

Tiny, Tiny Copyright: An Examination of the Copyrightability of Sampler Instruments and Its Impact on Derivative Works

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INTRODUCTION

Sound recordings of musical compositions used to be simple. Sounds would be created by voices and acoustic instruments. Those sounds would then be captured by microphones and fixed on analog tape. What the listener heard was simply an immortalized version of what happened in the room. With the advent of digital recording technology, this has been forever changed in ways that offer infinite possibilities—and infinite new challenges.

These days, sounds are typically recorded in a digital format, which allows them to interface with computer software in myriad ways. Most consumers only interact with these files—in the form of MP3, WAV, M4A, and AAC files, or other digital formats used by download or streaming services—to listen to and distribute music. However, these files can be used in much more specialized ways, such as for playback on a digital instrument. This type of use and its copyright implications are the focus of this Note.

Digital instruments such as keyboards and drum pads allow the user to use digitally recorded material in a new musical context. The digital instrument (known as a “controller”) serves as a group of “play buttons” for prerecorded or synthesized material. The user is able to strike or press these buttons in the same way they would strike a drum or press a keyboard key. This mechanism allows someone proficient in drums or piano to play a digital instrument using essentially the same technique used on its acoustic counterpart, but with an almost infinite array of potential sounds emanating as a result. This technology can be used to create a digital drum set that can be programmed to sound like twenty different, customizable drum sets or to create a keyboard that can switch between sounding like a Steinway grand piano and a Hammond B-3 organ. The artist can reproduce the sounds of different drum sets or keyboard instruments, reproduce the sounds of various other instruments, or even reproduce multiple instruments at once.

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Sometimes the tones triggered by a digital controller are what is referred to as a “soft synth”—a software tone generator that creates (“synthesizes”) the sounds produced in real time. However, the same technology may also be used as a “sampler instrument,” which serves as the “play button” for a short sound recording. Sampler instruments are most commonly created by taking the instrument that is being imitated into a recording studio and making individual recordings of each note that are playable on the instrument at multiple volumes (referred to as “velocity levels”). This process captures the nuanced differences in tone color between, for example, a quiet trumpet and a blaring trumpet. These recordings are referred to as “samples.”¹ A complete set of samples that collectively imitate an acoustic instrument constitutes a “sampler instrument,” and a collection of multiple sampler instruments constitutes a “sample library.” When the player of a sampler instrument strikes the key or drum pad (the “trigger”), the velocity with which it is struck is communicated to a computer via Musical Instrument Digital Interface (“MIDI”) to select which recording is played back, simulating the sound that would have been produced if an actual trumpet player had played the notes with the same intention.

As the use of sampler instruments became the new normal (especially for keyboard players), a cottage industry sprang up around the customization and design (or “programming”) of these instruments in order to take advantage of the sonic possibilities afforded by the technology. This customization may be accomplished by deciding which keys will play certain samples, by programming certain keys to play multiple samples at once and balancing the samples’ volumes to create a new texture, by adjusting the pitch at which a sample will play, or even by using many other design elements to create a brand new software instrument, custom built for the performance of a specific musical composition.

Creators in these fields face challenges in safeguarding the market value of their work to which copyright law is uniquely suited. First, despite the technological lengths to which the creators of sample libraries go to prevent unauthorized use, there will always be workarounds allowing those motivated enough to skirt the Terms of Service contracts, so legal recourse of some sort is a necessary backstop. Second, due to the ease with which digital files can be copied, contract law alone is insufficient to stop unauthorized use by third parties who were never in privity of contract with the sample library’s owner. Additionally, for custom programming, there are fewer technological means employed to prevent unauthorized use. This programming is typically rented rather than sold, creating a high likelihood of a licensee retaining a copy of the rented file after the term of the license, only to share it with a third party, thereby depriving the programmer of further licensing revenue. Because the work is typically visible to the user or easily reverse-engineered, trade secret protection is not available. Therefore, in the most likely scenario, where a

1. This Note focuses on these samples of individual notes, as opposed to the colloquial use of “samples” in reference to longer copied portions of a pre-existing sound recording. While both types of sampling employ similar techniques, the intention behind the creation of the resulting works is different, and the culpability and volitional conduct in using the samples without permission differs.

valid licensee rents programming only to then create and distribute a copy to another potential licensee, copyright law would afford the owner a cause of action against the potential licensee that contract law and trade secret law would not.

The popularization of this technology raises several copyright issues that have not yet been addressed by the courts. First, are the samples themselves copyrightable? In Part I, I apply the requirements under the Copyright Act and conclude that potential arguments against copyright protection for samples do not apply. In Part II, I argue that custom programming—the creation of customized programming that entails the selection and arrangement of individual samples—should itself be eligible for copyright protection as a compilation.² Finally, in Part III, I ask whether custom programming or the use of samples in recordings could constitute copyright infringement, concluding that such uses are likely to be found to be *de minimis* or fair use.

I. PHOTO-SYNTH-ESIS: ANALYZING THE COPYRIGHTABILITY OF SAMPLER INSTRUMENTS THROUGH THE LENS OF PHOTOGRAPHY

To qualify for copyright protection, a work must meet several baseline requirements. First, a work must pass the threshold bar for originality and must be fixed in a tangible medium.³ Copyright protection will also extend only to the specific expression of an idea, not to the idea itself.⁴ For example, the script for a specific gangster movie is copyrightable, whereas the *concept* of “gangster movies” is not. For copying to constitute actionable infringement, the copyrightable elements utilized in the allegedly infringing work must be substantially similar to the copied work.⁵ Because a similarity analysis involves both quantitative and qualitative

2. If customized programming is found to be copyrightable as a compilation, as this Note suggests, the question remains of which pre-existing works’ copyrights are implicated in the creation of this compilation. While a compilation that includes no copyrighted material does not constitute a derivative work, the situation presented potentially implicates not only the copyright in the samples used, but the copyright in any compositions or derivative orchestrations, the performance of which the programming is tailored to. This will not be analyzed.

3. “The two fundamental criteria of copyright protection [are] originality and fixation in tangible form.” *Feist Publ’ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 355 (1991) (quoting H.R. REP. NO. 94-1476, at 51 (1976)). “Original, as the term is used in copyright, means only that the work was independently created by the author (as opposed to copied from other works), and that it possesses at least some minimal degree of creativity.” *Id.* at 345 (citing 1 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT §§ 2.01[A], [B] (1990)).

4. *Holmes v. Hurst*, 174 U.S. 82, 86 (1899) (“The right thus secured by the copyright act is not a right to the use of certain words, because they are the common property of the human race, and are as little susceptible of private appropriation as air or sunlight; nor is it the right to ideas alone, since in the absence of means of communicating them they are of value to no one but the author.”). See generally 2 WILLIAM F. PATRY, PATRY ON COPYRIGHT § 4:31, Westlaw (database updated Sept. 2021).

5. *Newton v. Diamond*, 388 F.3d 1189, 1193 (9th Cir. 2004) (“[E]ven where the fact of copying is conceded, no legal consequences will follow from that fact unless the copying is substantial.”). See

elements, an argument can be made that samples of individual notes are simply too small to be recognized by an ordinary observer when incorporated into another work, meaning that even if such rights exist, they are unenforceable.⁶ However, such observations conflate different analyses within copyright law. As no court has had occasion to analyze the issue of recordings of individual musical notes recorded in the absence of an underlying composition, this Note first studies the legal issues underlying such recordings through the similar field of photography.

A. ORIGINALITY REQUIREMENT

Creativity for sound recordings is frequently overlooked, with the field of audio engineering frequently viewed as purely technical.⁷ However, the Copyright Act specifies a separate copyright for sound recordings, independent of any underlying musical compositions, thereby acknowledging the creativity that goes into the recording process.⁸ The Copyright Act defines “sound recordings” as “works that result from the fixation of a series of musical, spoken, *or other sounds* . . . regardless of the nature of the material objects . . . in which they are embodied.”⁹ While much recorded music does involve both a sound recording copyright and a copyright for the underlying musical composition, a sound recording copyright can exist absent a musical composition copyright, as would be the case for recordings of nature sounds or musical compositions in the public domain.¹⁰ Since there is no requirement that a recording must be of a copyrightable musical composition in order for the sound recording itself to receive a copyright, there is no reason why a recording of a single note could not be sufficiently original to warrant copyright protection.¹¹

Finding these single-note recordings uncopyrightable due to the simplicity of their subject matter would suggest that *any* art with simple subject matter—such as landscape or still life photography—should also be uncopyrightable. It is well established that judges are not to play art critic, discerning the highbrow from the

generally MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 13.03 (2021) [hereinafter NIMMER ON COPYRIGHT].

