Determining the Composition

Joe Bennett and Sean M. O'Connor

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Abstract and Keywords

The nature of music composition has changed dramatically in the digital era. While some composers may still be writing musical notes onto a stave, in the traditional image of a classical composer, most pop songwriters are now producers of digital artifacts, in which production techniques are compositional gestures. Creating music directly as an audio object is not easily compatible with a copyright system that still distinguishes a musical work from a sound recording. This chapter explores the implications of this disconnect between law and composition practice to argue that the scope of copyright's "musical works" should encompass a holistic approach to today's beats-based digital music production, while treating artificially isolated elements (such as melodic fragments) as *de minimis* for the purposes of infringement litigation.

Keywords: songwriting, composition, musicology, copyright infringement litigation, music copyright, song analysis

1. Introduction

What is a song? How is it defined in terms of its creation and measurable, protectable attributes? This question is one that copyright law must strive to answer definitively, to compensate creators properly for their work, to incentivize artistic innovation in songwriting, and to avoid spurious copyright infringement lawsuits.

This chapter explores songwriters' self-reported creative behaviors to investigate what actually takes place as songs are written, or in more contemporary practitioner parlance, "made." As of the time of writing (2021), almost all commercial pop music is composed using a Digital Audio Workstation (DAW). In practice, this means that the songwriter, or usually a production team of two or more, creates the audio recording and the composition simultaneously, with creative processes and gestures that overlap in such a way as to make the two concepts indistinguishable from one another, and almost impossible to separate reliably in musical analysis or legal definition. This has arguably been true ever since the shift in the 1950s from sheet music to vinyl as the dominant consumer product in popular music. As songwriting/production team Leiber and Stoller famously said, "We

don't write songs, we write records."[1] And it is certainly true in today's musical environment, where songwriting teams may include adept sound designers and producers, and the song, as embodied in the audio recording, is compositionally and sonically far too sophisticated to be fully captured in sheet music.

The problem is that US copyright law still requires a distinction between "musical works" (MW) and "sound recordings" (SR). The former, also known as "musical compositions," are defined by the US Copyright Office as "original *works of authorship* consisting of music and any accompanying words."[2] Music, in turn, is defined as "a succession of pitches or rhythms, or both, usually in some definite pattern."[3] SRs are defined in the Copyright Act as "*works [of authorship]* that result from the fixation of a series of musical, spoken, or other sounds, but not including the sounds accompanying a motion picture or other audiovisual work, regardless of the nature of the material objects, such as disks, tapes, or other phonorecords, in which they are embodied."[4] So, MWs are legal rights or title to a succession of pitches or rhythms regardless of how they might be performed or embodied (e.g., notated in writing or otherwise). By contrast, where an SR is based on a particular MW, then the SR is the legal right or title to a particular performance (or performances) and all signal processing or recording techniques that fix it into a tangible medium. This implies that the process of creating a MW is somehow different from the process of creating an SR.

As just indicated, to say something is a MW or a SR is to invoke a legal construct—both are "works of authorship" that mean the terms signify copyright property title status relevant to something else (similar to how real property titles or deeds are not the land itself, but instead signify legal rights to the land). In the case of a MW, that other thing is the actual musical passage. Writing or notating it serves to fix it in a tangible medium, sufficient for the composer to then claim a separate legal title of MW as a copyrightable work related to the actual passage. In the case of a SR, the other thing is an audio recording.

Beginning in 1978, the Copyright Office expanded the means for registering and depositing a MW to include audio recordings. While this has been a major benefit to composers not fluent in written notation, it has created some confusion because, again, an audio recording is also the primary object of SR copyright title, status, and registration. Accordingly, the Copyright Act includes a defined term of "phonorecording" that signifies a physical or tangible object distinct from any legal right, status, or title, essentially what I have been referring to as an audio recording:

> "Phonorecords" are material objects in which sounds, other than those accompanying a motion picture or other audiovisual work, are fixed by any method now known or later developed, and from which the sounds can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device. The term "phonorecords" includes the material object in which the sounds are first fixed.[5]

Thus, when referring to the audio recording as a physical object (including as a digital audio file), we use the term “phonorecording.” MW and SR will refer only to the legal right or title under copyright law, both of which can be fixed or embodied in a phonorecording.

