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Applying the Fragmented Literal Similarity Test to Musical-Work and Sound-Recording Infringement: Correcting the Bridgeport Music, Inc. v. Dimension Films Legacy

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Applying the Fragmented Literal Similarity Test to Musical-Work and Sound-Recording Infringement: Correcting the *Bridgeport Music, Inc. v. Dimension Films* Legacy

Mark R. Carter, J.D., Ph.D.*

ABSTRACT

Copyright law simultaneously protects recorded music in two distinct ways: as a musical work (i.e. composition) and as a sound recording. Copyright law protects all copyrightable works against unapproved reproduction (i.e., copying). Normally, the substantial similarity standard tests reproduction infringement. A sound-recording sample may be so short as to lack substantial similarity to the musical-work and thus not infringe it. But Bridgeport Music, Inc. v. Dimension Films chucked substantial similarity to hold that the same sample, however short, necessarily infringes the sound-recording reproduction right. This disparate copyright protection between musical works and

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sound recordings of the same sample has led to the “mashup problem.”

Substantial similarity can be broken into two basic types: comprehensive nonliteral similarity and fragmented literal similarity. This paper proposes a framework for applying the fragmented literal similarity test to both musical-work and sound-recording reproduction infringement. First, it describes the framework for musical works based on the innate discretization of musical works as notes. Second, it describes breaking sound recordings into sound snippets and weighs the copied snippets’ quantitative and qualitative values to the copyrighted recording. Third, it outlines applying the framework to Swirsky v. Carey, Bridgeport, and Girl Talk’s sampling recordings.

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I. DISPARATE INFRINGEMENT STANDARDS FOR COPYING MUSICAL WORKS AND SOUND RECORDINGS

Copyright law simultaneously protects recorded music in two distinct ways: as a musical work (i.e., composition), and as a sound recording.¹ Copyright law protects all copyrightable works against unapproved reproduction (i.e., copying).² A sound-recording sample may be so short as to be de minimis and thus not infringe the musical-work reproduction right.³ But the same sample, *however short*, necessarily infringes the sound-recording reproduction right.⁴ Thus, a recording containing one sample from one sound recording might not infringe the musical work but would necessarily infringe the sound recording though the musical work and the sound recording would represent the same music.

This disparate copyright protection has led to the “mashup problem.”⁵ The simplest mashup is “a song created out of pieces of two or more songs, usually by overlaying the vocal track of one song seamlessly over the music track of another.”⁶ Gregg Gillis, who records as “Girl Talk,” is a notorious mashup sampler.⁷ Gillis samples hundreds of songs to make an album.⁸ Does it make sense to hold a mashup artist, like Gillis, liable for sound-recording infringement from copying a tiny, unrecognizable, sound-recording snippet which fails to infringe the underlying musical work?

1. 17 U.S.C. § 102(2), (7) (2006).

2. *Id.* § 106(1).

3. *Newton v. Diamond*, 388 F.3d 1189, 1190 (9th Cir. 2004) (discussing JAMES NEWTON, *Choir*, on AXUM (ECM 1981) sampled by BEASTIE BOYS, *Pass the Mic*, on CHECK YOUR HEAD (Grand Royal 1992)).

4. *Bridgeport Music, Inc. v. Dimension Films (Bridgeport I)*, 410 F.3d 792, 798 (6th Cir. 2005) (discussing FUNKADELICS, *Get Off Your Ass and Jam*, on LET'S TAKE IT TO THE STAGE (Westbound 1975) sampled by N.W.A., *100 Miles and Runnin'*, on I GOT THE HOOK UP (Dimension 1992) (film soundtrack)).

5. See, e.g., David Mongillo, *The Girl Talk Dilemma: Can Copyright Law Accommodate New Forms of Sample-Based Music?*, 9 U. PITT. J. TECH. L. & POL'Y, Spring 2009, at 3.

6. MICHAEL GEOGHEGAN & DAN KLASS, *PODCAST SOLUTIONS: THE COMPLETE GUIDE TO AUDIO AND VIDEO PODCASTING* 45 (2005).

7. Mongillo, *supra* note 5, at 2.

8. *Girl Talk's Feed the Animals: The Official Sample List*, WAXY.ORG, http://waxy.org/2008/10/feed_the_animals_official_sample_list/ (last visited Feb. 6, 2013).

This paper proposes a framework for applying the fragmented literal similarity test to both musical-work and sound-recording reproduction infringement.

Part II gives context for the proposal. First, it reviews the history leading to musical-work and sound-recording copyright protection for recorded music. Second, it describes the substantial-similarity test, including the fragmented literal similarity test, for copyrighted-works reproduction infringement. Finally, it describes the key court opinions on musical-work and sound-recording reproduction infringement by sampling.

Part III presents the proposed fragmented literal similarity test framework. First, it describes the framework for musical works based on the innate discretization of musical works as notes. Second, it describes breaking sound recordings into sound snippets and weighs the snippet's quantitative and qualitative values to the copyrighted recording. Finally, it outlines applying the framework to three situations: 1) *Swirsky v. Carey's* musical-work infringement; 2) *Bridgeport Music, Inc. v. Dimension Films'* sound-recording infringement; and 3) potential musical-composition and sound-recording infringement by Girl Talk's *Feed the Animals*.

II. INFRINGING RECORDED MUSIC

A. ONE ROAD TO PROTECTING RECORDED MUSIC IN TWO WAYS— THE HISTORY OF COPYRIGHT PROTECTION FOR MUSICAL WORKS AND SOUND RECORDINGS

The Constitution's Intellectual Property Clause grants Congress the power "[t]o promote the Progress of Science and the useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."⁹ Starting in 1790, Congress passed the first of many Copyright Acts.¹⁰ The 1831 Copyright Act was the first to protect music. It granted a musical-composition's author the "sole right and liberty of printing, reprinting, publishing, and vending" it.¹¹ To copyright the musical composition, the author had to "deposit a printed copy of the title of such . . . musical

9. U.S. CONST. art. I, § 8, cl. 8.

10. See, e.g., JULIE E. COHEN ET AL., *COPYRIGHT IN A GLOBAL INFORMATION ECONOMY* 22 (2d ed. 2006).

11. 1831 Copyright Act, ch. 16, § 1, 4 Stat. 436, 436 (1831).

composition in the . . . district court” where the author resided.¹² For each musical composition copy, the Act also required the author to “impress on the face thereof” a deposit notice in the district court.¹³ Thus, the 1831 Act impliedly assumed a tangible form for the musical composition.

Music recording and playback technology progressed through the 19th century’s second half. First, Edison invented the phonograph in 1877.¹⁴ The phonograph recorded sounds in grooves on a cylinder which could be played back to make sounds approximating the recorded sounds.¹⁵ A commercial Victrola appeared in 1906.¹⁶ Second, several inventors developed mechanical music machines based on organs and pianos.¹⁷

To keep pace with these technological advances, the 1909 Copyright Act expanded music protection to include musical-composition “mechanical” reproduction rights for player piano rolls and phonograph records.¹⁸ In 1908 the Supreme Court had held a musical-composition copy to be “a written or printed record of it [the composition] in intelligible notation.”¹⁹ The Court expressly held piano rolls, music box cylinders, and gramophone records were musical composition copies.²⁰ But because Congress knew of the rolls, cylinders, and records when it amended the copyright laws in 1897 and 1901, but levied damages based on sheets copied, the Court reasoned Congress had not wanted copyright to extend to rolls, cylinders, and records.²¹ The Court specifically suggested Congress could amend the law to include these new media.²² Congress responded by including a mechanical-reproduction right in the new musical-composition copyright.²³ “[The] sale of

12. *Id.* § 4.

13. *Id.* § 5.

14. Improvement in Phonograph or Speaking Machs., U.S. Patent No. 200,521 (filed Dec. 24, 1877).

15. *Id.*

16. COHEN ET AL., *supra* note 10, at 444.

17. See, e.g., *Organette Patents*, ORGANETTE MUSIC REPOSITORY, <http://music.organettes.com/patents/home> (last updated Jan. 24, 2011).

18. COHEN ET AL., *supra* note 10, at 26–27.

19. *White-Smith Music Publ’g Co. v. Apollo Co.*, 209 U.S. 1, 17 (1908).

20. *Id.* at 17–18.

21. *Id.* at 16–18.

22. *Id.* at 18.

23. COHEN ET AL., *supra* note 10, at 47–48.

interchangeable parts, such as disks, rolls, bands, or cylinders for use in mechanical music-producing machines adapted to reproduce the copyrighted music” infringed the new musical-composition copyright.²⁴

Over sixty years later, to prevent bootleggers from copying and distributing previously recorded music,²⁵ Congress conferred a copyright in sound recordings made on or after February 15, 1972.²⁶ (State copyright laws protected sound recordings made before February 15, 1972.²⁷ Federal copyright does not preempt state copyright protection for sound recordings made before February 15, 1972.²⁸) The 1971 Sound Recording Act added sound recordings to the copyrightable-work types.²⁹ The Act defined sound recordings as “works that result from the fixation of a series of musical, spoken or other sounds, but not including the sounds accompanying a motion picture.”³⁰ The copyright owner had the exclusive reproduction right to “duplicate the sound recording in a tangible form that directly or indirectly recaptures the actual sounds fixed in the recording”³¹ The Act defined sound recording reproductions as “material objects . . . from which the sounds could be perceived, reproduced, or otherwise communicated”³² The sound recording definition expressly included “parts of machines of instruments serving to reproduce mechanically the *musical work*” including “interchangeable parts, such as discs or tapes for use in mechanical music-producing machines”³³

The 1971 Sound Recording Act also expressly retained a distinct musical-work copyright for recorded music.³⁴ The Act provided separate notice requirements for musical works and

24. 1909 Copyright Act, ch. 320, § 25(e), 35 Stat. 1075, 1081–82 (1909) (current version at 17 U.S.C. § 501 (2006)).

