provisions are clearly spelled out in the Copyright Act, ‘they have not given rise to litigation.’” (quoting HOWARD B. ABRAMS, THE LAW OF COPYRIGHT § 5.03(C)(2)(a) (1991))).

154. Tonya M. Evans, *Sampling, Looping, and Mashing . . . Oh My!: How Hip Hop Music Is Scratching More Than the Surface of Copyright Law*, 21 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 843, 868 (2011).

155. H.R. REP. NO. 92-487, at 4 (1971), as reprinted in 1971 U.S.C.C.A.N. 1566, 1569–70.

156. Cody Duncan, Note, *The Case for CAPSL: Architectural Solutions to Licensing and Distribution in Emerging Music Markets*, 13 DUKE L. & TECH. REV. 162, 169 (2015) (quoting MCLEOD & DICOLA, *supra* note 89, at 228).

157. *Id.*

158. Christina N. Gifford, *The Sonny Bono Copyright Term Extension Act*, 30 U. MEM. L. REV. 363, 393 (2000).

inherent to creators upon creation of a work¹⁵⁹—critics also worry that a compulsory-licensing system would only further diminish artists’ already limited capacity to protect the “artistic integrity” of their music.¹⁶⁰ Most critically, because a traditional compulsory-licensing system does not distinguish between important and insignificant samples,¹⁶¹ some critics fear that musicians would no longer have the choice to prohibit samples that take the essence of their work—the portion that is most recognizable to listeners.¹⁶²

Some costs will have to be accepted as a byproduct of a more efficient and creativity-oriented system. Congress can address others by defining the contours of the system.¹⁶³ Ultimately, while concerns about a compulsory-licensing system are valid, they are not fatal.

C. *Why a Compulsory-Licensing System for Digital Samples May Be Difficult to Implement*

Other problems cannot be disregarded or adequately addressed via careful statutory construction. Specifically, the actual *implementation* of the system could prove extremely challenging. In fact, although Congress deliberated over creating a compulsory-licensing system for sound recordings,¹⁶⁴ it ultimately decided against doing so because the system would be difficult to administer, despite its possible benefits.¹⁶⁵

Implementation would be difficult for several reasons. First, artists often create covers of famous works that have copyright owners who are easy to identify, while samples tend to use more obscure songs with

159. *Right*, BLACK’S LAW DICTIONARY (10th ed. 2014).

160. *E.g.*, Vrana, *supra* note 153, at 858–59 (citing AL KOHN & BOB KOHN, KOHN ON MUSIC LICENSING 16–18 (3d ed. 2002)).

161. Wolf, *supra* note 10, at N35.

162. Lucille M. Ponte, *The Emperor Has No Clothes: How Digital Sampling Infringement Cases Are Exposing Weaknesses in Traditional Copyright Law and the Need for Statutory Reform*, 43 AM. BUS. L.J. 515, 551–52 (2006).

163. Several papers have suggested potential solutions. *E.g.*, Kenneth M. Achenbach, *Grey Area: How Recent Developments in Digital Music Production Have Necessitated the Reexamination of Compulsory Licensing for Sample-Based Works*, 6 N.C. J.L. & TECH. 187, 214–22 (2004); Baroni, *supra* note 153, at 97–101; Chris Johnstone, *Underground Appeal: A Sample of the Chronic Questions in Copyright Law Pertaining to the Transformative Use of Digital Music in a Civil Society*, 77 S. CAL. L. REV. 397, 426–32 (2004).

164. *See supra* note 155 and accompanying text.