6. Peter F. Gaito Architecture, LLC v. Simone Dev. Corp., 602 F.3d 57, 66 (2d Cir. 2010) (quoting Hamil Am. Inc. v. GFI, 193 F.3d 92, 100 (2d Cir. 1999)). See Part III.A, *infra*.

7. In fact, the Tony Award for sound design was briefly discontinued from 2014 to 2017 due to this public perception. See Michael Gioia, *What Is Sound Design, and Why Did It Lose Its Tony?*, PLAYBILL (May 24, 2016), <https://perma.cc/7AH5-5CC9>; *Tony Awards To Reinstate Sound Design Categories*, AMERICAN THEATRE (Apr. 24, 2017), <https://www.americantheatre.org/2017/04/24/tony-awards-to-reinstate-sound-design-categories/>.

8. 17 U.S.C. § 101.

9. *Id.* (emphasis added).

10. For example, a recording of waves crashing on a beach released in a white noise machine would involve a sound recording copyright with no underlying musical composition. Similarly, the New York Philharmonic’s 2019 recording of Beethoven’s second and fourth symphonies would be covered by a sound recording copyright even though the underlying compositions are in the public domain. Sound recording copyrights can also coexist with and embody other forms of copyrightable material such as speeches or dramatic works. The key is that the copyright in the recording is separate from any copyright that might exist in the material that has been recorded.

11. A single note, however, cannot be copyrighted as a *musical composition*. See *infra* Part I.B.

low, and that such distinctions have no legal significance.¹² There is therefore no basis for denying copyright protection *solely* based on the simplicity of the subject matter.

Since the copyright for a photograph can belong to a person who composes the scene to be photographed,¹³ the mastermind behind the creation of such a sound recording should be considered an author.¹⁴ A photograph can be sufficiently original to be copyrightable based on any of three factors: (1) rendition (e.g., angle, light shade, exposure, effects, and development techniques); (2) timing; or (3) creation of the subject itself.¹⁵ The media-neutral analog would be to consider the same factors in determining the copyrightability a sound recording. The “rendition” factor would encompass recording techniques such as microphone selection and placement, choice of recording medium, and postproduction effects. The “timing” factor, analyzed in the photography context as hitting the shutter button at the right time, could be interpreted in a sound recording context as choosing to record at the right time.¹⁶ Lastly, the “creation of the subject” factor weighs heavily for sound recording copyright for sample creators: Many sample creators specify which *exact* instrument is to be played (e.g., “a Selmer Mark Vi tenor saxophone with a Meyer V mouthpiece and Vandoren JAVA reeds at a 3.5 thickness” rather than “a tenor saxophone”), as this level of specificity is where the market value lies. This level of specificity aligns with the threshold requirement of originality in the photography context.

Since both photography and sample creation are technological means of fixing individual sensory experiences, it would be illogical to apply different frameworks for originality. Therefore, sample creation contains the requisite amount of creativity to qualify as “original” as defined in the Copyright Act. The next question is whether such recordings embody specific expressions or merely uncopyrightable ideas.

B. THE IDEA–EXPRESSION DICHOTOMY

No one can copyright a single note as a musical composition.¹⁷ The most basic rationale for this is that to do so would remove that note from the ambit of potential

12. *Bleistein v. Donaldson Lithographing Co.*, 188 U.S. 239, 251 (1903) (“It would be a dangerous undertaking for persons trained only to the law to constitute themselves final judges of the worth of [art].”).

13. *Burrow-Giles Lithographic Co. v. Saronby*, 111 U.S. 53, 60 (1884).

14. In this case, the individual or company behind the creation of the samples.

15. *Mannion v. Coors Brewing Co.*, 377 F. Supp. 2d 444, 452–53 (S.D.N.Y. 2005); NIMMER ON COPYRIGHT, *supra* note 5, § 2A.06[A][3][a][iv] (“In *Mannion v. Coors Brewing Co.*, Judge Lewis Kaplan schematized the creativity that goes into photography into three potentially overlapping categories. Other cases have followed suit, so that this framework now serves as a standard tool to analyze that challenging aspect of copyright protection.”).

16. This is unlikely to be given much weight if literally translated to a recording studio context, as the timing is carefully orchestrated, but could be interpreted as either the selection of the best recording take, or as a means of providing copyright for non-studio recordings, such as field recordings of nature sounds, where timing plays a larger role.

17. *Poindexter v. EMI Rec. Grp. Inc.*, No. 11 Civ. 559(LTS)(JLC), 2012 WL 1027639, at *4 (S.D.N.Y. Mar. 27, 2012).

building blocks necessary for other composers to create,¹⁸ frustrating the aim of copyright law “[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors . . . the exclusive Right to their respective Writings.”¹⁹ This is the basis for the idea–expression dichotomy: Stated simply, one can only monopolize a concrete expression, not the abstract idea from which the expression was born. Furthermore, “even expression is not protected in those instances where there is only one or so few ways of expressing an idea that protection of the expression would effectively accord protection to the idea itself.”²⁰ This concept is known as the “merger doctrine,” as it describes a situation in which the idea and the expression have “merged” so that granting copyright protection to the expression would, in effect, remove the underlying idea from the public domain. Analyzing the copyrightability of a sound recording of an individual note raises the question of whether granting a monopoly in this recording would frustrate the very purpose of copyright law. It does not.

Granting copyright protection to a recording of a single note does not fail due to the idea–expression dichotomy or merger doctrine, as copyrighting a *musical composition* comprised of a single note would. Section 114(b) of the Copyright Act prohibits enforcement of copyrights in sound recordings where the allegedly infringing recording is comprised of independently-generated sounds. This allows a second author to record the exact same notes on the exact same instrument but prohibits actual copying of the sound files of the first recording. Since the copyright for this sound recording only applies to the exact recording and not to future uses of the note or instrument, no necessary building blocks are taken out of the public domain.

C. DE MINIMIS ARGUMENTS

A de minimis analysis is frequently conducted in copyright infringement actions when examining both substantial similarity and fair use. In the context of examining substantial similarity, the use must be substantial enough to be recognizable to an ordinary observer using both a quantitative and qualitative analysis.²¹ First, I demonstrate that quantitative analysis is inappropriate in the case of provable copying in which the entire work is used. Next, I discuss that a qualitative analysis proves the “heart of the [work]” is used where an entire recording is incorporated

18. See 17 U.S.C. § 102(b) (“In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such a work.”). See generally NIMMER ON COPYRIGHT, *supra* note 5, § 2.03.

19. U.S. CONST. art. I, § 8, cl. 8.

20. *Kregos v. AP*, 937 F.2d 700, 705 (2d Cir. 1991).

21. *Harper & Row Publishers, Inc. v. Nation Enters.*, 471 U.S. 539 (1985).

into a new work. Use of samples generated by another are not de minimis.

1. A Quantitative Analysis Is Inappropriate

Rejecting copyright protection for sound recordings of samples because they are individual notes would focus the originality inquiry not on the creative expression of those making the recording but, rather, on the choice of subject matter. It would be absurd to deny copyright protection to an Andy Warhol painting because soup cans themselves are uncreative (and uncopyrightable) subject matter. Since I argue that the originality in creating a sound recording may be found in its rendition, timing, or the creation of the subject, *what* the subject is should have no effect on the analysis.

It would initially seem that any de minimis arguments could be circumvented by categorizing the sound recording as the entire sampler instrument rather than the individual samples that constitute it. Any argument regarding the independent copyrightability of the individual samples could be analogized to the pointillist movement in visual art. One could easily argue that an individual dot of color on a canvas should not be afforded copyright protection. However, finding that, because an individual dot is uncopyrightable, Georges Seurat's *A Sunday Afternoon on the Island of La Grande Jatte* is also uncopyrightable would be an absurd result. This is an imperfect analogy, as the distinction for Seurat is that the *creativity* lies in the selection and arrangement of dots into a park scene,²² whereas the selection and arrangement of samples on a controller is dictated by playability concerns, making it more akin to the alphabetical arrangement of names found uncopyrightable in *Feist*.²³ By contrast, in a legal sense, the creativity for a *sound recording* is in the choices surrounding the creation of the work.