25. DONALD S. PASSMAN, *ALL YOU NEED TO KNOW ABOUT THE MUSIC BUSINESS* 399–400 (8th ed. 2012); *see also* M. WILLIAM KRASILOVSKY ET AL., *THIS BUSINESS OF MUSIC: THE DEFINITIVE GUIDE TO THE MUSIC INDUSTRY* 59–60, 70 (9th ed. 2003).

26. COHEN ET AL., *supra* note 10, at 444.

27. *Id.*

28. *Goldstein v. California*, 412 U.S. 546, 552 (1972).

29. 1971 Sound Recording Act, Pub. L. 92-140, § 1(a), 85 Stat. 391, 391.

30. *Id.* § 1(e).

31. *Id.* § 1(a).

32. *Id.* § 1(e).

33. *Id.* (emphasis added).

34. *Id.*

sound recordings.³⁵ As noted, the Act specified sound-recording reproductions included “parts of instruments serving to reproduce mechanically the *musical work*”³⁶ Further, the Act defined “interchange-able parts, such as discs or tapes, for use in mechanical music producing machines adapted to reproduce copyrighted musical works” as “copies of the copyrighted musical works”³⁷

The resulting federal copyright structure creates separate musical work and sound recording reproduction rights for the typical music-album song. The 1976 Copyright Act copyrights work on fixing expression in a tangible medium regardless of formal notice and publication.³⁸ So, for instance, a songwriter can write a song as sheet music having notes for instruments and voices, possibly with lyrics, to form a copyrighted musical work.³⁹ A band’s recording of the song would be a copyrighted sound recording.⁴⁰ The musical work and sound recording owners may not be the same entity; the songwriter may own the musical work, while the band, the producer, or a record company may own the sound recording. In fact, for a record company to make compact discs (CDs) containing recorded-song copies, it would need reproduction rights from both the musical work and the sound recording owners.⁴¹

B. RECORDED-MUSIC REPRODUCTION INFRINGEMENT

1. Reproduction Infringement as Substantial Similarity⁴²

The Copyright Act’s § 106(1) grants the copyright owner the exclusive right “to reproduce the copyrighted work”⁴³ An independently created work would not infringe the copyrighted work, so as a threshold, an alleged infringer must

35. *Id.* § 1(d).

36. *Id.* § 1(e) (emphasis added).

37. *Id.* § 2.

38. COHEN ET AL., *supra* note 10, at 48.

39. 17 U.S.C. § 102(a)(2) (2006).

40. *See id.* § 102(a)(7).

41. COHEN ET AL., *supra* note 10, at 445 (comparing musical-work and sound-recording copyrights).

42. *See generally id.* at 325–64 (describing reproduction infringement with excerpts from major cases); PETER C. WEILER, ENTERTAINMENT MEDIA AND THE LAW 344–65 (3d ed. 2006) (applying substantial similarity to book, play, and movie infringement).

43. 17 U.S.C. § 106(1) (2006).

have access to the copyrighted work.⁴⁴ Assuming access, an exact copy of the copyrighted work would infringe the reproduction right.⁴⁵ But, a suspect work need only bear a “substantial similarity” to the copyrighted work to infringe.⁴⁶ The substantial similarity standard and the de minimis use defense apply to reproduction rights of multiple types of copyrighted works.⁴⁷ In applying the standard, courts often filter out a copyrighted work’s unprotectable elements⁴⁸ before comparing an allegedly infringing work against the copyrighted work.⁴⁹

Nimmer formulated substantial similarity as derived from two basic types: 1) comprehensive nonliteral similarity, and 2) fragmented literal similarity.⁵⁰

a. Comprehensive Nonliteral Similarity—Copying a Work’s Fundamental Essence or Structure

Comprehensive nonliteral similarity shows “a similarity not just as to a particular line or paragraph or other minor segment, but where the fundamental essence or structure of one work is duplicated in another.”⁵¹ But the similarity cannot be an abstract idea.⁵²

Courts have employed many tests to evaluate substantial similarity between the suspect works and the copyrighted work. Three tests are: 1) the ordinary-lay-observer test; 2) the average-lay-observer test; and 3) the total concept and feel.

44. *Selle v. Gibb*, 741 F.2d 896, 901 (7th Cir. 1984) (citing *Arnstein v. Edward B. Marks Music Corp.*, 82 F.2d 275 (2d Cir. 1936) (Hand, J.)).

45. See *COHEN ET AL.*, *supra* note 10, at 359.

46. *Three Boys Music Corp. v. Michael Bolton*, 212 F.3d 477, 481 (9th Cir. 2000); *Selle*, 741 F.2d at 900.

47. See, e.g., STEPHEN M. MCJOHN, *COPYRIGHT* 369–70 (2d ed. 2009) (citing *Lyons P’ship, L.P. v. Morris Costumes, Inc.*, 243 F.3d 789, 801–03 (4th Cir. 2001) (applying the substantial similarity standard to costumes) and *Gordon v. Nextel Commc’ns*, 345 F.3d 922, 924–25 (6th Cir. 2003) (applying the de minimis defense to a commercial’s background illustration)).

48. Copyright does not extend to “any idea, procedure, process, system, method of operation, concept, principal, or discovery.” 17 U.S.C. § 102(b) (2006).

49. See *Nichols v. Universal Pictures Corp.*, 45 F.2d 119, 121 (2d Cir. 1930) (L. Hand, J.) (noting copyright does not protect ideas as determined by a series of abstractions of the copyrighted work).

50. 4 MELVILLE B. NIMMER & DAVID NIMMER, *NIMMER ON COPYRIGHT* § 13.03 (2010).

51. *Id.* § 13.03[A][1].

52. *Id.*

Generally, the Second Circuit recognizes substantial similarity when an “*ordinary observer*, unless he set out to detect the disparities, would be disposed to overlook them, and regard their aesthetic appeal as the same.”⁵³

Some courts test whether an “average lay observer” would recognize the alleged copy as taken from the copyrighted work.⁵⁴ Where a copyright owner’s work includes public domain elements, infringement requires substantial similarity to those elements providing copyrightability.⁵⁵ Where the copyrighted work does not include public domain elements, the Second Circuit employs the less demanding “average lay observer” test.⁵⁶

But particularly when comparing pictorial works, courts may guide the “average lay observer” test with a “total concept and feel” test weighing the work’s whole arrangement.⁵⁷

b. Fragmented Literal Similarity—Scattered Literal Copying

Fragmented literal similarity is based on literal elements scattered throughout an infringing work.⁵⁸ Though the criteria for deciding fragmented literal similarity vary, they generally weigh the elements’ qualitative and quantitative value to the copyrighted work.⁵⁹

53. *Boisson v. Banian, Ltd.*, 273 F.3d 262, 272 (2d Cir. 2001) (quoting *Folio Impressions, Inc. v. Byer Cal.*, 937 F.2d 759, 765 (2d Cir. 1991) (quoting *Peter Pan Fabrics, Inc. v. Martin Weiner Corp.*, 274 F.2d 487, 489 (2d Cir. 1960) (Hand, J.)) (emphasis added).

54. *Steinberg v. Columbia Pictures Indus., Inc.*, 663 F. Supp. 706, 711 (S.D.N.Y. 1987) (quoting *Ideal Toy Corp. v. Fab-Lu Ltd.*, 360 F.2d 1021, 1022 (2d Cir. 1966) and declining to apply *Peter Pan Fabrics, Inc. v. Martin Weiner Corp.*, 274 F.2d 487 (2d Cir. 1960)) (movie poster).

55. *Boisson*, 273 F.3d at 272 (quoting *Key Publ’ns, Inc. v. Chinatown Today Publ’g Enters., Inc.*, 945 F.2d 509, 514 (2d Cir. 1991)).

56. *Id.* (citing *Hamil Am., Inc. v. GFI*, 193 F.3d 92, 101–02 (2d Cir. 1999)).

57. *Id.* at 272–73 (discussing prior case law in the Second and Ninth Circuits). *But see* *Cavalier v. Random House, Inc.*, 297 F.3d 815, 822 (9th Cir. 2002) (quoting *Kouf v. Walt Disney Pictures & Television*, 16 F.3d 1042, 1045 (9th Cir. 1994)) (applying the total-concept and feel test as part of subjectively comparing children’s stories’ expressive elements).

58. NIMMER & NIMMER, *supra* note 50, § 13.03[A][2]. This paper’s sound quanta may differ from Nimmers’ quanta.

59. *Id.*

c. De Minimis Copying and Fair Use Affirmative Defense

Though a work may contain a copyrighted work's parts, the parts may be so small as to lack import (i.e., be de minimis).⁶⁰ In essence, the de minimis use defense asserts lack of substantial similarity.⁶¹

In contrast, fair use limits infringement right and affirmatively defends against infringement.⁶² Even so, courts sometimes conflate "de minimis" and "fair use."⁶³

2. Recorded Music Reproduction Infringement

As with the general reproduction infringement analysis above, absent direct copying evidence, recorded music reproduction infringement requires the defendant's access to the plaintiff's work and substantial similarity between the defendant's and plaintiff's works.⁶⁴ Traditionally, assuming access, courts employed an "average lay observer" test to test the musical-work's substantial similarity.⁶⁵ Recently, courts have tested musical works with an objective extrinsic test coupled with a subjective intrinsic test.⁶⁶

60. *Id.* (citing *Warner Bros. Inc. v. ABC*, 720 F.2d 231, 242 (2d Cir. 1983) (Motley, J.)); *see also id.* § 8.01[G].