165. H.R. REP. NO. 92-487, at 4 (1971), *reprinted in* 1971 U.S.C.C.A.N. 1566, 1569–70.

unknown or difficult-to-find copyright owners.¹⁶⁶ Second, once the original copyright owner is identified, keeping track of subsequent owners amidst transfers and sales of copyright is difficult, especially considering the large volume of samples in modern music.¹⁶⁷ Third, unlike covers, which require licenses for only one musical work, songs with samples could require licenses for dozens of original compositions.¹⁶⁸

For sophisticated parties, a compulsory-licensing system for digital samples would likely operate as a slightly more complicated version of the compulsory-licensing system for covers. But the calculus is entirely different for unsophisticated parties. These less affluent entities largely rely on the efforts of internet giants like YouTube¹⁶⁹ and Spotify¹⁷⁰ to identify and procure the necessary licenses, or turn to companies like the Harry Fox Agency to “issue licenses and collect and distribute royalties.”¹⁷¹ These service providers might be less willing to service samples than covers, as the former would demand significantly more effort to identify copyright owners, maintain a database of ownership information, and negotiate licenses with obscure owners.

IV. THE TECHNOLOGY: HOW EMERGENT TECHNOLOGIES CAN FACILITATE THE PROPOSED SOLUTION

Fortunately, a promising array of technologies can be used to more easily implement a compulsory-licensing system for digital samples. This Part argues that the Music Modernization Act’s (“MMA”) musical-works database provides a stable foundation for a compulsory-licensing system. It also suggests that amendments to the MMA could make the database even more capable and robust. Finally, once the database is fully functional, this Part asserts that blockchain and smart contracts can then build off the database to implement a workable compulsory-licensing solution.

166. See MCLEOD & DICOLA, *supra* note 89, at 150 (“Researching and tracking down the copyright owners can be a time-consuming part of clearing a sample. . . . [E]specially . . . with samples of older records, when the original publisher or record label no longer exists, companies have merged or gone bankrupt, or copyrights have been sold to an aggregator . . .”).

167. See *About Us*, WHOSAMPLED, <https://www.whosampled.com/about> [<https://perma.cc/TFT5-7A3L>] (documenting over 300,000 samples).

168. See *supra* note 91 and accompanying text.

169. See *supra* note 148 and accompanying text.

170. See *supra* note 149 and accompanying text.

171. *F.A.Q.*, HARRY FOX AGENCY, <https://secure.harryfox.com/public/FAQ.jsp> [<https://perma.cc/KUA6-2NFN>].

A. *The MMA Database*

In an event that proved bipartisan unity can exist in a divisive political climate, Congress unanimously passed the MMA in September 2018.¹⁷² The MMA was designed to bridge the continually widening gap between music-copyright law and music-industry practices.¹⁷³ In addition to facilitating the development and operation of online streaming services,¹⁷⁴ the MMA requires the creation of a musical-works database.¹⁷⁵ The purpose of this database is to store musical-composition information like the identity and location of copyright owners.¹⁷⁶ Even unmatched works that have no identified or located copyright owner¹⁷⁷ will be included in the database.¹⁷⁸ If information is discovered while searching for the copyright owners of these unmatched works, the database will be updated.¹⁷⁹ Perhaps most excitingly, the database will be made available to the public in a free and searchable online form.¹⁸⁰

Having existed for almost sixty years,¹⁸¹ databases may seem like an archaic and obsolete technology, but they can be a surprisingly powerful tool. Databases serve as the backbone for many machine-learning applications, allowing developers to easily construct datasets to test, improve, and ultimately deploy their algorithms.¹⁸² While the public will only get bare-bones access to the MMA database—likely limited to search and retrieval of basic information—different entities

172. Music Modernization Act, Pub. L. No. 115-264, 132 Stat. 3676 (codified as amended at 17 U.S.C. § 115).

173. S. REP. NO. 115-339, at 1–2 (2018).

174. The MMA serves to facilitate the development of streaming technologies like “Spotify, Apple Music, or Pandora.” *Id.* at 29.

175. Music Modernization Act, 17 U.S.C. § 115(d)(3)(E) (2018).

176. *Id.* § 115(d)(3)(E)(i). The database must also include the title of the work, the percentage of ownership of each copyright owner, and other information prescribed by legislation from the Register of Copyrights. *Id.* § 115(d)(3)(E)(ii)(I)–(V).