However, viewing the copyrightable work as the sample library rather than the individual samples could avoid a quantitative argument by analogizing the individual samples to the individual tracks that comprise any sound recording. Since the industry standard is to record each instrument or voice as an individual track, one could view the individual recorded samples in the same light as any short passage in a recorded song. In this sense, all sound recordings are one breath away from being collective works, as they are comprised of many independent, shorter recordings. It is indisputable that once these tracks are combined, the result is a copyrightable sound recording. The same argument could be made for sample libraries.

The difference lies in the fact that, for sample libraries, the end user utilizes each individual sound clip on its own or in small combinations, whereas for a recorded song, the playback is usually commenced with all tracks together. However, there is nothing preventing a listener from selecting a portion of a recorded song to be played back based on a timestamp. In this sense, the only real distinction between a sample library and a recorded song is the playback software used, as a portion of a song could just as easily be clipped and inserted for playback in a sampler instrument. The

22. While "selection and arrangement" is typically used to describe compilations, in a literal sense, this is what a painting is.

23. *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 362 (1991).

fact that a sample library is designed to be played back in such a manner (whereas a song is not) speaks only to the selection and arrangement of the sounds, which would be relevant to an analysis as a compilation or collective work but is irrelevant to copyrightability as a sound recording.²⁴

2. No Trifling Matter

A *de minimis* inquiry can also be conducted based not on quantitative variables, but on whether, conceptually, this is a trifle with which the law should not concern itself.²⁵ This sort of “who cares?” inquiry focuses on the size and importance of the harms the law would theoretically be preventing. In this case, a strong argument could be made that, because of the extremely effective technological measures in place to prevent unlicensed use of sample libraries, particularly in Native Instruments’ popular digital instrument platform KONTAKT, there is no need to extend copyright law to deal with what could be viewed as breaches of contract.²⁶ This perspective is mistaken, as it misunderstands the prohibition in 17 U.S.C. § 1201(a) on circumventing a “technological measure that effectively controls access.”²⁷

Section 1201(a) creates an enforcement mechanism against those seeking to access protected works by means of hacking or similar circumvention of electronic protection measures. In construing the statutory language “effectively controls access,” courts have found that, while the protective measures must constitute a good faith effort to protect the work, requiring such measures to *actually* control access under all circumstances would render the law superfluous—an enforcement mechanism only available to the invincible serves no purpose.²⁸

To say that there is no need for copyright protection for tech-savvy copyright holders who are otherwise able to “effectively control access” to their works would be to read § 1201(a) contrary to its plain meaning. The statute encourages copyright holders to make reasonable attempts to prevent infringement by requiring the protection measures employed to be at least somewhat effective to be enforceable.

24. However, this analysis *is* relevant to the copyrightability of derivative works in the form of custom programming.

25. *de minimis non curat lex*, BLACK’S LAW DICTIONARY (11th ed. 2019) (“The law does not concern itself with trifles.”).

26. Native Instruments uses a license-controlling software, a password login system, and iLoks, which are USB drives encoded with that user’s account data. The iLok must be inserted in the computer on which the licensed sample libraries are running, the software and the individual libraries must be activated on that computer and registered to the same user as the inserted iLok, and all the data must match for the content to be useable. This is an extremely secure system that would likely not be worth attempting to circumvent.

27. 17 U.S.C. § 1201(a)(1)(A). Section 1201(a) was enacted by and is often referred to as the Digital Millennium Copyright Act (DMCA).

28. See, e.g., *MDY Indus. v. Blizzard Entm’t Inc.*, 629 F.3d 928, 954 n.17 (9th Cir. 2010), *opinion amended and superseded on denial of reh’g*, No. 09-15932, 2011 WL 538748 (9th Cir. Feb. 17, 2011); *RealNetworks, Inc. v. Streambox, Inc.*, No. 2:99CV02070, 2000 WL 127311, at *9 (W.D. Wash. Jan. 18, 2000).

Essentially, this prevents a copyright holder from using intentionally flimsy technological protections to actually *invite* infringements so that they can then sue for more than a license would have been worth.²⁹ Therefore, penalizing a copyright holder for having been *too* effective in self-help to qualify for protection pits different sections of the Copyright Act against one another. Since copyright holders need not meet an especially high bar in proving that they qualify for copyright *enforcement*, it would be contradictory to require would-be copyright holders to meet a high bar in proving themselves eligible for *registration*. Treating adherence to the Copyright Act as precluding protection would frustrate the purposes of the Act. Therefore, at the copyrightability stage, a *de minimis* argument based on the unlikelihood of potential harms due to strong self-protection is meritless.

II. THIN COPYRIGHT FOR CUSTOM PROGRAMMING: A *FEIST*-IAN BARGAIN

The “selection and arrangement” of samples in custom programming should be eligible for copyright protection as a compilation.³⁰ In *Feist*, the Supreme Court articulated the required elements for a work to receive copyright protection as a compilation: “(1) the collection and assembly of pre-existing material, facts, or data; (2) the selection, coordination, or arrangement of those materials; and (3) the creation, by virtue of the particular selection, coordination, or arrangement, of an ‘original’ work of authorship.”³¹

While *Feist* is frequently cited for the proposition that the “sweat of the brow” in making a product does not *by itself* warrant copyright protection, it also demonstrates how low the threshold for originality is: The decision emphasizes that a compilation can constitute an original work of authorship regardless of whether its underlying material would be copyrightable.³² *Feist* allows thin copyright protection for *original* selection and arrangement (with “original” defined as “independently created by the author” and “possess[ing] at least some minimal degree of creativity”).³³

The Court states that the second factor—the “selection, coordination, or arrangement” of materials—is the most important, explaining that “[t]he compilation

29. This is referred to as being a “copyright troll.” *McDermott v. Monday Monday, LLC*, No. 17CV9230 (DLC), 2018 WL 1033240, at *3 (S.D.N.Y. Feb. 22, 2018) (“In common parlance, copyright trolls are more focused on the business of litigation than on selling a product or service or licensing their copyrights to third parties to sell a product or service. A copyright troll plays a numbers game in which it targets hundreds or thousands of defendants seeking quick settlements priced just low enough that it is less expensive for the defendant to pay the troll rather than defend the claim.”) (quotations and citations omitted).

30. Custom programming could alternatively be viewed as a collective work. This argument is not developed in this Note for the sake of brevity.

31. *Feist Publ’ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 357 (1991).

32. *See id.* at 359–60.

33. *Id.* at 345.

author typically chooses which [material] to include, in what order to place [it], and how to arrange the collected [material] so that [it] may be used effectively. . . .”³⁴

Custom programming is just that: a compilation of carefully selected samples, placed in an order designed “so that [it] may be used effectively by” keyboard players.³⁵ However, as in *Feist*, the real question is not whether the selection and arrangement are effective, but whether they are at least minimally creative. Essentially, is arranging numerous disparate samples for ease of playability within the confines of a specific piece of music more creative than arranging the phonebook alphabetically by last name? Put another way, is the selection and arrangement of samples so dictated by functionality concerns (due to the medium and the piece of music for which it is programmed) that offering a copyright monopoly to the programmer would effectively prevent future keyboard players from playing these pieces without permission from the original programmer?³⁶ Since custom programming consists of both creative decisions and functionality concerns, it should be eligible for copyright protection.

A. THERE IS NO MERGER IN CUSTOM PROGRAMMING, ONLY QUESTIONS OF JOINT AUTHORSHIP

Custom programming is not barred from receiving copyright based on the merger doctrine, as the doctrine does not apply in instances with myriad choices. In copyright, the merger doctrine states that where options within a medium are so limited as to require any author working in that medium to make the same creative choices, the unprotectable idea is said to have “merged” with the expression thereof, rendering the resulting work uncopyrightable.³⁷ Essentially, if you had no choice, you made no choice, so the law will not protect the resulting creation.