The main thesis explored in this chapter, then, is that the simultaneity of modern music creation makes the MW/SR distinction as undetectable to the creator today as it is experientially to the listener. In essence, composers, performers, and producers are making *phonorecords,* not MWs or SRs. Because copyright law has not been amended to accommodate this reality, for the purposes of royalty distribution, or to enforce existing MW and SR rights, the music industry – and the copyright law that governs it – is forced to perpetuate this distinction artificially.

In music copyright infringement litigation, extracting the MW from a phonorecording requires methodological and semantic acrobatics on the part of musicologists and litigants that are increasingly unrecognizable to creators and consumers, particularly in commercial popular songwriting. Further, when a MW is registered with the Copyright Office by means of a phonorecording, then the actual content of the MW may be unclear: is it *only* pitches and rhythms as abstract creative objects which can be captured in music notation, or does it also include *anything* contained in a phonorecording that could be considered a compositional gesture—the idea that everything counts? [6]

The famous *Blurred Lines*[7] copyright infringement case[8] was preoccupied with the question of whether musical elements not contained in the original melody-line deposit copy of the sheet music could be considered to be protected by copyright. If the extrinsic test[9] takes into account production similarities in determining the composition, then the Thicke parties very clearly plagiarized *Got to Give It Up*;[10] if it analyzes only pitches and rhythms, then *Blurred Lines* is an original MW, because it does not copy melody, lyrics, or rhythms from the earlier work. The case was partly a battle over the what-is-a-song debate.

We shall argue, with the help of some of the world’s most successful songwriters, that contemporary commercial songwriting practice creates the song as a complete audio object, and that all aspects of the phonorecording can be considered compositional. This approach means that creating a modern musical work must include decisions of timbre, instrumentation, tempo, recording, and instrumental and vocal performance, and that these might enjoy the same compositional status that topline elements—melody and lyric—have attracted historically. Legal scholar Joseph Fishman makes many pertinent observations about the elements of music that are (or might be) protected in music copyright infringement cases.[11] Although we do not support his eventual conclusion that melody should be made the only protected element (on the grounds, as he argues, that it would “sacrifice an increment of scope for an increment of clarity”[12] and “lower the margin for error by keeping other variables out of the equation”[13]), Fishman’s discussion of the issue is unprecedentedly sophisticated, and sensitive to the many dilemmas inherent in the what-is-a-song debate:

> What should count as music infringement is up for grabs. There's lamentably little dialogue between legal scholars and musicologists, two groups that could offer each other helpful expertise on the topic. Many in the legal community continue to point to melody as music's primary element under copyright, sometimes with a polite but brief nod to rhythm and harmony. More abstract concepts like timbre are often excluded entirely.[14]

> A melodic emphasis in music copyright reflects European aesthetic norms that don't represent much of modern music making, especially within genres pioneered by black artists. Defining the musical work in terms of melody has discounted and discriminated against wide swaths of these artists' creativity.[15]

Cultural scholar Aram Sinnreich takes the long view of the development of musical creativity, contending that the "coevolution of musical culture, law, and technology over the arc of modern Western legal and cultural history [can be traced] from the Renaissance to the present day,"[16] through five interdependent elements: laws and regulations, market dynamics, codes and practices, music technologies, and concepts of authorship.

This chapter represents an earnest attempt to contribute to the dialog that Fishman suggests by addressing the last two of Sinnreich's elements: music technologies, and concepts of authorship. We contend that the case studies herein provide evidence that songwriting creativity has evolved through both technological advancements such as DAW usage and cultural ones such as the rise of hip-hop to become the world's favorite music.[17] Since the turn of the millennium, and arguably even since the 1960s, songwriters and artist-songwriters have been working increasingly with instrumentation, effects processing, and timbre directly as part of their creative process. As of the time of writing (late 2021), this has led to a demotion of melody and harmony in some styles of music, and a corresponding promotion for sound design and production. The fact that a contemporary pop song may consist entirely of a commonplace four-chord loop does not necessarily make it a less creative or sophisticated MW than, say, a harmonically rich jazz standard. Rather, sophistication and creativity are found elsewhere—in sound design, rap flow, sample selection, or synth patch programming. A two-bar chord loop is to 2020s pop what an eight-to-the-bar hi-hat is to 1970s rock, or what the timbre of a harpsichord is to a sixteenth-century fugue—they are just unchanging elements of the music, and unremarkable constraints within which remarkable creativity can thrive. British pop songwriter Jez Ashurst observes: "[as a songwriter] … you just accept your territory. The box is kind of a given really: it's what you do in the box that's exciting."[18]