61. *Id.* § 8.01[G] & nn.62–62.1 (citing *Situation Mgmt. Sys., Inc. v. ASP Consulting L.L.C.*, 560 F.3d 53, 59 (1st Cir. 2009); *Peter Letterese & Assocs., Inc. v. World Inst. of Scientology Enters., Int'l*, 533 F.3d 1287, 1306–07 (11th Cir. 2008); *Newton v. Diamond*, 388 F.3d 1189, 1192 (9th Cir. 2004); and *Gordon v. Nextel Comm'ns*, 345 F.3d 922, 924 (6th Cir. 2003)).

62. 17 U.S.C. § 107 (2006); *Lawrence v. Dana*, 15 F. Cas. 26, 44, 58, 59–61 (C.C.D. 1869) (No. 8,136) (citing *Folsom v. Marsh*, 9 F. Cas. 342, 344, 348 (C.C.D. Mass. 1841) (No. 4,901) (Story, J.) (stating fair use concepts) and *Cary v. Kearsley*, [1803] 4 Esp. 168; 170 Eng. Rep. 679, 680 (K.B.) (British "fair abridgement" doctrine)) (coining the term "fair use"); *see generally* COHEN ET AL., *supra* note 10, at 24, 526–27 (briefly outlining fair-use history).

63. NIMMER & NIMMER, *supra* note 50, § 13.03[A][2][a]. As conflation examples, Nimmer & Nimmer cite, *inter alia*, *Matthews Conveyor Co. v. Palmer-Bee Co.*, 135 F.2d 73, 85 (6th Cir. 1943) and *Nichols v. Universal Pictures Corp.*, 45 F.2d 119, 121 (2d Cir. 1930) (L. Hand, J.). NIMMER & NIMMER, *supra* note 50, § 13.03[A][2][a] n.95.

64. *Three Boys Music Corp. v. Michael Bolton*, 212 F.3d 477, 481 (9th Cir. 2000) (citing *Smith v. Jackson*, 84 F.3d 1213, 1218 (9th Cir. 1996)); *Selle v. Gibb*, 741 F.2d 896, 900 (7th Cir. 1984).

65. *Arnstein v. Porter*, 154 F.2d 464, 468 (2d Cir. 1946).

66. *Swirsky v. Carey*, 376 F.3d 841, 845 (9th Cir. 2004) *rev'g* 226 F. Supp. 2d 1224 (2002) (discussing XSCAPE, *One of Those Love Songs*, on TRACES OF MY LIPSTICK (So So Def 1998) allegedly copied by MARIAH CAREY, *Thank God*

As stated above, starting in 1972, federal copyright has protected both musical works and sound recordings.⁶⁷ Under recent precedents, a music sample will infringe a sound-recording's reproduction right⁶⁸ but the sample might not infringe the musical work.⁶⁹

a. Copying Musical Works—The Ninth Circuit's *Newton v. Diamond* Decision

The Ninth Circuit's *Newton v. Diamond* decision is the main precedent for musical-work reproduction infringement.⁷⁰ Newton sued the Beastie Boys for infringing his musical work, *Choir*.⁷¹ Newton performed and recorded *Choir* and licensed the sound recording to ECM Records in 1981, but he kept all the musical-work rights.⁷²

In 1992, the Beastie Boys repeated (looped) six-seconds of *Choir*'s sound recording for their recording, *Pass the Mic*.⁷³ They had licensed the sound recording from ECM Records but not the musical work from Newton.⁷⁴

The Beastie Boy's loop was held to be a non-infringing de minimis use of the musical work.⁷⁵ Because Newton did not assert sound-recording rights, the court did not rule on sound-recording infringement.⁷⁶ The sound recording corresponds to part of the musical work, three notes (C, D-flat, and C), sung over a fluted background C.⁷⁷ The score instructed the whole song to be played *largo/senza-misura*.⁷⁸ Also, as the court

I Found You, on RAINBOW (Columbia 2000)).

67. 17 U.S.C. §§ 101, 102 (2006).

68. *Grand Upright Music Ltd. v. Warner Bros. Records*, 780 F. Supp. 182, 185 (S.D.N.Y. 1991). This decision did not specify whether sampling infringed the musical work or the sound recording.

69. *Compare Bridgeport Music, Inc. v. Dimension Films (Bridgeport I)*, 410 F.3d 792, 800–04 (6th Cir. 2005) (sound recordings), *with Newton v. Diamond*, 388 F.3d 1189, 1192–93 (9th Cir. 2004) (musical works).

70. *Newton*, 388 F.3d at 1192–96 (outlining de minimis use and reproduction rights).

71. *Id.* at 1190.

72. *Id.*

73. *Id.*

74. *Id.*

75. *Id.* at 1192.

76. *Id.*

77. *Id.*

78. *Id.* (noting *largo/senza-misura* means “slowly/without-measure”).

reviewed the district court's summary judgment decision for the Beastie Boys, it assumed all Newton's allegations.⁷⁹ In particular, the court assumed the score's instructions for overblowing the flute note while singing the vocal notes.⁸⁰

In order to decide if the sound recording contained unique musical-work parts, the court filtered out the parts unique to the recording.⁸¹ Copyright law only allows Newton to protect the musical work he fixed in the written score's tangible medium.⁸² After filtering out the performance parts, the court reasoned the musical-work substantial similarity test reduced to Nimmer's fragmented literal similarity test due to the limited copying.⁸³ Applying the fragmented literal similarity test, the three-note section only appeared once in *Choir*, so it was quantitatively insignificant to *Choir*.⁸⁴ Because the section was no more significant to *Choir* overall than any other section, it was also qualitatively insignificant to *Choir*.⁸⁵ Thus, the sample's quantitative and qualitative insignificance to the original work implied a de minimis use in the suspect work.⁸⁶ The court held the Beastie Boys' sampling of *Choir* in *Pass the Mic* failed the fragmented limited similarity test and was thus a de minimis use.⁸⁷

b. Copying Sound Recordings

Sampling sound-recording reproduction infringement is much less clear. The Sixth Circuit's controversial *Bridgeport Music, Inc. v. Dimension Films (Bridgeport I)*⁸⁸ is the main opinion.⁸⁹ But the Eleventh Circuit District Court⁹⁰ and a New

79. *Id.*

80. *Id.*

81. *Id.* at 1193–94.

82. *Id.* at 1191–92.

83. *Id.* at 1195 (citing 4 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 13.03[A][2] (2010)).

84. *Id.* at 1195–96.

85. *Id.* at 1196.

86. *Id.* at 1192–93.

87. *Id.* at 1195–96.

88. *Bridgeport Music, Inc. v. Dimension Films (Bridgeport I)*, 410 F.3d 792 *passim* (6th Cir. 2005) (film soundtrack).

89. See, e.g., COHEN ET AL., *supra* note 10, at 449–58 (including *Bridgeport I* regarding sampling of sound recordings); Joshua Crum, Comment, *The Day the (Digital) Music Died: Bridgeport, Sampling Infringement, and Proposed Middle Ground*, 2008 BYU L. REV. 943, 957–60; Mongillo, *supra* note 5, at 17–22; Tracy L. Reilly, *Debunking the Top Three Myths of Digital Sampling: An Endorsement of the Bridgeport Music Court's Attempt to Afford "Sound"*

York State court,⁹¹ applying New York's own copyright laws, expressly rejected *Bridgeport I*'s analysis.

i. The Sixth Circuit—*Bridgeport Music, Inc. v. Dimension Films (Bridgeport I)*

Bridgeport I involved sampling *Get Off Your Ass and Jam (Get Off)*, by George Clinton and the Funkadelics, for *100 Miles and Runnin' (100 Miles)*. The sampled part lasted four seconds and contained three single notes from a guitar solo. The notes would have formed a chord if played at the same time.⁹² (Unlike piano chords, guitar chords rarely have all notes played simultaneously because strumming a guitar necessarily involves playing individual strings at different times; the faster a player strums, the less time there is between plucking each string.⁹³) The sampler lowered the notes' pitch, looped them for sixteen beats, and played them in five places in *100 Miles*. Dimension Films included *100 Miles* in *I Got the Hook Up*'s soundtrack. Musical work infringement was not at issue because Dimension Films had a synchronizing license.⁹⁴

The court found *100 Miles* failed to infringe the *Get Off* sound recording regardless of whether it applied the de minimis standard or the fragmented limited similarity test.⁹⁵ The court reasoned that de minimis analysis comes from substantial similarity analysis because de minimis analysis "argues that the literal copying of a small and insignificant portion of the copyrighted work should be allowed."⁹⁶ Further, the district court viewed fragmented literal similarity as a

Copyright Protection to Sound Recordings, 31 COLUM. J.L. & ARTS 355, 357–58 (2008).

90. *Saregama India Ltd. v. Mosley*, 687 F. Supp. 2d 1325, 1338–41 (S.D. Fla. 2009).

91. Decision and Order at 3–5, *EMI Records Ltd. v. Premise Media Corp. L.P.*, No. 601209 (N.Y. Sup. Ct. Aug. 13, 2008).

92. *Id.*

93. See NEVILLE H. FLETCHER & THOMAS D. ROSSING, *THE PHYSICS OF MUSICAL INSTRUMENTS* 255, 352–59 (2d ed. 1998).

94. *Bridgeport Music, Inc. v. Dimension Films (Bridgeport I)*, 410 F.3d 792, 796 (6th Cir. 2005) (citing *Bridgeport Music, Inc. v. Dimension Films*, 230 F. Supp. 2d 830, 833–38 (M.D. Tenn. 2002)).

95. *Bridgeport Music, Inc. v. Dimension Films*, 230 F. Supp. 2d 830, 841 (M.D. Tenn. 2002).

96. *Id.* (citing *Warner Bros. Inc. v. ABC*, 720 F.2d 231, 242 (2d Cir. 1983) (Motley, J.)).

substantial-similarity test.⁹⁷ Thus, the district court applied the substantial similarity test to musical-work and sound-recording sampling.