Custom programming is more than placing preordained sounds onto predetermined keys. Creating custom programming requires turning general instructions (e.g., “everything on and above a certain note is a flute sound and everything beneath that note is a cello sound”) into specific selections of samples made from hundreds of options. To invoke the merger doctrine would be to view all samples as identical and to ignore the expressive quality of opinions. Musicians have preferences for specific instruments just as listeners have preferred singers. No one would argue that Luciano Pavarotti and Whitney Houston were not both great singers, but most people prefer one over the other due to individual musical tastes. Similarly, the choice of an acoustic guitar sample for a given piece of music will not only be dictated by whether the piece requires a classical nylon string guitar or a folk steel string. Within those broad categories, the programmer must make creative

34. *Id.* at 348.

35. *Id.*

36. This would be in addition to receiving permission from the copyright holder for the musical composition and from the copyright holder for the sound recordings of the samples used, both of which are already required.

37. *See* N.Y. Mercantile Exch., Inc. v. Intercontinental Exchange, Inc., 497 F.3d 109 (2d Cir. 2007).

decisions, such as choosing between the brighter timbre of a Taylor 612 and the warmth of a Martin D-28. In this context, such creative decisions are legally relevant.

The choice of specific samples allows custom programming to pass the originality threshold, as such a choice depends on expressive opinions and professional judgment. Opinions and professional judgment are sufficiently creative to make otherwise uncopyrightable material eligible for copyright protection.³⁸ In *CCC Information Services v. Maclean Hunter Market Reports*, the Second Circuit found that the used car valuations in Maclean's *Red Book* were copyrightable because they were based on the editors' predictions and professional judgments rather than solely on objective facts.³⁹ The court reasoned that, while the factual building blocks from which the editors of the *Red Book* drew their conclusions were not themselves copyrightable, the conclusions were expressions of the opinions of the copyright holders rather than constituting pre-existing facts that the authors merely discovered.⁴⁰

Applied to custom programming, this reasoning demonstrates that the programmer's professional judgment about which specific samples to use is sufficient to pass the originality threshold. In certain situations, professional judgment may also determine the specific arrangement of samples as mapped onto keys. This would not apply in cases where no pitch adjustments are made, such as where a sample of a note pitched at A2 is programmed to trigger when the key corresponding to A2 is pressed. This would also not apply in far more complicated cases such as a harp glissando, if certain keys are pitch shifted to allow the player to use exclusively white keys to simulate how this would be achieved on an actual harp, as this is one of only a small handful of ways to achieve this effect using the current technology.⁴¹ However, in cases where there are multiple ways to achieve an effect, such as shifting sounds up or down by an octave so as to avoid the need for a patch change,⁴² this type of selection constitutes the application of professional judgment

38. *CCC Info. Servs., Inc. v. Maclean Hunter Mkt. Reps., Inc.*, 44 F.3d 61 (2d Cir. 1994).

39. *Id.*

40. *Id.*

41. A "glissando" is a rapid ascent or descent between two notes in which all notes in between are played. A harp glissando frequently serves as a musical cue when a character falls asleep or an afterlife motif is invoked. Since a harp has pedals that lengthen or shorten certain strings depending on what scale is being used, the player is able to set the pedals and simply glide their fingers across the strings quickly. On a piano it would be impossible to play all of these notes at that speed unless it were in the keys of C Major or A minor, which only use white keys, allowing for the player to quickly glide their hand over the white keys, requiring much less dexterity than playing a normal scale. Programming allows for pitch shifting of individual keys corresponding to specific samples, meaning that, for example, one can hit a B-natural on a keyboard and have it play as a B-flat if needed. While these are creative workarounds in the non-legal sense of the term, there are so few ways to achieve this type of effect that merger doctrine should apply.

42. "Patches" are individual arrangements of samples within larger units referred to as "sets." A song in a musical theater production will frequently have between five and thirty patches, which a player will move through linearly using a patch advance pedal. Since operating a patch advance pedal is not something most keyboard players are taught in piano lessons, eliminating the need for excessive patches is extremely helpful to the end users.

in selecting and arranging material to best fit the user's needs—the exact rationale for granting copyright protection to a compilation.

In some cases, an orchestrator, whose role is to develop the specific band or orchestra parts for a musical work and will typically work directly with the programmer to ensure their artistic vision is accomplished, may be extremely specific in the notes to the programmer regarding which sounds are to be implemented. Sometimes an orchestrator may even go so far as to select the exact samples by name.⁴³ Such predetermination of the sounds by an orchestrator or producer does not vitiate copyright protection: It merely signals co-authorship between orchestrator and programmer. Co-authorship is based on the authors' intent at the time of creation. Courts will look to three factual indicia in attempting to discern this intent: "how a collaborator regarded herself in relation to the work in terms of billing and credit, decisionmaking, and the right to enter into contracts."⁴⁴ As applied to the specific issue of custom programming, determining co-authorship requires a very difficult analysis—the collaborative nature of music and musical theater and the natural spillover of job responsibilities therein complicate the first and third factors. Nonetheless, because of collaborative decision-making and implied credit, orchestrators and programmers should generally be considered co-authors when the decisions regarding the selection of exact samples were at least in part made by the orchestrator.⁴⁵

Co-authorship through credit can be inferred from the fact that the position of an orchestrator, music supervisor, or record producer necessarily includes collaboration between that person and the programmer.⁴⁶ Such collaboration can take many forms, from direct collaboration to a more hands-off approach. However, even if a record producer or orchestrator takes a more hands-on approach, approving and assisting in the development of such sounds still falls within their job responsibilities. Since, by definition, someone with one of those titles outranks any independent programmer, it would be exceedingly unlikely for the orchestrator to *also* request credit as a programmer, for reasons unrelated to copyright law. Co-authorship intention can thereby be inferred through credit by virtue of position title even though no express provision is made.⁴⁷

43. For example, "KONTAKT Spotlight Collection: CUBA Melodic Ensemble" or "MainStage Factory Instruments Violin 1."

44. Thomson v. Larson, 147 F.3d 195, 201 (2d Cir. 1998) (citing Childress v. Taylor, 945 F.2d 500, 508–09 (2d Cir. 1991)).

45. An orchestrator may also be considered a co-author in situations in which the orchestrator contributed to the selection of internal settings for digital instruments in a specific way, such as by designing presets or requesting changes in specific parameters, rather than giving only general notes.

46. The term "orchestrator" will subsequently be used to include all three positions.

47. It is quite likely that current contracts lack express co-authorship provisions because the question of the copyrightability of custom digital instrument programming has not yet been raised. If courts determine that custom programming is a copyrightable work, future contracts will likely be drafted to include explicit co-authorship credit. However, the contracts are not generally drafted between orchestrator and programmer, but rather between orchestrator and production company and, separately, programmer and production company. Thus, since the two relevant parties do not currently have agreements among themselves, having a strong default rule under copyright law is preferable.

Because orchestrators have final authority over creative decisions made by programmers, orchestrators may rightfully be considered co-authors. Furthermore, decision-making power concerning the work should be the most important factor in this case—it is the only factor for which the answer is clear. Of course, simply approving everything created by a programmer should not be sufficient to warrant co-authorship status. However, in cases where specific sounds were selected by the orchestrator, a finding of co-authorship is supported by the orchestrator’s decision-making power.

The right to enter into contracts regarding the work, while a questionable factor to apply to these specific facts, nonetheless supports a finding of co-authorship through implied license.⁴⁸ An implied license will be found where a contractual relationship exists in which a license or grant is not directly contemplated, but the purpose of the contract would be frustrated in the absence of a license.⁴⁹ For example, in *Effects Associates v. Cohen*, a filmmaker engaged a special effects company (via oral contract) to provide footage for his film. When the filmmaker was dissatisfied with the footage provided for the film’s climax, he refused to pay the full amount agreed upon. The effects company sued him for copyright infringement for having subsequently released the film. Because this footage would have been useless to the filmmaker without a license to use it in his film, the Ninth Circuit found an implied license.⁵⁰

In any case where someone would wish to license this type of custom programming, a license from the orchestrator is already necessary in order to perform the underlying orchestration publicly. After all, the intended use for the programming is to *facilitate* the public performance of the orchestration. Therefore, it can be inferred that, by entering into a license with the orchestrator for performance rights for the orchestration, the end user has received an implied license to use the programming in public performance because of the orchestrator’s status as a co-author.⁵¹ Through such an implied license it could be found that orchestrators have

48. This factor is questionable because many Broadway contracts that are *not* governed by union collective bargaining agreements are not signed in a timely fashion. As of the writing of this article, keyboard programming and digital instrument design are not covered by AFM Local 802 or IATSE Local 1 contracts. Because these are outliers in that they are individually negotiated vendor contracts, it is not uncommon for a programmer to begin work on a Broadway or off-Broadway production well before their contract has been signed. Therefore, placing a great deal of importance on contracts as indicia of the state of mind of the parties would lead to inaccurate findings of fact.