177. *Id.* § 115(e)(35).

178. *Id.* § 115(d)(3)(E)(iii).

179. *Id.* § 115(d)(3)(E)(i).

180. *Id.* § 115(d)(3)(E)(v).

181. *A Timeline of Database History*, QUICK BASE, <https://www.quickbase.com/articles/timeline-of-database-history> [<https://perma.cc/4LZB-FLHQ>].

182. See Jun Wu, *Good Database Design Starts Here*, TOWARDS DATA SCI. (June 7, 2019), <https://towardsdatascience.com/good-database-design-starts-here-15ebcaf5dd80> [<https://perma.cc/EBW4-AUVQ>].

will be given software that allows for more nuanced data manipulation and analysis.¹⁸³

Of course, many critics doubt that creating a musical-works database is even possible.¹⁸⁴ And responding to this concern is difficult. As the MMA is in its infancy, it is too soon to determine whether the statute will be successful. However, animated public discourse¹⁸⁵ implies that potential problems are at least being considered. For example, two groups vied to be placed in charge of implementing the MMA, each arguing why its proposal was better than its opponent's.¹⁸⁶ Additionally, six hundred public comments were submitted to the Copyright Office.¹⁸⁷ After a lengthy discussion about the comments and proposals, the Copyright Office designated a winner on July 8, 2019.¹⁸⁸

Other critics opine that music creators and publishers will be underincentivized to audit and submit their works to the database.¹⁸⁹ Relatively minor amendments to the MMA would make the legislation more effective and assuage these fears. Currently, if copyright-

183. See 17 U.S.C. § 115(d)(3)(E)(v) (“The mechanical licensing collective shall make such database available in a bulk, machine-readable format, through a widely available software application, to the following entities . . .”). At a bare minimum, the musical-works database could provide an interesting look into the minds of government developers. Will they choose to implement a relational or nonrelational database? What information will be added over time? In what language will the software be programmed?

184. E.g., Ed Christman, *Music Modernization Act's Next Challenge: How to Implement the Law*, HOLLYWOOD REP. (Oct. 17, 2018, 9:35 AM), <https://www.hollywoodreporter.com/news/music-modernization-acts-next-challenge-how-implement-law-1152751> [<https://perma.cc/37QN-V6GE>] (“Perhaps the toughest element of the legislation will be building the global database to collect song information and match compositions to recordings.”); Christy Cowl, *Alternative Take: Music Modernization Act Database - Landmark or Landmine?*, HYPEBOT (May 22, 2018), <https://www.hypebot.com/hypebot/2018/05/music-modernization-act-database-landmark-or-landmine-for-music-industry-part-1.html> [<https://perma.cc/6N7Y-8E45>] (“How is [the database] just magically going to happen with this Mechanical Licensing Board? (and for less than \$500,000 according to the Congressional Budget Office Cost Estimate for 2019–2023).” (emphasis in original)).

185. Ed Christman, *Competing Groups Vying to Form Mechanical Licensing Collective Slam Each Other's Proposals*, BILLBOARD (Apr. 24, 2019), <https://www.billboard.com/articles/business/8508654/mechanical-licensing-collective-competing-groups-slam-proposals> [<https://perma.cc/ZG74-CFTD>].

186. *Id.*

187. *Id.*

188. Designation of Music Licensing Collective and Digital Licensee Coordinator, 84 Fed. Reg. 32,274, 32,274 (July 8, 2019) (codified at 37 C.F.R. § 210.1 (2019)).

189. Amy Goldsmith, *Musically Inclined: The Music Modernization Act of 2018*, IPWATCHDOG (Nov. 9, 2018), <https://www.ipwatchdog.com/2018/11/09/music-modernization-act-2018> [<https://perma.cc/3YTO-3QVM>].

ownership information changes—for example, if a copyright owner sells its copyright to another entity—the mechanical licensing collective¹⁹⁰ (“MLC”) must update the database accordingly.¹⁹¹ The MLC already has the monumental task of creating and populating the database.¹⁹² Further requiring the MLC to monitor the copyright market and update the database with changes that can occur multiple times per day is burdensome. Rather, Congress should instruct copyright owners to submit their own ownership change information, with the penalty being that the old copyright owner will continue to receive royalty payments until the new copyright owner submits the transaction information.