But the appeals court held *100 Miles* infringed the *Get Off* sound recording. It rejected the district court's analysis for its own statutory interpretation⁹⁸ and put forth the bright-line rule that *any* sampling infringes the sampled sound recording.⁹⁹

The appeals court unconvincingly stressed judicial economy failed to dictate its rule. It said, "When one considers that [the district judge] has hundreds of other cases all involving different samples from different songs, the value of a principled bright-line rule becomes apparent. We want to emphasize, however, that considerations of judicial economy are not what drives this opinion."¹⁰⁰ The court failed to elaborate on the hundreds of other cases. But the follow-up case, *Bridgeport Music, Inc. v. UMG Recordings, Inc. (Bridgeport II)*, referred to several hundred copyright infringement cases filed by Bridgeport Music, Inc. and Southfield Music, Inc. against roughly 800 defendants.¹⁰¹ The district court split the original complaints into 476 cases.¹⁰² With such a huge backlog, judicial economy seems to have driven *Bridgeport I*'s bright-line rule.

Even so, according to *Bridgeport II*, though *Bridgeport I* declined to apply the fragmented literal similarity test to sound recordings,¹⁰³ the Sixth Circuit deemed fragmented literal similarity as a valid musical-work infringement test.¹⁰⁴

Bridgeport I acknowledged potential logical problems with analyzing sound-recording and musical-work infringement differently.¹⁰⁵ But it justified the difference due to problems applying a de minimis or substantial similarity standard to sound recordings, its statutory interpretation of § 114(b), and

97. *Id.*

98. *Bridgeport I*, 410 F.3d at 797–805.

99. *Id.* at 799–804.

100. *Id.* at 802.

101. *Bridgeport Music, Inc. v. UMG Recordings, Inc. (Bridgeport II)*, 585 F.3d 267, 272 (6th Cir. 2009) (citing *Bridgeport Music, Inc. v. Still N The Water Publ'g*, 327 F.3d 472, 475 (6th Cir. 2003)).

102. *Id.*

103. *Bridgeport II*, 585 F.3d at 275.

104. *Id.* at 275–77.

105. *See Bridgeport I*, 410 F.3d at 801.

small sound-recording parts' innate values.¹⁰⁶ At key points, *Bridgeport I* relied on papers by Jeffrey R. Houle, Rebecca Morris through Stephen R. Wilson, Susan J. Latham, and Christopher D. Abramson.¹⁰⁷ But *Bridgeport I* misleadingly quoted these papers against context.

a. Houle Argued Literal Infringement Should Be Weighed in Light of the Copied Sections' Qualitative Import thus Supporting Fragmented Literal Similarity for Sampling

To reject applying de minimis analysis and substantial similarity to sound recordings, *Bridgeport I* quoted Jeffrey R. Houle:

Thus, it seems like the only way to infringe on a sound recording is to re-record sounds from the original work, which is exactly the nature of digital sound sampling. Then the only issue becomes whether the defendant re-recorded sound from the original. This suggests that the substantial similarity test is inapplicable to sound recordings.¹⁰⁸

But contrary to this isolated quote, Houle proposed tempering infringement with the copied section's qualitative import. Houle's paper mainly concerned "whether the practice of digitally sampling a copyrighted record violates the Sound Recording Act of 1971."¹⁰⁹ The quote sits in the "Judicial Tendency and Sound Recording Act" section where Houle argues "[j]udicial tendency . . . fails to take into account the nature and substance of the notes taken."¹¹⁰ Houle's preceding paragraph argued copying some qualitatively important musical-composition or sound-recording parts could infringe without copying the whole song.¹¹¹ The paper concluded:

In reality, the activity of digital sampling only becomes an issue when the portion sampled is qualitatively rich and allows the sampler to imbue his song with the qualities and identity of the copyright protected work. This is tantamount to pirating the entire song from its

106. *Id.* at 801–02.

107. *Id.* at 801 n.10, 802 nn.13–15.

108. *Id.* at 801 n.13 (quoting Jeffrey R. Houle, *Digital Audio Sampling, Copyright Law and the American Music Industry: Piracy or Just a Bad "RAP"?*, 37 LOY. L. REV. 879, 896 (1992)).

109. Jeffrey R. Houle, *Digital Audio Sampling Copyright Law and the American Music Industry: Piracy of Just a "RAP"?*, 37 LOY. L. REV. 879, 882 (1992).

110. *Id.* at 895 (emphasis added).

111. *Id.*

author since the samples taken most often contain the “soul” and substance of the host song.¹¹²

Houle supported weighing a copied section’s qualitative import in deciding sound-recording reproduction infringement by sampling. Thus, in essence, Houle supported a fragmented literal similarity test for sound-recording infringement.¹¹³

b. Morris Suggested the Lack of a Bright-Line Rule Already Motivated Samplers to Settle Before Trial Without Bridgeport I

Bridgeport I also justified the bright-line rule over de minimis analysis and/or substantial similarity by quoting Stephen R. Wilson, quoting Rebecca Morris:

The current lack of bright-line rules leads to unpredictability, which may be one reason that so few sampling cases are brought to trial A cost-benefit analysis generally indicates that is less expensive for a sampler to purchase a license before sampling (or settle a post-sampling lawsuit) rather than take his chances in an expensive trial, the outcome of which . . . is nearly impossible to predict with any degree of certainty.¹¹⁴

Wilson quoted Morris to support the assertion that most sampling cases settled.¹¹⁵ Neither Morris nor Wilson explained why cost-benefit analysis works against bringing sampling suits to trial.

Morris seems to have impliedly assumed basic decision-theory tenets. When an actor must choose between outcomes without any information, the outcome probabilities should be assumed equal.¹¹⁶ Each outcome’s expected value is its value

112. *Id.* at 902 (emphasis added).

113. *Cf.* NIMMER & NIMMER, *supra* note 50, § 13.03[A][2][a] (“[E]ven if the similar material is quantitatively small, if it is qualitatively important, the trier of fact may properly find substantial similarity.”).

114. *Bridgeport Music, Inc. v. Dimension Films (Bridgeport I)*, 410 F.3d 792, 802 n.15 (6th Cir. 2005) (alterations in original) (quoting Stephen R. Wilson, *Music Sampling Lawsuits: Does Looping Music Samples Defeat the De Minimis Defense*, 1 J. HIGH TECH. L. 179, 187 n.97 (2002) (quoting Rebecca Morris, *When is a CD Factory Not Like a Dance Hall?: The Difficulty of Establishing Third-Party Liability for Infringing Digital Music Samples*, 18 CARDOZA ARTS & ENT. L.J. 257, 274 (2000))).

115. Stephen R. Wilson, *Music Sampling Lawsuits: Does Looping Music Samples Defeat the De Minimis Defense*, 1 J. HIGH TECH. L. 179, 187 (2002).

116. *E.g.*, DAVID R. HENDERSON & CHARLES L. HOOPER, *MAKING GREAT DECISIONS IN BUSINESS AND IN LIFE* 160–61 (2006).

multiplied by its probability.¹¹⁷ The best choice has the highest expected value.¹¹⁸

Applying these concepts in the pre-*Bridgeport I* regime, the sampling trial-defendant faced two outcomes: 1) winning without getting any payment; or 2) losing and paying infringement damages. Assuming lawyer fees would be the same for winning and losing, the unpredictability of winning or losing (i.e., each having a probability of one-half) and outcome (1)'s zero return and outcome (2)'s potentially large costs made going to trial a bad choice compared with settling. Thus, the astute sampler would have avoided going to trial and settled.

This analysis shows the Morris quote gives little support for *Bridgeport I*'s bright-line rule. Though *Bridgeport I*'s bright-line rule further pushes samplers to settle, the unpredictability caused by the *lack* of a bright-line rule already strongly pushed samplers to settle.

c. Unlike *Brideport I*, Latham Recognized a Possible De Minimus Use (I.E. Lack of Substantial Similarity), but May Have Conflated De Minimus Use and Fair Use

Bridgeport I interpreted § 114(b) to imply “a sound recording owner has the exclusive right to ‘sample’ his own recordings.”¹¹⁹ The court justified this rule by quoting Susan J. Latham:

[B]y clarifying the rights of a sound recording copyright owner in regard to derivative works, Section 114(b) makes it clear that the digital sampling of a copyrighted sound recording must *typically* be licensed to avoid an infringement The import of this language is that it does not matter how much a digital sampler alters the actual sounds or whether the ordinary lay observer can or cannot recognize the song or the artist's performance of it. Since the exclusive right encompasses rearranging, remixing, or otherwise altering the *actual sounds*, the statute by its own terms precludes the use of a substantial similarity test.¹²⁰

But unlike *Bridgeport I*, Latham recognized a possible de minimis use defense. First, the quote said sampling would

117. *E.g., id.* at 141–61.

118. *E.g., id.*

119. *Bridgeport I*, 410 F.3d at 801.

120. *Id.* at 801 n.10 (alteration in original) (emphasis added) (footnote omitted) (quoting Susan J. Latham, *Newton v. Diamond: Measuring the Legitimacy of Unauthorized Compositional Sampling—A Clue Illuminated and Obscured*, 26 HASTINGS COMM. & ENT. L.J. 119, 125 (2003)).