49. *Effects Assocs., Inc. v. Cohen*, 908 F.2d 555 (9th Cir. 1990).

50. *Id.* at 559.

51. Practically speaking, this problem is also solved by the fact that a co-author can unilaterally grant a non-exclusive license. *Davis v. Blige*, 505 F.3d 90 (2d Cir. 2007). This means that, in cases of co-authorship, the user need only obtain a license from one co-author for any copyrighted work. This example assumes that there are two copyrighted works at issue: the orchestration and the programming. Because a co-author can unilaterally grant a non-exclusive license, obtaining such a license from the programmer for use of the programming and from the orchestrator for use of the orchestration is sufficient, and the user would not need to approach the orchestrator about the programming *even if* the orchestrator were a co-author of that programming. Ironically, while this is a more salient legal point, since this only applies if co-authorship is found, the implied license argument is nonetheless necessary to establish co-authorship as a possibility to preempt any merger arguments on behalf of a programmer working with an

the ability to engage in contracts regarding the work—in this case, the programming—through their ability to *deny* a license for use of the orchestration.

This argument should not be misconstrued to state that all custom programming is a work of co-authorship or that all orchestrators play a large role in the specifics of the selection and arrangement of samples. However, the framework of co-authorship makes more sense than imposition of the merger doctrine (essentially, a merger argument would state that the programmer's hands were tied regarding the selection of samples, implying that *no one* made such a creative selection, rendering such work potentially uncopyrightable for lack of originality). Rather, in such circumstances, creative expression was still created, albeit earlier in the process by a different author. Co-authorship status in such circumstances better comports to general copyright principles than does denial of protection.⁵²

III. IS CUSTOM PROGRAMMING OR THE USE OF SAMPLES IN RECORDINGS AN INFRINGING USE?

Having established that samples or sample libraries should receive copyright protection, it is necessary to make two determinations to establish whether custom programming that includes such sample libraries constitutes infringement. First, does the use in later recordings of samples that were created without the context of a musical composition infringe the sample library copyright holder's right to make

orchestrator who has severely restricted the programmer's available choices. In short, finding there to be an implied license for using programming commissioned by an orchestrator to perform the orchestration helps keep the works distinct without encouraging courts to view the orchestrator as having commissioned a work for which there are extremely limited creative choices, which would lead to a potential merger issue that could render the programming uncopyrightable. Instead, this casts the relationship between orchestrator and programmer as collaborative, with the programmer as a co-author in selecting such choices.

52. Co-authorship requires contemporaneous intent. However, such intent will likely be found in cases such as the original Broadway run of a musical. In almost all of these cases, the orchestrator and the programmer are both hired contemporaneously, but due to the nature of the process, the programmer cannot begin work until the orchestrator has finished at least a first draft of the orchestration for any given piece of music. The process can still be considered contemporaneous even in the back-and-forth manner it requires—it is analogous to the process of a composer and lyricist exchanging drafts. Furthermore, as revisions to the score and orchestration are made, the required changes are contemporaneously made in the programming. The contemporaneity requirement, however, suggest that any *subsequently created* custom programming would not qualify for copyright protection (even if done with the orchestrator's blessing or assistance). Practically speaking, this may be a fair compromise, as the main market will be regional theaters seeking to rent the original Broadway programming, *or* programming for reduced orchestrations that would involve contemporaneous work with the orchestrator. While this may foreclose copyright *protection* for any others creating work in which the selection of the exact samples was made primarily by the orchestrator, it also does not necessarily mean that all instances of such use would constitute *infringement*. This result therefore does not have the potential anticompetitive effect of preventing anyone from competing with the original programmer on price terms, as they can still independently generate custom programming provided they have permission from the composition and orchestration copyright holders, they just would not be able to use *copyright law* to prevent copying of their resultant works.

copies⁵³ or create derivative works?⁵⁴ Second, does the creation of custom programming for commercial gain infringe on the sample library copyright holder's exclusive right to create derivative works? Both questions require a two-part analysis, determining first whether the works would likely be judged "substantially similar,"⁵⁵ and, if so, considering whether the doctrine of fair use applies.⁵⁶ Because future recordings are unlikely to be adjudged substantially similar and custom programming is likely to be deemed fair use, custom programming or the use of samples in recordings is unlikely to result in liability for infringement.

A. SUBSTANTIAL SIMILARITY

1. The Use of Samples in Future Recordings Could Be De Minimis

In determining if actionable copying has occurred, the use of samples in subsequent recordings could be found to be a de minimis use when conducting a substantial similarity analysis due to the amount taken or its prominence in the allegedly infringing use. In the copyright context, "de minimis" can either mean "a technical violation of a right so trivial that the law will not impose legal consequences"⁵⁷ or "that copying has occurred to such a trivial extent as to fall below the quantitative threshold of substantial similarity, which is always a required element of actionable copying."⁵⁸ This analysis focuses on the second meaning of de minimis: whether or not the allegedly infringing work "fall[s] below the quantitative threshold of substantial similarity" to the copyrighted work, due to "the amount of the copyrighted work that was copied."⁵⁹ Since, "in cases involving visual works . . . the observability of the copied work . . . in the allegedly infringing work"

53. Since any copies created through this use would necessarily be done in the creation of derivative works, the creation of copies, while technically a separate violation, will not be analyzed separately.

54. Sound recording copyright holders do not receive exclusive rights for public performance, except for performances via digital transmissions. While analyzing whether initiating playback of a digital file using a digital instrument constitutes a digital *transmission* is an interesting mental exercise, since this provision was meant to cover internet transmission with the default rule remaining that sound recordings do not get exclusive public performance rights, this Note assumes such playback does not constitute a qualifying performance and therefore no public performance rights are implicated.

55. Actual copying is assumed due to the technologies involved, so no analysis will be conducted regarding access or probative similarity.

56. Fair use is a four-part balancing test, with no factor having controlling weight. The four fair use factors are: "(1) the purpose and character of the use, including whether such use is of a commercial nature or is for nonprofit educational purposes; (2) the nature of the copyrighted work; (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and (4) the effect of the use upon the potential market for or value of the copyrighted work." *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 577 (1994).

57. The first of these interpretations, while more relevant than is typical in a case of first impression such as this, would be the product of judicial discretion due to a lack of precedent, and thus will be disregarded.

58. *Ringgold v. Black Entm't Television, Inc.*, 126 F.3d 70, 74–75 (2d Cir. 1997).

59. *Id.*

is taken into consideration,⁶⁰ a similar analysis could be conducted of how “featured” any given sound is.⁶¹

Observability is determined by “the length of time the copyrighted work appears in the allegedly infringing work” and its prominence in that work.⁶² In the case of visual works, this is determined “by the length of time the copyrighted work appears in the allegedly infringing work, and its prominence in that work as revealed by the lighting and positioning of the copyrighted work.”⁶³ In the context of samples, the determinative questions are therefore: (1) how much of the work was taken; and (2) how prominent the samples are in the resulting recording. A reasonable analog for sound recordings would be the duration for which specific samples are used in the alleged infringing work, judging their prominence in the work based on how much they are featured in the mix in terms of volume and placement, and whether the samples serve a melodic or accompaniment function. As this will always be a highly fact-dependent inquiry, beneath is a framework for analyzing such fact patterns.

a. Circuit Split on Sampling: Bridgeport Music and VMG Salsoul

Two cases are illustrative of the challenges courts face in dealing with the use of individual samples. The Sixth Circuit’s 2005 decision in *Bridgeport Music v. Dimension Films* held that any sampling—i.e., any actual copying of the fixed sounds of a copyrighted recording—was presumptively infringement of the sound recording, regardless of the amount copied.⁶⁴ The Ninth Circuit explicitly rejected this doctrine in *VMG Salsoul v. Ciccone*, citing congressional intent to preserve a de minimis exception even in the case of sound recordings.⁶⁵ Both cases provide useful insight, but only *Bridgeport* proves applicable, as *VMG Salsoul* is grounded in an erroneous assumption that all actionable sound recording copyright claims involve underlying compositions.⁶⁶

i. Bridgeport Music, Inc. v. Dimension Films

Bridgeport Music establishes that “[t]he analysis that is appropriate for determining infringement of a musical composition copyright, is not the analysis that is to be applied to determine infringement of a sound recording.”⁶⁷ As explained by

60. *Id.*

61. This approach has also been taken in the case of video games featuring celebrity likenesses adorned with copyrightable tattoos. The court found that the tattoos were such a minimal part of the gaming experience as to qualify as de minimis use. *Solid Oak Sketches, LLC v. 2K Games, Inc.*, 449 F. Supp. 3d 333, 345 (S.D.N.Y. 2020). Applied to sound recordings, this analysis is equally relevant in determining if an ordinary observer would find the works substantially similar, as the more a sound is in the foreground, the more likely an ordinary observer would be to notice the similarity.