To facilitate these updates, the online portal to the database¹⁹³ should include the ability to submit changes in ownership. This way, copyright owners could navigate to the online portal, click an “update database information” button, and request a change. Once these submissions are verified—certainly a nontrivial task, but much simpler than what the MLC must currently do—the MLC can seamlessly implement the updates with very little work on its end. Additionally, the MLC would be wise to include “snippets”—small portions of each song—in the database as an additional quality-of-life improvement to allow users to verify that the song they retrieve from searching the database is the song they intended to retrieve. Finally, the MLC should proactively accommodate the software industry by providing public application programming interfaces (“APIs”) to make the data easily accessible. Once the database establishes itself as a reliable, up-to-date source for copyright-ownership information, service providers could use it and its APIs to easily facilitate compulsory-license transactions through other technologies, like blockchain and smart contracts.

190. The mechanical licensing collective is an entity designated by the Register of Copyrights to carry out certain tasks required by the MMA. Music Modernization Act, 17 U.S.C. § 115(e)(18) (2018).

191. *See id.* § 115(d)(3)(E)(i) (“The mechanical licensing collective shall . . . update such data as appropriate.”).

192. *See id.* § 115(d)(3)(C)(i)(IV) (“The mechanical licensing collective is authorized to . . . [m]aintain the musical works database and other information relevant to the administration of licensing activities under this section.”).

193. *See id.* § 115(d)(3)(E)(v) (requiring the mechanical licensing collective to provide the public with an online portal to the database).

B. Blockchain

Blockchain, popularized by the digital currency Bitcoin, is touted as a revolutionary technology that promises to “reduc[e] transaction costs, speed[] up processing time, expand[] financial services, and empower[] consumers.”¹⁹⁴ Blockchain is a modern take on the ledger¹⁹⁵—the formal term for a record of transactions.¹⁹⁶ Ledgers are used in a diverse set of industries: banks use ledgers to record withdrawals and deposits and individuals might use them to document their expenses. In the same way, service providers could use a ledger to track the relationships between songs and their samples using information like the copyright owner, the copyright owner’s contact information, and the location and duration of the sample in the song. For example, a simple ledger might look like this:

Table 1. Example of a Ledger Tracking Digital Samples

Sampling Song	Sampling Song Artist	Sampled Song	Sampled Song Artist
100 Miles and Runnin’	N.W.A.	Get Off Your Ass and Jam	Funkadelic
Vogue	Madonna	Love Break	The SaI Soul Orchestra
Touch the Sky	Kanye West	Moving on up	Curtis Mayfield
What Lovers Do	Maroon 5	Sexual	NEIKED

If a ledger is so simple, why modernize it? The answer is that while the ledger itself may be simple, the transactions that it tracks are not always so straightforward.¹⁹⁷ Ultimately, blockchain simplifies transactions in two major ways. First, blockchain eliminates the need

194. Reggie O’Shields, *Smart Contracts: Legal Agreements for the Blockchain*, 21 N.C. BANKING INST. 177, 177 (2017).

195. Frances Coppola, *Blockchain Is Not Going to Change the World*, FORBES (June 13, 2016, 10:04 AM), <https://www.forbes.com/sites/francescoppola/2016/06/13/blockchain-meh/#2773533d35ef> [https://perma.cc/X7PE-UX82].

196. *Ledger*, BLACK’S LAW DICTIONARY (10th ed. 2014).