“typically”(i.e., generally), require licensing; it failed to prescribe licensing for all sampling. Second, though right after the quote, Latham said “the defenses available to a defendant are significantly limited.”¹²¹ Footnote thirty-five, cited by this last quote, began “[t]here may be the possibility of a *de minimis use defense*, depending on how strictly the court interprets the ‘actual sounds’ language of the statute.”¹²² Third, the quote did not clearly relate *de minimis* use with infringement falling below substantial similarity, and the rest of footnote thirty-five seems to conflate *de minimis* use with fair use: “*However, a fair use defense also seems to be limited by § 114(b) to use within noncommercially distributed educational television and radio programming.*”¹²³

d. Abramson Recognized Possible Substantial Similarity for Sound Recordings

Bridgeport I also justified different infringement standards for musical works and sound recordings by assuming an innate value for tiny sound recording parts,¹²⁴ relying on a quote from Abramson’s paper:

[A]ll samples from a record appropriate the work of the musicians who performed on that record. This enables the sampler to use a musical performance without hiring either the musician who originally played it or a different musician to play the music again. Thus sampling of records . . . allows a producer of music to save money (by not hiring a musician) without sacrificing the sound and phrasing of a live musician in the song. This practice poses the greatest danger to the musical profession because the musician is being replaced with himself.¹²⁵

By relying on this quote, *Bridgeport I* impliedly assumed Lockean-labor property theory;¹²⁶ *Bridgeport I* conferred a property right on *any* sound recording excerpt based on labor expended in creating or obtaining it regardless how small or insignificant.¹²⁷

121. Susan J. Lantham, *Newton v. Diamond: Measuring the Legitimacy of Unauthorized Compositional Sampling—A Clue Illuminated and Obscured*, 26 HASTINGS COMM. & ENT. L.J. 119, 125 (2003).

122. *Id.* at 125 n.35 (emphasis added).

123. *Id.* (emphasis added).

124. *Bridgeport I*, 410 F.3d at 801–02.

125. *Id.* at 802 n.14 (alterations in original) (footnotes omitted) (quoting Christopher D. Abramson, *Digital Sampling and the Recording Musician: A Proposal for Legislative Protection*, 74 N.Y.U. L. REV. 1660, 1667–68 (1999)).

126. See *infra* Part III.A.2.b.i.

127. *Bridgeport I*, 410 F.3d at 801–02.

But Abramson did not exclude other factors from deciding sound recording infringement. The clause right before the quote conceded “the length and recognizability of the sample may be relevant for copyright purposes”¹²⁸ In fact, footnote thirty-eight referred to the Abramson’s next section containing a more nuanced analysis. In light of *Grand Upright’s* vagueness, that section recognized possible de minimis and fair use defenses despite technical sound recording infringement by any copying.¹²⁹ Thus, though Abramson’s paper *generally* concerned sampling and labor issues, it recognized possible de minimis analysis (i.e., lack of substantial similarity) or the fragmented limited similarity test as applied by *Newton*.¹³⁰

ii. Eleventh Circuit District Court Declined to Apply *Bridgeport I*

Rejecting *Bridgeport I’s* bright-line rule forbidding all sound-recording sampling, the Eleventh Circuit District Court applied a substantial similarity test for sound recording reproduction infringement.¹³¹ In expressly refusing to follow *Bridgeport I*, *Saregama India Ltd. v. Mosley* extensively critiqued *Bridgeport I’s* statutory construction of 17 U.S.C. § 114(b).¹³²

First, copyright grants the owner the exclusive right “to prepare derivative works based upon the copyrighted work.”¹³³ *Saregama* found no congressional intent to extend § 114(b)’s derivative work provisions to include “all works containing *any* sound from the *original* sound recording” regardless of substantial similarity.¹³⁴

128. Christopher D. Abramson, *Digital Sampling and the Recording Musician: A Proposal for Legislative Protection*, 74 N.Y.U. L. REV. 1660, 1667 (1999). The full sentence reads, “Although the length and recognizability of the sample may be relevant for copyright purposes, all samples from a record appropriate the work of the musicians who performed on that record.” *Id.*

129. *Id.* at 1669–72.

130. A section below discusses labor property theory and its relevance to musical-work and sound-recording reproduction infringement. *See infra* Part III.A.2.b.i.

131. *Saregama India Ltd. v. Mosley*, 687 F. Supp. 2d 1325, 1339 (S.D. Fla. 2009) (quoting *Leigh v. Warner Bros.*, 212 F.3d 1210, 1214 (11th Cir. 2000)).

132. *Id.* at 1340–41.

133. 17 U.S.C. § 106(2) (2006).

134. *Saregama India Ltd.*, 687 F. Supp. 2d at 1340.

Second, § 114(b) exempts similar-sounding, but independently created, recordings from sound recording infringement.¹³⁵ *Saregama* rejected *Bridgeport I*'s interpretation of § 114(b)'s similar-sounding work provision extending it "to every sound fixed in the work such that a sample of any sound automatically constitutes infringement."¹³⁶ Instead, *Saregama* interpreted the provision to mean "protection in a copyrighted sound recording 'do[es] not extend' to sound recordings which, although *similar-sounding*, do not capture any sounds from the copyrighted sound recording."¹³⁷

Third, *Saregama* found no congressional intent indicating § 114(b)'s similar-sounding work provision should not apply to works which are not similar-sounding or substantially similar.¹³⁸ According to the House Report, for a sound recording, "infringement takes place whenever *all or a substantial portion* of the actual sounds that go to make up a sound recording are reproduced in phonorecords . . ."¹³⁹

iii. New York Court Refused to Adopt *Bridgeport I* Based on Nimmer

In addition to the Eleventh Circuit District Court, a New York court refused to adopt the *Bridgeport I* standard for the state's copyright laws protecting pre-1972 sound recordings.¹⁴⁰ New York common law protects sound recordings made before February 15, 1972, the federal 1971 Sound Recording Act's effective date.¹⁴¹ (As noted, federal copyright law does not preempt state law before the effective date.¹⁴²) In *EMI Records Ltd. v. Premise Media Corp.*, the plaintiffs expressly advanced *Bridgeport I* as persuasive authority for a New York copyright infringement claim against a sampler.

135. 17 U.S.C. § 114(b) (2006) ("The exclusive rights of the owner of copyright in a sound recording under clauses (1) and (2) of section 106 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 imitate or simulate those in the copyrighted sound recording.").

136. *Saregama India Ltd.*, 687 F. Supp. 2d at 1340.

137. *Id.* (alteration in original).

138. *Id.* at 1341.

139. *Id.* (quoting H. REP. NO. 94-1476, at 106 (1976) (Conf. Rep.), reprinted in 1976 U.S.C.C.A.N. 5659, 5721).

140. Decision and Order, *supra* note 91, at 5–7.

141. *Id.* at 5 (citing *Capitol Records, Inc. v. Naxos of Am., Inc.*, 830 N.E.2d 250, 252 (2005)).

142. *Goldstein v. California*, 412 U.S. 546, 559 (1972).

In rejecting *Bridgeport I*'s analysis, the New York court relied on Nimmer's analysis of *Bridgeport I* and § 114(b).¹⁴³ Nimmer reasoned *Bridgeport I* based its conclusion on flawed logic: because § 114 exempts a second comer from liability when *no sounds* are recaptured, as in a whole sound-alike recording, then copyright law should impose complete liability when *some sounds* are recaptured regardless of substantial similarity.¹⁴⁴ But *if* a whole recording is a sound-alike recording, *then* there is no infringement, under the exemption. Taking the contrapositive, *if there is infringement, then not* the whole recording (i.e., at least *some* of the recording) is not a sound-alike recording.

Nimmer also argued § 114(b)'s lawmaking history showed Congress did not want to chuck the substantial-similarity infringement test for sound recordings.¹⁴⁵ If substantial similarity implies infringement, the contrapositive says no infringement implies there is no substantial similarity, subject to the sound-alike exemption.

III. APPLYING THE FRAGMENTED LITERAL SIMILARITY TEST TO MUSICAL WORKS AND SOUND RECORDINGS

Music is distinct from what represents it. Music is sounds or tones arranged to "form structurally complete and emotionally expressive compositions . . ."¹⁴⁶ Restated, humans construct music from natural phenomena, *sounds and tones*, to form what humans recognize as complete compositions expressing emotions. But music representations are generally not sounds or tones. For instance, notes on paper and sound recordings represent music but are not sounds or tones.¹⁴⁷

Through the Copyright Act, Congress chose to protect specific music *representations* from infringement. Copyright law protects music representations "fixed in any tangible

143. Decision and Order, *supra* note 91, at 5–7 (quoting 4 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 13.03[2][b] (2010) (extensively critiquing *Bridgeport I*)).

144. *Id.* at 6.

145. *Id.*

146. WEBSTER'S NEW WORLD COLLEGE DICTIONARY 894 (Victoria Neufeldt & David B. Guralnik eds., 3d ed. 1997) [hereinafter WEBSTER'S].

147. *Cf.* Microsoft Corp. v. AT&T, 550 U.S. 437, 448, 451 n.12 (2007) (analogizing software in the abstract with notes of a symphony and software in the tangible medium of a CD with sheet music in a patent-dispute context).

medium of expression.”¹⁴⁸ The protected representations are “musical works, including any accompanying words,” and “sound recordings.”¹⁴⁹ Sound recordings exclude “the sounds accompanying a motion picture or audiovisual work”¹⁵⁰ Typically, sheet music embodies a musical work, and a phonorecord, such as a master recording, embodies a sound recording.¹⁵¹ Compact discs (CDs), audio tape cassettes, and long-playing records (LPs) reproduced from the master recording are also phonorecords.¹⁵²

Musical-work and sound-recording music representations share similarities. First, neither a “musical work” nor a “sound recording” is music. Second, each also requires something or someone to produce music. A musical work requires a human, mechanical, or electrical musician to produce musical sounds. Sound recordings require a machine, such as a phonograph or CD player, to produce music.

A framework for applying the fragmented literal-similarity test for reproduction infringement of both musical works and sound recordings appears below. The fragmented literal-similarity test compares the copyrighted and allegedly infringing works both quantitatively and qualitatively.¹⁵³ Both musical works and sound recordings can be fragmented into sound quanta; a musical work can be discretized into notes while a particular sound recording can be discretized into short recorded-sound snippets.

The quanta of the copyrighted and allegedly infringing works can be directly compared to test reproduction infringement. Quantitatively, the allegedly infringing work would infringe either the musical-work or sound-recording copyright, or both, when a specified percentage of quanta match. The qualitative value of the matching quanta to the copyrighted work would influence the percentage. Lockean labor can contribute to a sound sample’s qualitative value.