62. *Id.* at 344.

63. *Sandoval v. New Line Cinema Corp.*, 147 F.3d 215, 217 (2d Cir. 1998).

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

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

66. *See Part I.A, supra.*

67. *Bridgeport Music*, 410 F.3d at 798.

the court, “[f]or the sound recording copyright holder, it is not the ‘song’ but the sounds that are fixed in the medium of his choice. When those sounds are sampled they are taken directly from that fixed medium. It is a physical taking rather than an intellectual one.”⁶⁸ Essentially, the act of creating a sound recording is intellectual labor resulting in an original work of authorship, but because the tangible medium of expression itself is the subject of copyright protection, actual copying can be judged in more concrete terms.

The court in *Bridgeport* takes the view that because the actual copying of recorded sounds can be judged in concrete terms, a traditional substantial similarity test is redundant. If all fixed sounds are copyrightable as recordings, there is no need to use a substantial similarity inquiry to filter out uncopyrightable expression.⁶⁹ If it can be proven that the recorded sounds are identical sound files, similarity is, by definition, established. Since *Bridgeport* does not prohibit a fair use defense, a de minimis-style analysis can be performed as part of the third fair use factor. This doctrine creates a rebuttable presumption of infringement. By placing the quantitative and qualitative analysis of use of the appropriated work at the end, it properly relegates such analysis to being one of four fair use factors rather than a potential “off switch” *before* consideration of fair use. While this seems to fly in the face of the fact that fair use is not substantively an affirmative defense because of its statutory codification, it does comport with the fact that fair use is treated as an affirmative defense in a procedural sense.⁷⁰ Analyzing the amount taken at the fair use stage is simply allowing a fair use analysis to take place despite the establishment of copying, rather than an inappropriate reordering of analytical stages.

ii. VMG Salsoul v. Ciccone

The Ninth Circuit takes the contrasting approach that, if a sound recording uses a sample of a single note taken from a sound recording of another musical composition, the use is de minimis.⁷¹ In *VMG Salsoul v. Ciccone*, Madonna’s song “Vogue” sampled a single horn hit taken from a pre-existing recording of “Ooh, I Love It (Love Break)” by Salsoul Orchestra. As a matter of first impression, the Ninth Circuit held that the de minimis exception applies equally in sound recording copyright cases as in any other copyright suit—a direct repudiation of *Bridgeport*.⁷² In its discussion, the court cited to the House Report explaining the enactment of § 114(b),⁷³ which states that “infringement takes place whenever *all* or any

68. *Id.* at 802.

69. For example, facts, ideas, and public domain expression.

70. *Lenz v. Universal Music Corp.*, 815 F.3d 1145, 1153 (9th Cir. 2016).

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

72. *Id.*

73. 17 U.S.C. § 114(b) limits the exclusive right of a sound recording copyright holder to the right to duplicate the sound recording through actual copying of the sounds fixed on the recording. Independent recreations do not infringe this right, even when the intention is to recreate the recording as closely as possible. This protects industries such as manufacturers of karaoke tracks from having to obtain permissions from the sound recording copyright holder in addition to the composition copyright holder.

substantial portion of the actual sounds that go to make up a copyrighted sound recording are reproduced in phonorecords. . . .”⁷⁴ Thus, the de minimis exception exists in the Ninth Circuit, but cannot be grounded in the House Report if applied to circumstances where the entire recording—in this case, an individual sample—is used.

The court also offered an economic and listener-based rationale that is more applicable to cases of individual samples. The “plaintiff’s legally protected interest [is] the potential financial return from his compositions which derive from the lay public’s approbation of his effort. . . .”⁷⁵ It follows that, “[i]f the public does not recognize the appropriation,” there is no infringement since “the copier has not benefitted from the original artist’s expressive content.”⁷⁶

This framework allows for reasoned economic analysis of the potential harms in the case of musical compositions, but it fails in cases involving sound recordings with no underlying musical composition. This economic rationale mistakes the market for samples as being the general public, as opposed to professional musicians and producers. In fact, the very House Report and subsection of the Copyright Act on which the Ninth Circuit relied is an explicit acknowledgement that sound recordings and musical compositions must be treated differently under the law due to their differing economic models. Furthermore, this framework inappropriately conflates a de minimis analysis, an ordinary observer test for substantial similarity, and the fourth fair use factor of market harm. Just as it is “error to resolve the fair use claim without first determining whether the alleged infringement was de minimis”⁷⁷ it is likewise inappropriate to apply the fourth fair use factor at an earlier stage to determine whether infringement has occurred.

2. Ordinary Observer Test

Assuming *arguendo* that the use of a sample is neither a de minimis use nor presumptively considered infringement and fast-tracked under *Bridgeport*, the works must be judged for substantial similarity under an ordinary observer test. With minor variations across circuits,⁷⁸ the test is whether an “ordinary observer, unless he set out to detect the disparities, would be disposed to overlook them, and regard [the] aesthetic appeal as the same.”⁷⁹ While this quote makes no mention of an intended audience, it is necessary to establish such audience to determine the aesthetic appeal.

74. *VMG Salsoul*, 824 F.3d at 883 (quoting H.R. REP. NO. 94-1476, at 106 (1976)).

75. *Id.* at 881 (quoting *Sid & Marty Krofft Television Prods., Inc. v. McDonald’s Corp.*, 562 F.2d 1157, 1165 (9th Cir. 1977)).

76. *Id.*

77. *Sandoval v. New Line Cinema Corp.*, 147 F.3d 215, 217 (2d Cir. 1998).

78. *Cf. Lyons P’ship, L.P. v. Morris Costumes, Inc.*, 243 F.3d 789, 801 (4th Cir. 2001) (specialized target audience requires viewing aesthetic appeal through the lens of the specific consumer); *Dawson v. Hinshaw Music Inc.*, 905 F.2d 731 (4th Cir. 1990) (analogizing the substantial similarity inquiry to the market harm factor of a fair use analysis).

79. *Peter F. Gaito Architecture, LLC v. Simone Dev. Corp.*, 602 F.3d 57, 66 (2d Cir. 2010) (quoting *Hamil Am. Inc. v. GFI*, 193 F.3d 92, 100 (2d Cir. 1999)).

Some circuits address the inherent problem of differing audiences by specifying that “when it is clear that the work is intended for a more particular audience, the court’s inquiry must be focused upon the perspectives of the persons who comprise that group. . . .”⁸⁰ In the case of a sound recording incorporating individual samples, the question is whether the ordinary observer is consumers of the resultant recording, who are likely unaware of the existence or operation of individual samples or sample libraries, or consumers of sample libraries. If courts define an ordinary observer as consumers of sound recordings writ large, this definition would be fatal to any such suits brought based on infringing uses of sample libraries.