197. See Coppola, *supra* note 195 (discussing the complexities of traditional exchanges).

for a trusted intermediary¹⁹⁸—for example, entities like YouTube or Spotify that would otherwise privately control the ledger and be able to modify it at will—by “distributing” the ledger.¹⁹⁹ Rather than store the ledger on one “centralized” recording device (like an individual might do with their computer or journal) or on multiple “decentralized” devices that are owned by one entity (like YouTube might do on its many servers scattered across the world), blockchain stores the ledger on a “distributed” system.²⁰⁰ Distributed systems are similar to decentralized systems except they are composed of *any* computer that wishes to participate in the blockchain.²⁰¹ Thus, if an individual wants to partake in a blockchain that tracks digital samples, she would download the entire ledger—all transactions that have ever taken place via that blockchain—onto her computer. This creates a virtual “backup” of the ledger, ensuring its information will not be lost, modified, or corrupted.²⁰²

Second, blockchain further leverages its distributed nature to process transactions nearly instantly—meaning an artist will only have to wait minutes, rather than weeks or months, for a license to get approved—and to ensure the transactions it stores are legitimate. As blocks of transactions are added to the ledger, computers participating in the blockchain can be compensated for verifying the legitimacy of each block.²⁰³ This process is colloquially called “mining.”²⁰⁴ When a

198. *Id.*

199. Kevin Werbach & Nicolas Cornell, *Contracts Ex Machina*, 67 DUKE L.J. 313, 325 (2017).

200. Curtis Miles, *Blockchain Security: What Keeps Your Transaction Data Safe?*, IBM (Dec. 12, 2017), <https://www.ibm.com/blogs/blockchain/2017/12/blockchain-security-what-keeps-your-transaction-data-safe> [<https://perma.cc/29M5-88MX>] (“[B]lockchains are decentralized and distributed across peer-to-peer networks that are continually updated and kept in sync.”). Some blockchain implementations encrypt the data they store so that transactional information remains private. *Id.*

201. *Id.*

202. See *Download Bitcoin Core*, BITCOIN, <https://bitcoin.org/en/download> [<https://perma.cc/MTU6-A5QW>] (instructing its user to “make sure that [it has] enough bandwidth and storage for the full block chain size (over 200GB)”). This is a simplified assertion; there are ways to access a blockchain without having to download its ledger, like “third-party wallet services.” Werbach & Cornell, *supra* note 199, at 327. Further, certain implementations of blockchain require participating computers to store only small pieces of the ledger. Dobrica Blagojevic, *What Is the Difference Between a Full Node and a Light Client?*, CAPTAIN ALTCOIN (Sept. 12, 2018), <https://captainaltcoin.com/full-node-vs-light-client> [<https://perma.cc/7M9G-SLUB>].

203. Werbach & Cornell, *supra* note 199, at 328.

204. *Id.* Verifying blocks is computationally intensive, and most users will not want to subject their computers to a process that drains software resources and deteriorates hardware. See David Hamilton, *How to Calculate the Profitability of Bitcoin Mining Hardware*, COIN CENT. (June 5,

computer verifies the block, it communicates that confirmation to all other participating computers.²⁰⁵ Once a majority of computers participating in the blockchain confirm a block's authenticity, the block is officially added to the chain.²⁰⁶ The rate at which blocks are verified depends on the specific implementation of blockchain but can be very quick: Bitcoin, for instance, refreshes every ten minutes.²⁰⁷ Should a bad actor attempt to change a previously recorded transaction or add an illegitimate transaction, the other participating computers will, theoretically, catch the fraudulent modification.²⁰⁸

Blockchain is not free from criticism, but its major drawbacks do not pose significant problems in the digital-sampling context. For instance, some critics note that since blockchain's verification process only requires a majority of participating computers to confirm a transaction, fraudulent modifications could be added to a blockchain if a bad actor seizes control of more than 50 percent of the participating computers.²⁰⁹ In the digital-sampling context, this bad actor could falsely claim that a song contains a sample that it does not actually contain. But as long as the network is sufficiently vast, this kind of manipulation is improbable—if not impossible.²¹⁰ Moreover, as the Section on smart contracts will show, fraudulent entries can be completely defanged by deleting or deactivating any external components—for example, music-streaming trackers—that are connected to the blockchain-based smart contract.