148. 17 U.S.C. § 102(a) (2006).

149. *Id.* § 102(a)(2), (7).

150. *Id.* § 101.

151. *Id.* §§ 101, 102(a), 114(b). The copyrightable works categories protecting music overlap. Literary works include works expressed in symbols and include phonorecords. *Id.* § 101. Dramatic works include accompanying music (e.g., musical theatre or opera). *Id.* § 102(a)(3); see also MCJOHN, *supra* note 47, at 33–34.

152. 17 U.S.C. §§ 101, 102(a), 114(b) (2006).

153. NIMMER & NIMMER, *supra* note 50, § 13.03[A][2][a].

Even so, human perceptibility of a sound recording sample should be a quantitative and qualitative threshold.

This framework applies to musical-work and sound-recording reproduction infringement. When applied to a musical work, this framework resembles reproduction infringement analyses the Ninth Circuit rejected in *Swirsky v. Carey*.¹⁵⁴ The framework can also test sound-recording infringement in *Bridgeport I*. The framework also gives a simple method for testing whether the album *Feed the Animals* infringes the musical works and sound recordings sampled by Girl Talk.

A. FRAMEWORK FOR APPLYING FRAGMENTED LITERAL SIMILARITY TO MUSICAL WORKS AND SOUND RECORDINGS

As noted above, the fragmented literal similarity test probes for a copyrighted work's literal elements scattered through an allegedly infringing work.¹⁵⁵ The very formulation of substantial similarity as a "fragmented" similarity implies comparing a copyrighted work's discrete elements with an allegedly infringing work's discrete elements. This paper's sound quanta may differ from Nimmers' quanta.

1. Musical Works¹⁵⁶

As already noted, the Ninth Circuit applied its own version of the fragmented literal similarity test to a specific musical work. This section shows the general applicability of the fragmented literal similarity test to musical works reproduction infringement generally, not only to specific alleged infringing music samples.

Musical notes are like letters in a word language. Letters and words digitize the analog reality into discrete representations.¹⁵⁷ As written text represents speech as letters and words, sheet music represents music as notes written left

154. *Swirsky v. Carey*, 376 F.3d 841 *passim* (9th Cir. 2004), *rev'g* 226 F. Supp. 2d 1224 (2002).

155. NIMMER & NIMMER, *supra* note 50, § 13.03[A][2].

156. See generally PHIL WINSOR & GENE DELISA, COMPUTER MUSIC IN C, at 1–32 (1991) (describing digitizing music as parameters for the musical instrument digital interface (MIDI) format); 3 BILL GIBSON, THE AUDIOPRO HOME RECORDING COURSE 9–59 (1999) (describing Musical Instrument Digital Interface theory and sequencing).

157. STEVEN PINKER, THE STUFF OF THOUGHT 4 (2010).

to right on “staves.”¹⁵⁸ Time runs from left to right.¹⁵⁹ At the staff’s or line’s right end, the notes continue on the next staff or line at the left and continue to the right.¹⁶⁰ More lines with more notes represent more music.¹⁶¹ In this way, sheet music innately represents music discretely, or digitally, as notes in time.

Carrying the analogy with written word language further, each set of multiple notes played simultaneously, as in an interval or chord, could correspond to a different “letter” in a music representation “language.” Successive “letters” could be grouped into “words.”

Given this sheet music structure, the fragmented literal similarity test can readily decide musical-work reproduction infringement. Expressing music as a musical work on sheet music innately discretizes music. A quantitative comparison should simply weigh how many notes in an alleged infringing recording’s section match notes in a copyrighted musical work section.

And, this approach works better for music than for words. Words have many ordering rules. For instance, “clerk” is a valid word, but “krelc” is gibberish. Even so, a book merely chucking all of another book’s vowels would likely infringe; vn s, bk mrly chckng ll f nthr bk’s vwls wld lkly nfrng. Though at first it might jar the senses, the meaning would be fairly clear. The missing vowels would merely be a gimmick to evade exact copying though the books would be substantially similar.

Music notes have fewer ordering problems. Notes played in reverse order will not have the same effect, but most people will recognize them as music, not gibberish. For instance, a piano, guitar, or trombone playing G then E then C rather than C then E then G would still play “music” while “krelc” is gibberish.

Under *fragmented* similarity, the allegedly infringing work’s notes could be separated by notes absent from the copyrighted section yet still yield the required substantial similarity. For instance, a song’s melody often defines a copyrighted musical work’s most recognizable part¹⁶² and thus

158. *E.g.*, WALTER PISTON, HARMONY (3d ed. 1962).

159. *Id.*

160. *Id.*

161. *Id.*

162. WEBSTER’S, *supra* note 146, at 845 (including the musical definitions

contains qualitatively significant notes. Suppose the suspect work contains a quantitatively significant percentage of melody notes from the copyrighted musical work. The suspect work could then have embellishing notes between the same copyrighted notes yet still infringe as substantially similar judged by fragmented literal similarity.

Relying on the music representation "language" outlined above, a fact-finder could more finely test similarity by comparing intervals or chords in the copyrighted and suspect sections. The language would uniquely represent an interval or a chord like a letter or word in English. For instance, a simple triad C chord is formed from the notes C, E, and G in a single octave. A matching "letter" or "word" in the suspect section would include some or all of the notes in a corresponding interval or chord in the copyrighted section. Thus, a fact-finder might define a match for the C triad as the same C-E-G triad, as the intervals C-G, C-E, or E-G, or as the single notes C, E, or G. (Due to the harmonious nature of octaves, the triads, intervals, or notes can have very similar musical effects even if the notes lie in different octaves.¹⁶³ Mathematically, deeming notes separated by an octave to be the same imposes a periodic structure. In essence, the twelve-note chromatic scale with octaves identified (e.g., identifying all C's as the same note regardless of octave separation) and equating transposed notes, chords, and keys, defines a system which is invariant under circular rotations generated by the complex number $e^{in/6}$.¹⁶⁴) The quantitative analysis would be the same as for a lone melody.

2. Sound Recordings

Unlike musical works, sound recordings may be analog or digital.¹⁶⁵ The traditional analog LP or tape recording embodies

2b: "the element of form having to do with the arrangement of single notes in sequence (distinguished from HARMONY);" and 2c: "the leading part, or voice, in a harmonic composition"); *see also* PISTON, *supra* note 158, at 3, 71, 125 (noting the top voice in harmonized music is heard as the melody in homophonic music and multiple melodic lines may be heard in polyphonic music).

163. *See, e.g.*, PISTON, *supra* note 158, at 6 (reducing compound intervals by subtracting the octave).

164. *See, e.g.*, RUEL V. CHURCHILL ET AL., *COMPLEX VARIABLES AND APPLICATIONS* 11-19 (4th ed. 1984).

165. *E.g.*, DAVID MILES HUBER & ROBERT E. RUNSTEIN, *MODERN*

a continuous transcription of musical sounds into wax, metal, or vinyl LP grooves¹⁶⁶ or magnetic (metal) tape film.¹⁶⁷ In transcribing the sound, the recorder moves along the recording medium to physically represent the sound in the medium; the groove or magnetized tape lengthens as the sound recording time increases.¹⁶⁸ A sound recording medium property varies continuously along the medium with the continuous change in music in time.¹⁶⁹ For instance, the LP groove's contour and the magnetic film's magnetized pattern vary along their lengths commensurate with recording time.¹⁷⁰ In this way, analog recording continuously, and possibly exactly, transcribes sound.

Unlike analog recording, digital recording must inexactly transcribe sound.¹⁷¹ Digital recording represents music by breaking waveforms into small segments.¹⁷² By taking shorter time intervals, the digital recording better represents the music.¹⁷³ But at some shortest time interval, the representation can become better than can be humanly perceived.¹⁷⁴

The fragmented literal similarity test can readily test for sound recording infringement. Any analog recording can be represented digitally or converted to a digital recording,¹⁷⁵ so

RECORDING TECHNIQUES 187–298 (6th ed. 2005); GIBSON, *supra* note 156, at 61–95.

166. *E.g.*, IAN SINCLAIR, *ELECTRONICS SIMPLIFIED* 119–24 (3d ed. 2011), Improvement in Phonograph or Speaking Machs., U.S. Patent No. 200,521 (filed Dec. 24, 1877) (issued Feb. 19, 1878).

167. SINCLAIR, *supra* note 166, at 124–28; *see also* HUBER & RUNSTEIN, *supra* note 165, at 189–90; GIBSON, *supra* note 156, at 61–64.

168. SINCLAIR, *supra* note 166 at 119–28; *see also* '521 Patent; HUBER & RUNSTEIN, *supra* note 165, at 189–90; GIBSON, *supra* note 156, at 61–64.

169. SINCLAIR, *supra* note 166, at 119–28; *see also* '521 Patent; HUBER & RUNSTEIN, *supra* note 165, at 189–90; GIBSON, *supra* note 156, at 61–64.

170. SINCLAIR, *supra* note 166, at 119–28; *see also* '521 Patent; HUBER & RUNSTEIN, *supra* note 165, at 189–90; GIBSON, *supra* note 156, at 61–64.

171. SINCLAIR, *supra* note 166, at 119–28; *see also* GIBSON, *supra* note 156, at 62–64, 67–90; HUBER & RUNSTEIN, *supra* note 165, at 216–24.

172. HUBER & RUNSTEIN, *supra* note 165, at 217–19; *see also* GIBSON, *supra* note 156, at 62–64, 67–74; SINCLAIR, *supra* note 166, at 123–36.

173. HUBER & RUNSTEIN, *supra* note 165, at 217–19; *see also* GIBSON, *supra* note 156, at 62–64, 67–74; SINCLAIR, *supra* note 166, at 123–36.