2. The Case Studies

The rest of this chapter describes and analyzes the self-reported creative processes used by three different songwriting teams, with the aim of shining a light on the compositional gestures they make as a song evolves from first ideas to the final copyrighted work—as embodied, finally, in the phonorecording. The songs analyzed here share the following characteristics: (1) they are all commercially successful; (2) they were all fully or partially

composed in a DAW environment; and (3) they were all created in the twenty-five-year period between 1995 and 2020 (the approximate dates that hardware and software DAWs have been in common use by contemporary mainstream songwriters). We will see melody, rhythm, and lyrics being created, along with myriad other macro- and microproduction decisions, all of which serve the final goal of producing a phonorecording of suitable artistic quality intended to have emotional impact on the listener. The musical works in these case studies have all met the societal processing threshold embodied in Csikszentmihalyi's *Systems Model of Creativity*[19]—that is, they are all successful pop hits. We take the view, after Csikszentmihalyi and Boden,[20] that studies of creativity require the created object to be valued by the wider society in order for its study to contribute to the field of knowledge. Put another way: If an album drops in the forest and no one hears it, did it really exist? This approach, of focusing only on widely known works, is mirrored by more than a century of music copyright infringement lawsuits:[21] defendants in these cases are almost always commercially successful.

The source materials for the case studies are all audio interviews from the podcast *Song Exploder*:

> Song Exploder is a podcast where musicians take apart their songs, and piece by piece, tell the story of how they were made. Each episode is produced and edited by host and creator Hrishikesh Hirway in Los Angeles. Using the isolated, individual tracks from a recording, Hrishikesh asks artists to delve into the specific decisions that went into creating their work. Hrishikesh edits the interviews, removing his side of the conversation and condensing the story to be tightly focused on how the artists brought their songs to life. Guests include Fleetwood Mac, U2, Metallica, Solange, Lorde, Yo-Yo Ma, Carly Rae Jepsen, and more.[22]

We suggest that *Song Exploder* is a unique resource for understanding the songwriter's creative process and is ideal for the purposes of this chapter. Its subjects are all contemporary artists, the songs are successful in their field, the interview provides unprecedented access to the recording session files, and the artists provide an authentic and deep commentary on their work. We have chosen the three episodes featured here semirandomly, with no conscious attempt to highlight any music or artist who was particularly production oriented, although we have attempted to achieve some diversity of musical style, gender, age, and ethnicity in the selections. There is an argument—albeit we believe a weak one—that *Song Exploder* has flaws as a source: it is edited by its producers, its contributors often have a product to promote and possibly an incentive to romanticize their craft, and it focuses on audio as opposed to music theory because it is intended for a general audience. But nonetheless, we maintain that it represents the best source of its type. Hirway has, exceptionally, persuaded the artists to share isolated tracks,[23] and his interview approach appears to elicit a remarkable level of technical detail and honesty from his subjects.

Listening to all 200+ interviews in the *Song Exploder* catalog, it is clear that almost all of the creators talk about production elements in the same breath as melody, rhythm, and

lyric. As we shall see, most interviewees treat these as just three of many parameters that they consider important during a song's creation. The regular podcast listener is left with the impression that for most of these songwriters, the song—the musical work—is not finished until the final recording is mixed and mastered.

2.1 Dua Lipa: Levitating

2.1.1 Process Analysis

From *Song Exploder* podcast Episode 194:

> Dua Lipa is a Grammy-winning singer and songwriter from London. Her second album, *Future Nostalgia*, came out in March 2020. It hit number one on the charts in thirteen countries, and it was shortlisted for the UK's Mercury Prize…. Dua cowrote [the song *Levitating*] with some of her closest collaborators, including producer Stephen Kozmeniuk (a.k.a. Koz).[24]

Levitating[25] is a mid-tempo (103 BPM) minor-key dance-pop song. In keeping with the nostalgically themed album title, it was created with an intentional cultural reference to older dance music; Dua Lipa notes: "I knew I wanted to touch on my childhood influences … Jamiroquai, Prince, Blondie."[26] Producer and cowriter Koz recalls that the song's first creative decision was the selection of a keyboard sound:

> Usually before we go into work, I spend a couple of weeks to a month coming up with ideas to play when we hit the studio … [Dua] had the idea of blending a lot of old stuff with new stuff, and I thought that the best way to reinterpret the past was to use old instruments. I had been looking for [a Roland VP-330 synthesizer] … for six, seven, eight years. One day I found it in Tokyo, got it back to Toronto; I just plugged it in, and literally the first thing I played was what turned into *Levitating* [plays four-chord two-bar loop of Bm-F#m-Em-Bm using a synth-choir sound]. The whole song was just built around that one patch – this great synthetic choir sound. I just happened to be recording, because sometimes I feel like that's the best time to catch something, and then just kinda looped it and started building a song around it. And then it has … analogue strings; that's also that synth.[27]
> Figure 1

Figure 1. Levitating chord loop.