Other critics believe that storing an entire blockchain, or even parts of a blockchain, on every device becomes infeasible when the

2018), <https://coincentral.com/bitcoin-mining-hardware> [<https://perma.cc/KH9Z-PHTX>] (“[M]any a newbie miner has rushed in only to learn from expensive, career-ending mistakes.”). Popular blockchain implementations incentivize verification by rewarding the first computer to verify a block of transactions with digital currency. *Id.* However, digital currency is merely an incentive; it is not required for blockchain to function. Iyke Aru, *Op-Ed: Do Blockchains Need a Native Currency?*, CCN (June 10, 2018), <https://www.ccn.com/op-ed-do-blockchains-need-a-native-currency> [<https://perma.cc/GK33-QVEJ>].

205. Werbach & Cornell, *supra* note 199, at 328.

206. *Id.*

207. See *Blockchain Speeds & the Scalability Debate*, BLOCKSPLAIN (Feb. 28, 2018), <https://blocksplain.com/2018/02/28/transaction-speeds> [<https://perma.cc/U4EM-Y6VL>] (“In Bitcoin, each block is a maximum of 1 MB and will always take about 10 minutes to be mined . . .”).

208. Werbach & Cornell, *supra* note 199, at 328–29.

209. See *id.* at 328 (noting that in the event of conflicts between blocks, Bitcoin nodes “follow the longest chain, which is the one the majority of the network supports”).

210. See *id.* (“Malicious actors are effectively competing against the total computing power in the [Bitcoin] network.”).

amount of transactions reaches a certain capacity.²¹¹ While this may be a concern for other blockchains, it probably would not affect a blockchain that tracks digital samples. Bitcoin, for instance, processes more transactions per day than twice the number of documented digital samples in WhoSampled, a prominent sampling database, and still remains highly functional.²¹² Even in the unlikely event that a digital-sampling blockchain becomes too large to download in its entirety, developers could design the blockchain to only store portions of its ledger on participants' computers.²¹³

C. Smart Contracts

Smart contracts could be further employed to implement a compulsory-licensing system for digital samples. In short, smart contracts are agreements, written in code, that self-execute once predefined conditions are satisfied.²¹⁴ For example, in the proposed compulsory-licensing system for digital samples, an artist could use a smart contract to pay the designated fee every time an individual streams a song containing a sample.²¹⁵ To implement the agreement as a smart contract, the artist would write code that executes each time an individual plays the artist's song. Upon execution, the code would automatically transfer the statutorily fixed amount from the artist to the sample's copyright owner.

Smart contracts become even more potent when implemented via blockchain.²¹⁶ Because blockchain is "a general-purpose technology for

211. Coppola, *supra* note 195 ("Among other things, blockchain potentially has serious capacity issues.").

212. Bitcoin processes over 600,000 transactions per day (7 transactions per second x 60 seconds per minute x 60 minutes per hour x 24 hours per day = 604,800 transactions per day). *Blockchain Speeds & the Scalability Debate*, *supra* note 207 ("On average Bitcoin processes about 7 transactions per second . . ."). WhoSampled, a popular sampling database, has documented about 300,000 samples total. *See supra* note 167 and accompanying text.

213. *See Blockchain Speeds & the Scalability Debate*, *supra* note 207 (positing that this could be accomplished by "sharding," a process that effectively breaks a database into pieces and puts each piece on a different server).

214. Joshua A.T. Fairfield, *Smart Contracts, Bitcoin Bots, and Consumer Protection*, 71 WASH. & LEE L. REV. ONLINE 35, 38 (2014).

215. Alternatively, the statute could require a compulsory fee every time an artist *samples* a song (per-work fee), rather than every time a song containing a sample is played (per-play fee). However, striking an appropriate balance with the former may prove difficult. A per-work fee would likely either underpay the original artist if the fee is too small or price out sampling artists if the upfront fee is too large.