In *Dawson v. Hinshaw*, the Fourth Circuit addressed the issue of when a highly technical inquiry—as opposed to a lay observer test—was appropriate. In considering the audience for arrangements of spiritual hymns, the court explained that, “[w]hen conducting the second prong of the substantial similarity inquiry, a district court must consider the nature of the intended audience of the *plaintiff’s* work.”⁸¹ Aware of the potential risk that this decision could change the “ordinary observer” test into an “intended market” test, the court articulated that its reasoning was motivated by the “theoretical propriety of looking to the effect of the defendant’s work on the plaintiff’s market and the practical evil of having an unaided uninformed finder of fact deciding the crucial issue in a case.”⁸² The court observed that the relevance of specialized expertise was in the potential market harm factor, as “[i]t is quite possible that spiritual arrangements are purchased primarily by choral directors who possess specialized expertise relevant to their selection of one arrangement instead of another.”⁸³

The takeaways from *Dawson* are twofold. First, the relevant consuming public for samples and sample libraries consists of those who would be creating any derivative recordings. Second, the creation of a recording where sampler instruments are used to perform a musical composition does not harm the market for sales of sample libraries. Those copyright holders will continue to receive their market reward from musicians wanting to use these sounds to create recordings to be distributed to a public predominantly unaware of the existence of these specific underlying sounds. Unlike cases in which a market already exists for the licensing of a work,⁸⁴ no such argument could be made regarding a pre-existing market for licensing these sounds for the creation of derivative works. Literal copying and

80. *Lyons*, 243 F.3d at 801.

81. *Dawson*, 905 F.2d at 736 (emphasis added).

82. *Id.* at 737.

83. *Id.*

84. *TCA Television Corp. v. McCollum*, 839 F.3d 168, 186 (2d Cir. 2016) (“[A] court properly considers the challenged use’s ‘impact on potential licensing revenues for traditional, reasonable, or likely to be developed markets.’”) (quoting *Am. Geophysical Union v. Texaco Inc.*, 60 F.3d 913, 930 (2d Cir. 1994)). In *McCollum*, the successors in interest to the comedy duo Abbot and Costello brought suit against the producer of the play *Hand to God*, in which a character performed Abbot and Costello’s famous *Who’s on First?* sketch with a puppet. Taking the plaintiff’s assertion that they had engaged in prior licensing arrangements as true, the court considered this factor when analyzing potential harm to that licensing market.

distribution of samples to other musicians would still be a violation, as sales to this group of consumers are a sample company's *raison d'être*, but the use of samples to create recordings of musical compositions can only drive sales for the company.⁸⁵

B. FAIR USE

As discussed in Section A, it is extremely likely that the use of individual samples or sample libraries in a sound recording will be judged not to be infringing, with the use being found to be de minimis either because the “ordinary observer” considered is a general lay observer lacking the specialized knowledge to find substantial similarity, or because the relevant consumer is not harmed.

Custom programming presents a more difficult de minimis inquiry, and the market harm focuses on consumers with the same level of technical expertise for both the initial and derivative works. Consequently, were litigation to arise in the area of custom programming, it is likely that courts would turn to the four fair use factors to resolve such cases. After analyzing (1) the nature and purpose of the new work, (2) the nature of the allegedly infringed work, (3) the amount and substantiality of the portion copied, and (4) market harm for the allegedly infringed work, courts will find custom programming to qualify as fair use.

1. The Nature and Purpose of the New Work Favor a Finding of Fair Use

The first factor in a fair use inquiry is how the plaintiff's work is used in the allegedly infringing work. This factor has recently become the most important factor to many courts, and, at least since *Campbell*, has been interpreted essentially as a test of transformative use.⁸⁶ In the case of a sound recording of a musical composition in which a sampler instrument was used, the inquiry is straightforward. The sample itself is a single note, devoid of context. Any subsequent use, therefore, is merely as a building block to create a recording of a musical composition with appeal to an entirely different base of customers. Such appeal comes not from the sound of the single note, but from the appeal of the whole work. Even if some appeal *is* derived from the quality of the sounds employed, it is not itself so important as to “make the

85. This analysis is more appropriately conducted in analyzing the fourth fair use factor, but is necessary in following the court's reasoning in *Dawson*—determining the appropriate observer is necessarily economic. This differs from *VMG Salsoul* in that by focusing on who the intended audience is, the focus remains on the *work*, whereas *VMG Salsoul* is concerned with the *transaction*. While both roads lead to Rome, the logic behind *Dawson* is more convincing as it does not skip or conflate steps.

86. See *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569 (1994); *Google LLC v. Oracle Am., Inc.*, 141 S. Ct. 1183 (2021); *Cariou v. Prince*, 784 F. Supp. 2d 337 (S.D.N.Y. 2011), *judgment rev'd in part, vacated in part*, 714 F.3d 694 (2d Cir. 2013); *TCA Television Corp. v. McCollum*, 839 F.3d 168 (2d Cir. 2016).

book worth reading.”⁸⁷ Sound recordings of musical compositions are clearly transformative uses of the recordings’ individual constituent samples.⁸⁸

Custom programming is also transformative (but a much closer call). Since custom programming must be viewed as a compilation, only the selection and arrangement of samples is protectable.⁸⁹ If found copyrightable, this architecture—where the protectable elements of the programming are at a higher level in the system than the protectable elements of the samples—does not automatically immunize the programmer from liability for infringement for incorporating the samples.⁹⁰ Instead, this determination requires analysis of the differences between the selection and arrangement of the sampler instruments as delivered by the creator of the samples and sample libraries, and the selection and arrangement created by the custom programmer.

A sampler instrument will usually be delivered with the samples assigned to the keys corresponding to the pitch at which they sound. If an instrument was not recorded on every playable pitch, the samples that have been recorded will be copied and digitally pitch shifted to cover the missing notes. In instances such as unpitched percussion samples, the samples are arranged in whatever manner the creator of that sampler instrument deems appropriate. In almost all cases, at the time of sale, the various sampler instruments contained in a sample library are arranged as discrete instruments.

Custom programming takes multiple sampler instruments and uses them in combinations appropriate for the piece of music for which the programming is created. These combinations are then placed into a sequence—usually linear—that allows the player to access the programmer’s selected samples in various combinations curated to the needs of each piece of music. In many cases this will mean a sequence of more than one hundred patches, most containing samples from several sampler instruments.

While the *concept* of mapping sound recordings onto corresponding notes on a keyboard is the same in both cases, the *result* is different. Custom programming combines multiple sound sources into a sequence of instruments designed to facilitate performance of a given musical composition, whereas the initial creation of sampler instruments maps sound recordings onto keys in order to produce a convincing recreation of a given instrument.⁹¹ If examined at the sample level,

87. *Salinger v. Random House, Inc.*, 811 F.2d 90, 98–99 (2d Cir. 1987), *opinion supplemented on denial of reh’g*, 818 F.2d 252 (2d Cir. 1987).

88. It is worth noting that the types of instruments that are used in pop music as “ear candy”—sounds that grab the ear primarily due to their tone rather than the underlying compositional content—are more likely to be created by other tone generators such as soft-synths than by sampler instruments.

89. See Part II.A, *supra*.

90. *Cooley v. Penguin Grp. (USA) Inc.*, 31 F. Supp. 3d 599 (S.D.N.Y. 2014), as corrected (July 14, 2014) (photographer’s unlicensed distribution of photographs of a copyrighted sculpture found to be infringement of the copyright in the sculpture).

91. Obviously, there are exceptions to this. Some sampler instruments only have a single pitch that is mapped to multiple keys. Unpitched percussion libraries intended for playback using a keyboard instrument are typically mapped either esoterically or based on functional considerations such as which

placing the individual sound recording into a larger, tailored work could be seen as transformative, as the sampler instrument from which the sound was taken would not have been a suitable substitute for the patch in which it is used. If viewed at the sampler instrument level, the instrument is, in many cases, broken up into component parts, to be reassembled as a sort of “one man band” rather than a recreation of a pre-existing instrument, thereby serving a different function. If viewed at the level of the sample library, custom programming is an entirely different form of arrangement than contemplated by the creator of the library, and such use is arguably the purpose for which the library was designed.⁹² However this use is viewed, the samples are used as mere building blocks to create a product for which the original was not a substitute. Even if only by a small margin, a court would likely find custom programming to be transformative.