As a creator, Koz appears more concerned with (and inspired by) the authenticity of the keyboard sounds than the simple minor-key chord loop he has chosen. This is the first example we shall see of many in the creation of *Levitating* where the sonic aspects of the creative process (timbre, rhythmic feel, and texture) appear to be prioritized over tradi-

tional lead sheet[28] elements (chords and melody). Koz next considers aspects of style and instrumentation:

> I was thinking it would be cool to do it as a slinky disco track. It was pretty simple; a lot of those times you don't build [backing tracks] out too much, you just build a great vibe to write to, then forget about them until you hit the studio.[29]

At this point in the song's development, before the artist and other cowriters have entered the process, the keyboard sounds, tempo, key, main chord loop, and drum parts have been created. Any or all of these elements are replaceable later, but they are important because they are intended to facilitate the next steps of the process, which include melody toplining, lyric writing, song form, instrumentation, and overdubs.

When the track is played to the full team in the studio, Koz uses a lo-fi smartphone recording to capture early reactions, particularly melodic ideas:

> Someone would have their phone out … you'd capture it, so you don't forget it when you go back to it [when] people just start singing something. I remember Dua really led this one [rough recording plays of Dua singing the opening two bars of the verse melody, using nonsense syllables].[30]

The melody at this point is a single lyric-less melodic fragment, improvised as the creative team is free-forming ideas in real time over Koz's backing track. Dua Lipa's opening two-bar melodic phrase is a descending sixteenth-note minor-key scalic pattern, with pitches reminiscent of the final notes of the American Civil War song *When Johnny Comes Marching Home (1863)*, and a possibly subconscious nod to the opening two-bar phrase in the chorus of the Bee Gees' *Stayin' Alive*.[31] Figure 2
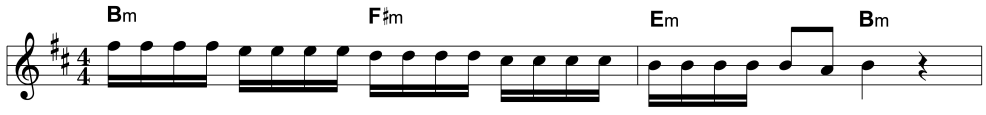
Figure 2. Levitating initial verse melody idea.

The group implicitly approves this melody, as Dua notes, because another team member becomes excited by it: "You hear Sarah in the background going 'Oh my God.' It came so naturally and we were just ready to go. It felt so … easy. You make it up on the way, but it's all about the feeling."[32]

As parts of the melody take shape, the group turns to lyrics; these are written in the same session, and in the context of an imaginary environment that the team invents for inspiration: "We had the visual of being in an Austin Powers movie … and having Mike Myers doing some random levitating dance. That was helping to give a mood while we were writing the lyrics … I recorded my vocals on the same day."[33]

The topline is adapted and improved in real time, even while vocals are being recorded; Dua notes that "Coffee [cowriter Clarence Coffee Jr] would … elevate the melodies."[34]

At this point, the song, in the traditional lead-sheet sense of melody and lyrics, appears to be finished. But the cowriting team never acknowledges this, instead moving seamlessly into additional production and arrangement, including unison chorus backing vocals and background party vocalizations. “We create personas for the BVs [backing vocals]. It’s all about the ambience, creating a whole world around the song [audio: party noises of ‘yeah!’ and ‘wooo!’]. It’s beyond just the lyrics and the vocal; it’s about the whole story behind it.”[35]

Next, the group decides to bring in an additional collaborator in the form of producer and bass player Stuart Price (uncredited as a cowriter), who “helped with the fundamental bass groove; he went in and brought more bounce to the song.”[36] More style-typical and era-reminiscent sounds are added, including ascending octave synth glides (“a disco trope”) and staccato bowed strings doubling the chorus melody. A talkbox[37] player is brought in to add low bass textures and additional layers to the topline for “80s Zapp funk undertones.”[38]