216. While the theory and technology underlying smart contracts predate blockchain by several years, smart contracts were largely ignored prior to blockchain's rise to fame. *See* Werbach

trusted transactions,” it can be used in tandem with smart contracts, which are simply an “important class of trusted transactions.”²¹⁷ The properties inherent to blockchain, specifically “the ability to track ownership and transfers of property without need of a trusted intermediary [like a bank] and the ability to transfer property directly from peer to peer”²¹⁸ are then available in smart-contract form.²¹⁹

In addition, while compulsory-licensing schemes already reduce instances of litigation,²²⁰ blockchain-based smart contracts further diminish legal disputes by guaranteeing that the parties will perform according to the contract. Once placed on the blockchain, the smart contract is immutable; every time its conditions are satisfied, the agreement self-executes.²²¹ Because performance in a blockchain-based smart contract is practically guaranteed, parties do not need to petition courts to enforce the agreement.²²² Together, these features give parties a way to participate in agreements without having to rely on “centralized private or governmental actors.”²²³

In some contexts, this eschewal of legal relief is worrying. A poorly drafted smart contract can easily injure all involved parties. Moreover, qualifying language that regular contracts use to hedge against inevitable changes in circumstances is challenging to translate into precise coding terminology.²²⁴ Further, since blockchain-based smart contracts largely exist outside of the scope of legal action, they could “include terms that are illegal, unconscionable, or otherwise legally

& Cornell, *supra* note 199, at 323–24 (“In 1996, Szabo began to publish a series of articles and blog posts outlining the functions and technical requirements for what he labeled ‘smart contracts.’ . . . The development that made Szabo’s vision of smart contracts more than a mere curiosity was Bitcoin . . .”).

217. *Id.* at 330.

218. O’Shields, *supra* note 194, at 180–81.

219. Werbach & Cornell, *supra* note 199, at 325.

220. *See supra* note 153 and accompanying text.

221. Werbach & Cornell, *supra* note 199, at 346–47.

222. *Id.* at 332. As this Part later argues, even if one party does not perform—for example, if that party breaches the contract by not compensating the other party—courts can still act in traditional ways to resolve the dispute. Further, smart contracts could make certain issues like insolvency less of a concern. Under a traditional contract, service providers, like Spotify, would pay the sampler for the number of times his song is streamed on their service. The sampler would then forward a portion of that payment to the copyright owner of the sample. Between these two events, the sampler could theoretically spend the payment, leaving him unable to pay the copyright owner of the sample. Under a smart contract, the copyright owner’s portion of the payment will be programmatically sent to the copyright owner before the sampler has an opportunity to spend that money.

223. *Id.* at 335.

224. *Id.* at 367.

unenforceable.”²²⁵ Once created, blockchain-based smart contracts provide no outs, as they are difficult, if not impossible, to breach, modify, or undo.²²⁶

However, these issues are not cause for concern in the digital-sampling context because judicial action outside of the smart contract is still possible. If the entry embedded in the blockchain is fraudulent, if the song does not comply with the statute’s requirements, or if the smart contract contains unconscionable terms, injunctive relief is still available—courts could require removal of the infringing song from streaming platforms and physical stores. Because the streaming and sale counts will stop increasing, the conditions of the smart contract will not be satisfied, the smart contract will not self-execute, and money will not change hands.²²⁷ Additionally, damages could be made available while continuing to allow the infringing song to persist—courts could require creation of an additional smart contract that pays extra fees, on top of the compulsory-license payment, every time the infringing song is streamed.