2. The Nature of the Copyrighted Work Favors a Finding of Fair Use

The second factor, the nature of the copyrighted work, strongly favors a finding of fair use for both custom programming and the use of sampler instruments in sound recordings. While the original programming and recordings are commercial uses—a finding that usually favors the plaintiff—the fact that sampler instruments are designed to be used by musicians suggests that creators of samples have contemplated and tacitly encouraged the creation of derivative works based on their recordings. It would be inequitable to create a work marketed to be used for a particular purpose only to engage in “gotcha” litigation against one’s customers. The analysis is the same for derivative sound recordings and custom programming. This factor weighs heavily for potential defendants.

3. The Amount and Substantiality of the Work Taken Favors a Finding of Fair Use

Because the works can be seen as transformative, the third factor, the amount and substantiality of the original work taken, counterintuitively works in favor of defendants. While “[n]o plagiarist can excuse the wrong by showing how much of his work he did not pirate,”⁹³ there is ample precedent supporting a finding of fair use when the amount taken was necessary to accomplish the second work’s transformative purpose.⁹⁴

sounds are most frequently used. It is also conceivable that a sampler instrument would be created with a specific composition in mind, such as a recreation of a famous synthesizer sound from a Beatles or Genesis recording.

92. The arrangement of different samples in a patch can be thought of as “horizontal,” as sounds from many different sampler instruments are simultaneously accessible on different keys on the keyboard. In contrast, sample libraries, as sold, can be thought of as “vertical,” since they usually involve navigating something akin to a drop-down menu to select which instrument to use at a given time.

93. *Sheldon v. Metro-Goldwyn Pictures Corp.*, 81 F.2d 49, 56 (2d Cir. 1936).

94. *See, e.g., Authors Guild, Inc. v. HathiTrust*, 755 F.3d 87 (2d Cir. 2014) (fair use not precluded due to amount copied where over ten million books were copied in their entirety for the transformative

Having established that the use is transformative, the inquiry becomes whether the amount taken *exceeds* what is necessary to accomplish this specific purpose. In *Warner Bros. v. RDR Books*, the S.D.N.Y. found that while use of J.K. Rowling's copyrighted material in *The Harry Potter Lexicon* was transformative (as it was a reference book *about* Harry Potter rather than an unauthorized sequel), the *Lexicon*'s transformative nature did not require the author of the derivative work to use as much material from the original as he actually did.⁹⁵

In the cases of custom programming and derivative sound recordings, the amount taken will necessarily be only as much as is needed. Only the notes necessary to play the piece of music will be used in derivative sound recordings. Since custom programming's added value is the *combination* of various sounds, some samples are necessarily removed to make space for others. Since the precise sounds selected and the layout thereof are partially dictated by the musical piece sought to be played, a finding of excessive taking is unlikely.⁹⁶

4. Economic Impact Favors a Finding of Fair Use

The fourth fair use factor, the economic impact on the copyright holder, favors programmers and creators of derivative recordings.⁹⁷ The three categories of works discussed in this Note—(1) samples, sample libraries, and sampler instruments; (2) sound recordings made utilizing samples; and (3) custom programming using samples—each serve different markets. Category (1) derives its sales from the

use of creating works accessible to library patrons with disabilities); *A.V. ex rel. Vanderhye v. iParadigms, LLC*, 562 F.3d 630 (4th Cir. 2009) (finding fair use where entire essays were uploaded to a service that maintained copies solely for the purpose of detecting future infringement); *Fox News Network, LLC v. TVEyes, Inc.*, 43 F. Supp. 3d 379 (S.D.N.Y. 2014) (fair use not precluded due to substantiality of copying when transformative use was found).

95. *Warner Bros. Entm't Inc. v. RDR Books*, 575 F. Supp. 2d 513 (S.D.N.Y. 2008).

96. It is not a legal impossibility that excessive copying be found where a programmer knowingly includes samples that are not called for by the music. However, this use seems de minimis in the conceptual (rather than quantitative) sense: It is difficult to picture what harm is created to a manufacturer of samples whose C-sharp was included in programming where a C-natural would have sufficed.

97. Under *Sony*, this was unofficially the most important factor. *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 450–51 (1984) (“Congress has also directed us to consider the effect of the use upon the potential market for or value of the copyrighted work. The purpose of copyright is to create incentives for creative effort. Even copying for noncommercial purposes may impair the copyright holder’s ability to obtain the rewards that Congress intended him to have. But a use that has no demonstrable effect upon the potential market for, or the value of, the copyrighted work need not be prohibited in order to protect the author’s incentive to create. The prohibition of such noncommercial uses would merely inhibit access to ideas without any countervailing benefit.”) (quotations and citations omitted). This has changed since *Campbell*, with the emphasis now placed on the transformative nature of the work. *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 579 (1994) (“[T]he goal of copyright, to promote science and the arts, is generally furthered by the creation of transformative works. Such works thus lie at the heart of the fair use doctrine’s guarantee of breathing space within the confines of copyright, and the more transformative the new work, the less will be the significance of other factors, like commercialism, that may weigh against a finding of fair use.”). A return to the *Sony*-era interpretation would simplify cases such as this in which the creative elements of the work are technical and therefore less apparent to the general public. We will likely see such cases more and more as technology advances.

creators of categories (2) and (3). Therefore, works from categories (2) and (3) cannot be considered substitute goods for category (1) and do not deprive them of direct sales. Since there is no current or potential market for the licensing of samples for use in derivative works,⁹⁸ there would also be no observable negative impact under a secondary market analysis.⁹⁹ This factor favors a finding of fair use.

IV. CONCLUSION

Individual samples and custom programming should both be found copyrightable. Individual samples can be found original on the same basis as photographs, and the selection and arrangement in custom programming are sufficient to allow protection as a compilation. However, the resulting copyright protection is thin, as the most common uses of samples—custom programming and the creation of sound recordings using sampler instruments—would not constitute infringement.

Still, this conclusion does not make copyright protection unnecessary. Creators of samples could bring infringement actions against competitors who copy and repackage samples, as well as against end users engaged in file sharing of samples. Since demonstrating willfulness in cases of sound recording copying is more straightforward than with most subject matter,¹⁰⁰ statutory damages and attorneys' fees may prove a strong deterrent against such misappropriations. For custom programming, any creative selection of specific samples or innovative workarounds not barred by the merger doctrine would be protectable against other programmers. Given that trade secret law will not protect keyboard programming from misappropriation because the end user sees everything that could be claimed

98. TCA Television Corp. v. McCollum, 839 F.3d 168, 186 (2d Cir. 2016).

99. This conclusion carries with it the paradox that perhaps there is no market harm and no licensing market *because* musicians collectively assumed this would be fair use and therefore did not seek licenses, the inverse being that by *not* finding this to be fair use a court could just as easily *create* a licensing market to which it could point ex post as evidence that there *would have been* market harm if it had permitted such activity to continue without a license. This is not a perfect factor. Courts have wrestled with this “vice of circularity,” stating:

[s]ince the issue is whether the copying should be compensable, the failure to receive licensing revenue cannot be determinative in the plaintiff's favor. We have endeavored to avoid the vice of circularity by considering only traditional, reasonable, or likely to be developed markets when considering a challenged use upon a potential market.

Ringgold v. Black Entm't Television, Inc., 126 F.3d 70, 81 (2d Cir. 1997) (internal quotations and citations omitted). Theoretical gymnastics aside, requiring a license would be akin to requiring every musician to pay a licensing fee to instrument manufacturers for using their instruments on recordings—an absurd result.

100. Bridgeport Music, Inc. v. Dimension Films, 410 F.3d 792, 801 (6th Cir. 2005) (“[S]ampling is never accidental. It is not like the case of a composer who has a melody in his head, perhaps not even realizing that the reason he hears this melody is that it is the work of another which he had heard before. When you sample a sound recording you know you are taking another's work product.”).

secret,¹⁰¹ or against reverse-engineering for its less visible components,¹⁰² copyright law offers the best option for preventing unauthorized copying and distribution of programming offered on a rental basis. This proposal would protect a niche industry with a limited customer base in which even small-scale infringement would constitute a large market harm.

101. *Learning Curve Toys, Inc. v. PlayWood Toys, Inc.*, 342 F.3d 714, 726 (7th Cir. 2003) (holding that plaintiffs must take reasonable measures to maintain secrecy of trade secret in order to receive protection).

102. *Buffets, Inc. v. Klinke*, 73 F.3d 965, 968 (9th Cir. 1996) (finding supposed trade secrets unprotectable where they are obvious or easily reverse-engineered).