174. *See* HUBER & RUNSTEIN, *supra* note 165, at 36, 221 (showing the upper frequency limit of human hearing, 20 kilohertz (kHz), can be effectively represented by time segments occurring at a 44.1 kHz rate); *see generally* GIBSON, *supra* note 156, at 78–79 (listing various common sampling rates and indicating 44.1 kHz as the common CD sampling rate).

175. *See* HUBER & RUNSTEIN, *supra* note 165, at 215–26; GIBSON, *supra* note 156, at 62–64.

making a framework for applying the fragmented literal similarity test only requires considering digital sound-recordings. Rather than describing sound recordings with a general musical language such as notes for musical works, it will generally be more convenient to choose a language specific to a particular sound recording. A section of a copyrighted digital sound recording will have a finite, though possibly large, number of digital pieces or snippets. Those pieces will be ordered in time to produce music when played in a player, such as a CD player or computer. Each snippet would belong to the sound recording's own musical language.

The musical-works-test framework readily extends to testing sound-recording infringement. The fact finder replaces notes, intervals, or chords with snippets in the musical-works comparison framework. Following the musical-works analysis, the fragmented literal similarity test can show substantial similarity when the allegedly infringing sound recording contains snippets from the copyrighted sound recording. But the reproduced snippets may be separated by other snippets not in the copyrighted sound recording section.

a. Quantitative Value

The snippets in the suspect work could be separated by recorded segments not from the copyrighted section work yet still yield the requisite quantitative similarity. For instance, the allegedly infringing work could have the same snippets as a section of a copyrighted sound recording with added embellishing snippets between the snippets from the copyrighted section yet still infringe. In the example, as all snippets in the copyrighted section appear in the allegedly infringing section, the qualitatively important snippets of the copyrighted section will be included. But their qualitative import in the alleged infringing section would depend on other factors such as their prominence in the suspect passage. As with the musical works analysis, the allegedly infringing work would infringe the sound recording when a specified percentage of snippets match those of the copyrighted section.

b. Qualitative Value

Fragmented literal similarity weighs the snippet's

qualitative value to the copyrighted work.¹⁷⁶ Lockean labor can contribute to a sound snippet's qualitative value, but it does not imply all sound snippets have a qualitative value to the copyrighted work. Lockean-labor value can include the snippet length or duration and volume. But human perceptibility should be a threshold for qualitative value.

i. Labor Property Theory and Sound Samples

Lockean-labor property theory permits a person to establish a property right by investing labor in an object or thing.¹⁷⁷ *Bridgeport I* assumed the Lockean-labor property theory when it argued even tiny sound recording snippets had value.¹⁷⁸ *Bridgeport I* argued “even when a small part of a sound recording is sampled, the part taken is something of value” and quoted Abramson's paper for support.¹⁷⁹ My approach posits not all samples have value.

a. Sound Length—Duration

Not all samples have equal value. Assuming a sound sample has some value directly proportional to its length (in time), merely truncating it would diminish its value. With repeated truncations, its length would become quite small. Eventually, the length would fall below detectability, either for a particular technology or in an absolute sense. At that point, this ultimately truncated sample would have its smallest quantum of value.

Of course, the original copyrighted music section's different subsections could have different values. If the original music section's whole duration or length had one tone at a constant

176. NIMMER & NIMMER, *supra* note 50, § 13.03[A][2].

177. See, e.g., COHEN ET AL., *supra* note 10, at 11–12 (citing JOHN LOCKE, TWO TREATISES ON GOVERNMENT, BOOK II, at ch. V (1690)). But see WILLIAM A. LANDES & RICHARD A. POSNER, THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW 4 (2003) (citing Wendy J. Gordon, *A Property Right in Self-Expression: Equality and Individualism in the Natural Law of Intellectual Property*, 102 YALE L.J. 1533 (1993) and Alfred C. Yen, *Restoring the Natural Law: Copyright as Labor and Possession*, 15 OHIO STATE L.J. 517 (1990)) (acknowledging Lockean labor as a copyright justification but arguing copyright is cumulative and not “merely the fruit of one's own labors.”).

178. *Bridgeport Music, Inc. v. Dimension Films (Bridgeport I)*, 410 F.3d 792, 802 (6th Cir. 2005).

179. *Id.* at 802 & n.14 (quoting Christopher D. Abramson, *Digital Sampling and the Recording Musician: A Proposal for Legislative Protection*, 74 N.Y.U. L. REV. 1660, 1667 (1999)).

volume, all subsections would have the same value. But if the tone waivered in pitch or volume, different subsections might have different intrinsic values resulting in eventually achieving different quanta.

Assuming value directly relates to length impliedly relies on Lockean labor theory. A longer sample represents music played for a longer time. For the single tone held at a constant volume, a longer tone represents more labor by a musician, a recording engineering, and a record producer. Recording a longer tone would also require more physical resources in a longer tape length, more memory in a computer or recording workstation, or more physical space on a CD or LP.¹⁸⁰

b. Volume

Similar arguments may be made for volume proportional to labor expended. Higher volume coming from acoustic instruments generally requires more physical work. For instance, blowing a horn harder, hitting a drum harder, and strumming a guitar more vigorously will all produce louder sounds than using less effort. Likewise, electrical energy from electric instruments transformed into acoustic sound via transducers is louder with higher wattage amplifiers.¹⁸¹

ii. Reproduced Sound's Human Perceptibility

Despite Lockean labor theory's traditional appeal, a sound sample's qualitative value should also depend on human perceptibility. Because the recorded tone represents music, one should distinguish between the technically feasible and the humanly perceivable. The qualitative value of imperceptible sound snippets' qualitative values should be insignificant or zero in applying fragmented literal similarity.

Analog *recording* at a higher tape speed or with more revolutions of a cylinder or playing record per second¹⁸² directly corresponds to a tone of the same time duration or length requiring longer tape lengths or recording-groove travel.¹⁸³ But

180. See Improvement in Phonograph or Speaking Machs., U.S. Patent No. 200,521 (filed Dec. 24, 1877) (issued Feb. 19, 1878); see GIBSON, *supra* note 156, at 61–64; HUBER & RUNSTEIN, *supra* note 165, at 189–90.

181. See, e.g., HUBER & RUNSTEIN, *supra* note 165, at 29–31, 33–37, 51–56.

182. For example, thirty-three revolutions per minute (RPM) for LP records and forty-five RPM for records having a single song per side.

183. See '521 Patent; see also GIBSON, *supra* note 156, at 61–64; HUBER &

the recorded tone's quality generally improves because more physical media records the same sound; the resolution is higher. Particularly at very high tape speeds or revolution rates, it may be technically possible to capture individual sound quanta that are too short to be humanly perceived on playback. Thus, as a representation of sounds and music, a very high-quality analog recording can have a non-zero length in the recording medium which makes a sound too short to be heard on playback at normal speed.

Unlike analog recording, digital recording has some innate limitations. But like analog recording, digitizing sound breaks an analog signal into sound representation snippets that may also be too short to be perceived on playback; a digitization rate (i.e., frequency) of roughly 44.1 kilohertz, and the corresponding medium length, represents the upper limit of human hearing.¹⁸⁴

B. APPLYING FRAGMENTED LITERAL SIMILARITY AND DE MINIMIS STANDARDS TO SAMPLED SOUND RECORDINGS

1. Musical Work Infringement—*Swirsky v. Carey*

In *Swirsky v. Carey*, the Ninth Circuit employed a two-part substantial similarity test for music-work infringement.¹⁸⁵ Generally, the test included an objective extrinsic test of expression and ideas and a subjective intrinsic test.¹⁸⁶ The intrinsic test would have asked whether an “ordinary, reasonable observer” would find substantial similarity of expression.¹⁸⁷ But in reviewing summary judgment, *Swirsky* only considered the extrinsic test because juries apply the intrinsic test.¹⁸⁸

RUNSTEIN, *supra* note 165, at 189–90.

184. See HUBER & RUNSTEIN, *supra* note 165 at 36, 221 (showing the upper frequency limit of human hearing, 20 kHz, can be effectively represented by time segments occurring at a 44.1 kHz rate); see generally GIBSON, *supra* note 156, at 78–79 (listing various common sampling rates and indicating 44.1 kHz as the common CD sampling rate).

185. *Swirsky v. Carey*, 376 F.3d 841, 844–45 (9th Cir. 2004), *rev'g* 226 F. Supp. 2d 1224 (2002).

186. *Id.*

187. *Smith v. Jackson*, 84 F.3d 1213, 1218 (9th Cir. 1996) (citing *Apple Computer, Inc. v. Microsoft Corp.*, 35 F.3d 1435, 1442 (9th Cir. 1994)).

188. *Swirsky*, 376 F.3d at 845 (citing *Rice v. Fox Broad. Co.*, 330 F.3d 1170, 1174 (9th Cir. 2003) and *Smith v. Jackson*, 84 F.3d 1213, 1218 (9th Cir. 1996)).

The Ninth Circuit rejected Walser's and the district court's approaches comparing notes because they could let persons untrained in music judge substantial similarity devoid of considering harmonic progression, tempo, and key.¹⁸⁹ Even so, the court expressly refused to announce any uniform factors for the extrinsic objective test.¹⁹⁰ In *dicta*, the court said the extrinsic test is simpler to apply to literary works such as books, films, and television shows than music because they are more easily broken into discrete elements such as "plot, themes, mood, setting, pace, characters, and sequence of events."¹⁹¹

This paper expresses the opposite view. Plot, themes, etc. are not manifestly discrete elements. But the music's mathematical representations as notes in musical compositions and digitized sound recordings necessarily have discrete elements.