D. The System in Action

Together, these technologies could help service providers easily and more effectively implement a compulsory-licensing system for digital samples, allowing less legally sophisticated individuals, like independent artists, to sample more freely. The system would work in the following way: An artist would navigate to a website created by a service provider and search for the song that she wishes to sample. The service provider’s website would pull relevant results from the MMA database using APIs provided by the MLC. The would-be sampler would locate the song, play a snippet of the song to ensure it is the one she wishes to sample, and initiate a transaction. The service provider’s website would then ask the sampler to provide information about where the song can be accessed. In response, she would input links or other information that identifies the song’s location on digital streaming services, like Spotify, and physical-sale companies, like Best Buy. Since amending a smart contract is not possible, these links could be stored by the service provider outside of the smart contract, so that

225. *Id.* at 346–47.

226. *See id.* at 332 n.97 (“The only exception to immutable execution of a smart contract is a fork which splits the entire blockchain into incompatible tracks.”).

227. In the same vein, if the artist wishes to stop paying the compulsory license, she could remove her song from streaming services and digital stores to effectively end the smart contract.

the artist could modify, delete, or add identifying information. A standard blockchain-based smart contract would then be created, granting her the right to sample the song in exchange for the established compulsory fee.

Artists would need to be somewhat careful; even if the compulsory fee is a small portion of the revenue generated from the song, the artist could overcommit revenue if she samples too many songs (for example, if the compulsory fee is 10 percent of the total revenue generated from the song and the artist samples 15 songs, she would be committing 150 percent of the song's revenue to the sampled artists). To address this situation, as with covers,²²⁸ parties would be free to negotiate and modify this standard contract with their own terms and fees. Still, this problem would persist with artists who do not have the capital or notoriety to negotiate amended fees. Ultimately, Congress would have to determine an appropriate compulsory fee that strikes a balance between compensating the original creator and granting the sampling artist sufficient freedom to sample.²²⁹

Over time, the service provider would connect, via different APIs, to the streaming services and physical-sale companies to track how many times the song is digitally streamed or sold in physical form. Each one of these occurrences would trigger the smart contract, initiating the required compulsory-fee transaction from the sampling artist to the sampled artist. The service provider likely would not connect to *every* streaming and physical-sale platform because such comprehensiveness would be difficult to achieve. However, by simply providing access to the largest platforms, like Spotify, Amazon, or YouTube, the service could still assist a large number of legally unsophisticated individuals. Artists with additional resources can comply with the compulsory license in the traditional manner by having their recording label and lawyers take care of the logistics.

Digital currency could also be implemented to allow for “microtransactions”—miniscule payments that are not feasible with physical currency. Thus, rather than receive payment in a lump sum on the twentieth of each month, like cover musicians do under the Copyright Act,²³⁰ microtransactions would generate and distribute

228. Copyright Act, 17 U.S.C. § 115(e)(3)(B) (2018).

229. Another option is to make the total compulsory fee for a song asymptotically limited by the total revenue of that the song. Thus, an artist could sample as much as she wants, and the total revenue that she commits will approach, but never exceed, 100 percent.

230. 17 U.S.C. § 115(e)(5).

revenue in real time. Additionally, this digital currency would provide an incentive for individuals to participate in blockchain mining and verification.²³¹

CONCLUSION

Copyright law and digital sampling appear inherently compatible. The former exists to promote creativity, while the latter is a highly creative activity. Unfortunately, uncertainty caused by *Bridgeport* and *VMG Salsoul* has left the two at odds. Current law not only discourages sampling but also creates significant financial costs for those who choose to take up its time-honored mantle. A compulsory-licensing system could mitigate the current sampling regime's negative effect on creativity while rewarding and protecting the rights of the original creator.

The industry-developed systems that facilitate compliance with these statutes, however, must be accessible to legally unsophisticated artists to guarantee success. Fortunately, the current technological landscape provides promising solutions. The MMA database, blockchain, and smart contracts could all be harnessed to create a feasible and easy-to-use implementation of this system. Perhaps this system could one day allow all artists to follow the advice of hip-hop's most prominent modern-day sampler:

**“So if you gon’ do it,
do it just like this.”²³²**

231. See *supra* note 204 and accompanying text.

232. KANYE WEST, *Champion*, on GRADUATION (Def Jam 2007).