Unlike the Ninth Circuit's analysis, the present framework comports with both the Walser and district court approaches. Walser noted similarities between the plaintiff's work *One of Those Love Songs (One)* and the defendant's *Thank God I Found You (Thank God)* by selectively comparing notes.¹⁹² Walser discounted ornamental notes.¹⁹³ Generally, an ornamental tone embellishes a main melodic tone.¹⁹⁴ Here, the quantitative comparison also compares individual notes and possibly drops notes when employing fragmented literal similarity. By considering some tones ornamental, Walser impliedly assigned a qualitatively higher value to some main melodic tones. He assigned a qualitatively higher value to notes falling on a beat.¹⁹⁵

The district court also compared the musical work's individual notes.¹⁹⁶ It represented tones as numerical

189. *Id.* at 845-48.

190. *Id.* at 845-49.

191. *Id.* at 849 n.15 (quoting *Metcalf v. Bochco*, 294 F.3d 1069, 1073 (9th Cir. 2002) (quoting *Kouf v. Walt Disney Pictures & Television*, 16 F.3d 1042, 1045 (9th Cir. 1994))).

192. *Id.* at 846-47.

193. *Id.*

194. WEBSTER'S, *supra* note 146, at 955 ("ornament," definition 5); see PISTON, *supra* note 158, at 89, 253.

195. *Swirsky*, 376 F.3d at 847.

196. *Id.* at 847-48.

sequences.¹⁹⁷ Musicians routinely represent standard chromatic scale notes as numbers.¹⁹⁸ The present framework deems this representation a digitization. Nothing in the present framework precludes considering *all* the copyrighted work's melodic notes, but a *fragmented* literal similarity test, as opposed to comprehensive nonliteral similarity, does not require it.¹⁹⁹ Comparing a note sequence from the suspect work, *Thank God*, with a sequence in the copyrighted work, *One*, would test whether a quantitatively significant percentage of *One* had been copied. Other factors, such as perceptibility, volume, length, and falling on the beat, would determine the notes qualitative import to *One*.

2. Sound Recording Infringement—*Bridgeport I*

Contrary to the Sixth Circuit's bright-line rule, the present approach does not automatically find infringement for copies of even tiny parts of copyrighted sound recordings. The sampled part from the copyrighted sound recording *Get Off* contained three notes from the guitar solo.²⁰⁰ The notes pass human perceptibility because they were perceivable as notes.²⁰¹ If two large time intervals separated the three notes, they would likely be quantitatively insignificant to the section containing all three notes. Thus, there would be no fragmented literal similarity and no infringement of the sound recording.

But if the three notes were roughly consecutive in one section of the solo, they might be qualitatively and quantitatively significant to the sound recording section by analogy with the melody analysis above. Given the prominence of a guitar *solo* in a song,²⁰² the three notes would likely be qualitatively significant even if the section had other notes, such as rhythm and bass guitar notes and chords, played simultaneously with the three notes.

But the appellate and district court descriptions conflict

197. *Id.*

198. See, e.g., BRUCE BENWARD, *SIGHTSINGING COMPLETE 1* (2d ed. 1973); SOL BERKOWITZ ET AL., *A NEW APPROACH TO SIGHT SINGING 2* (2d ed. 1976); WEBSTER'S, *supra* note 146, at 250; WINSOR & DELISA, *supra* note 156, at 27.

199. NIMMER & NIMMER, *supra* note 50, § 13.03.

200. *Bridgeport Music, Inc. v. Dimension Films (Bridgeport I)*, 410 F.3d 792, 796 (6th Cir. 2005).

201. *Id.*

202. See PISTON, *supra* note 158, at 3, 71, 125 (noting prominence of a melody such as a guitar solo).

somewhat. The appellate decision describes the sampled section as a guitar-solo part looped to form sixteen beats and played in five places in *100 Miles*.²⁰³ The district court describes the three notes as “a two-second portion of a chord section.”²⁰⁴ Unlike pianists, guitarists very rarely simultaneously play notes in chords because strumming a chord requires playing individual strings, though quickly.²⁰⁵ A single two-second chord could hardly be deemed quantitatively significant in to the *whole Get Off* recording. Also, the notes of a single *chord* notes may not be humanly perceptible as single notes and thus not qualitatively significant to the *Get Off* sound recording.

Even so, though the district court in essence applied *Newton’s* approach for testing infringement of sampled musical works to sampled sound recordings,²⁰⁶ the present framework differs from the district court’s.

The district court did not clearly delineate de minimis analysis from fragmented literal similarity and fair use.²⁰⁷ It recognized de minimis use as literally copying a small and insignificant part of copyrighted work falling below the substantial similarity standard.²⁰⁸ It also noted other courts had considered qualitative and quantitative measures of appropriated elements in sampling cases.²⁰⁹ But it also posited applying Nimmer’s fragmented literal similarity.²¹⁰

The court then analyzed the sample’s quantitative and qualitative features in the copyrighted sound recording, *Get Off*, and the suspect work, *100 Miles*. The court noted the sampled section was quantitatively small, two seconds, compared with *Get Off’s* total two-and-one-half minute

203. *Bridgeport I*, 410 F.3d at 796.

204. *Bridgeport Music, Inc. v. Dimension Films*, 230 F. Supp. 2d 830, 841 (M.D. Tenn. 2002), *rev’d*, 410 F.3d 792 (6th Cir. 2005).

205. See FLETCHER & ROSSING, *supra* note 93, at 255, 352–59.

206. *Bridgeport Music, Inc.*, 230 F. Supp. 2d at 841 (citing *Newton v. Diamond*, 204 F. Supp. 2d 1244, 1257 (C.D. Cal. 2002) (citing *Jarvis v. A&M Records*, 827 F. Supp. 282, 291 (D.N.J. 1993)), *aff’d*, 388 F.3d 1189 (9th Cir. 2004)).

207. *Bridgeport Music, Inc.*, 230 F. Supp. 2d at 839–42.

208. *Id.* at 841 (citing *Warner Bros. v. ABC*, 720 F.2d 231, 242 (2d Cir. 1983) (Motley, J.)).

209. *Id.* (citing *Newton v. Diamond*, 204 F. Supp. 2d 1244, 1257 (C.D. Cal. 2002) (citing *Jarvis v. A&M Records*, 827 F. Supp. 282, 291 (D.N.J. 1993))).

210. *Id.*

length.²¹¹ But the Court noted the alleged infringer looped the sample to at most forty seconds of *100 Miles* total four-and-one-half minute length and thus formed a more significant part of the suspect work than *Get Off*.²¹² More importantly, the court found the sampled two-section section qualitatively insignificant in *100 Miles* based the songs' overall lack of similarity and theme, and a lay observer's inability to discern the sample in *100 Miles*.²¹³ The court then conflated the analysis with fair use by discussing striking a balance between protecting artists and depriving the building blocks of creation.²¹⁴

In contrast, the present framework more faithfully applies the Nimmer fragmented literal similarity test. Nimmer's fragmented literal similarity only demands the part be quantitatively and qualitatively significant to the *plaintiff's* work; the test ignores the quantitative and qualitative import of the copyrighted part in the defendant's work.²¹⁵ Thus, the present framework does not weigh the songs overall similarity and theme or whether a lay observer would discern the sampled part in the suspect work. The lay observer only enters the framework through minimal human perceptibility of the copied part in general, not in the suspect work. By ignoring overall similarity and theme, the present framework more clearly focuses on the *sounds* reproduced by making a more mathematical analysis. Thus, a song, such as *100 Miles*, that copied the quantitatively and qualitative insignificant two-second portion would not infringe the *Get Off* sound recording regardless the times the suspect song (e.g., *100 Miles*) looped the two-second section. But by chucking overall similarity and theme, taking a quantitatively and qualitatively significant part of *Get Off* would infringe the *Get Off* sound recording *regardless of genre*; the analysis would focus on the sound itself.

3. Musical Works and Sound Recordings—Girl Talk

Girl Talk's *Feed the Animals*²¹⁶ album used about 300 samples from about 100 MP3's.²¹⁷ The musical-works

211. *Id.*

212. *Id.*

213. *Id.* at 842.

214. *Id.*

215. NIMMER & NIMMER, *supra* note 50, § 13.03[A][1][e][2][a].

216. GIRL TALK (GREGG GILLIS), *FEED THE ANIMALS* (Illegal Art 2008).

217. *Day to Day: Girl Talk Chops Music to Pieces* (NPR broadcast Oct. 10,

infringement analysis simply applies the digitization through notes analysis.

Analyzing Girl Talk's collages for sound-recording infringement becomes harder without *Bridgeport I's* bright-line rule, but the fragmented literal similarity framework can be applied to them. Because MP3's are digital sound recording representations of music, *Feed the Animals* contains a finite number of snippets. It should be fairly easy for the sound-recordings' copyright-owners to generate the sound recording language for each of their sound recordings amongst the 100. With the language in hand, each copyright owner could readily compare the sound recording against *Feed the Animals* to see whether the album had quantitatively significant parts of the copied sound recording. The qualitative value would depend on details of the particular sampled copyrighted part.

If some sound recording owners cannot detect parts of their own works actually in *Feed the Animals*, this fact may suggest quantitative or qualitative insignificance, such as imperceptibility, in the original copyrighted work and the absence of substantial similarity. In practice, an undetected infringement will remain moot.

Rather than fair use, the main defense would be de minimis use falling below substantial similarity under the fragmented literal similarity test.

IV. FRAGMENTED LITERAL SIMILARITY WORKS TO TEST INFRINGEMENT OF MUSIC REPRESENTED AS A MUSICAL WORK OR A SOUND RECORDING

Newton v. Diamond and *Bridgeport Music, Inc. v. Dimension Films* have left an unsatisfying legacy of drastically disparate reproduction rights for musical works and sound recordings. The substantial similarity standard should be applied to decide whether music, represented as either a musical work or a sound recording, is infringed. When the substantial similarity standard is applied to a music recording containing sampled copyrighted recordings, the fragmented literal similarity test works for both musical-work and sound-recording infringement.