2.1.2 Creativity and Copyright

The song elements are created, with some overlap, in a mostly identifiable order—keyboard sound, chord loop, beats,[39] vocal melody, lyric, backing vocals, bass line, and additional instrumental and vocal layers. At every stage of the songwriting process, new elements are introduced, many of which appear on the final phonorecording. In an “everything counts” interpretation of the work, every one of the creative decisions we have witnessed represents a compositional gesture. The topline-based elements (vocal melody and lyric) appear somewhere near the middle of the process, but the synthesizer sounds, chord loop, and drum beats that inspire them appear right at the beginning. To the creative team, there is no distinction between composing and producing; all ideas are created, team evaluated, and adapted on the basis of their fitness for inclusion in the song, embodied here in the phonorecording. Dua and Koz (and, reportedly, others in the team) respond to synthesizer timbres, rhythmic ideas, melodies, lyrics, vocal performance, backing vocals, and effects processing as if they are all equally important to the song. The group is not writing a topline melody and lyric that will one day be produced in a recording studio. Rather, they are building a sonic artifact, layer by layer, and making creative decisions in response to how each new element makes them feel. *Levitating* cannot be reduced to a lead sheet, nor can it be divorced from its phonorecording. The composition is its phonorecording; melody and lyrics are just two parameters among many, to be suggested, auditioned, accepted, or rejected.

Aesthetically and subjectively,[40] we would argue that the melodic and lyric elements of *Levitating* are not the most exciting or interesting elements of the listening experience. The topline melody consists of four separate short minor-key phrases (two in the verse and one each in the prechorus and chorus); the harmony throughout is a repeating two-bar loop: | Bm F#m | Em Bm |. The lyric contains several disco-typical phrases (e.g., “come on dance with me,” “I want you baby,” “I need you all night”) as the protagonist exhorts the listener to join her on the dance floor. The verse lyrics are more ambitious: the stars-and-galaxy imagery works well—“glitter in the sky, glitter in our eyes”—and the

scansion is very satisfying throughout, but both melody and lyric are subservient to, and less sophisticated than, the overall feel or vibe of the recording.

Not only does the production frame the melody and lyric, it carries additional meaning of its own, reinforcing the song's dance-with-me theme: the double snare beat at the end of bar two of the main loop is a clear cultural allusion to the disco era;[41] the talkbox melodic vocal unisons and retro analog synth chords similarly evoke a nighttime dance floor late-1970s mood; low-pass filter sweeps on the chord parts in the verse propel the vocal intimately to the front of the mix; and the party sounds add excitement to the later choruses. The deliberate use of the British vowel in "dance my *arse* off" is a playful collision of Dua Lipa's national identity and the US origins of disco:[42] is an accent a creative compositional gesture?

Even if one were to disagree with our subjective view of the importance of these elements, it is undeniable that extensive experience and expertise have been applied in every creative gesture by the cowriting team. Clearly, all of these decisions contribute to the artistic and commercial success of *Levitating*, perhaps to the same extent as the melody or the lyrics. Should they be considered part of the musical work?

2.2 *Mobb Deep:* Shook Ones Pt. II

Shook Ones Pt. II[43] is a mid-tempo (93 BPM) gangsta rap song in the key of Bb minor. Its backing track is based around three prominent samples: Herbie Hancock's *Jessica* (1969);[44] Daly-Wilson Big Band's *Dirty Feet* (1972);[45] and Quincy Jones's *Kitty With the Bent Frame* (1972),[46] providing, respectively, the piano riff, the drum loop, and background textures for the song.

2.2.1 Process Analysis

For this analysis, we will focus mainly on the song's most famous sonic characteristic—the two-bar repeating piano loop that forms the main hook. Havoc (a.k.a. Kejuan Muchita) picks up the description of the songwriting process at its literal source—the vinyl:

> I went to [a vinyl record convention] and found the drums for *Shook Ones Pt. II* … I had acquired an MPC-60 [hardware audio sampler], which had only about 6-8 seconds of sampling time. Once I'd got the drum loop to guide me … I was just looking for a sample to go over it, that could fit those drums. I made the beat right in my bedroom … a bunch of records on my floor. I was listening specifically to find samples for the beats I was trying to make. One of the records that I happened to pick up was Herbie Hancock—*Jessica*. His records sound really weird … in a good way. I experimented with just … that one loop of two seconds.[47]

Havoc implies here that he is choosing the sample partly for its "really weird" production quality. Not only does the recording include the ambience of the original room in which Hancock performed, it also picks up piano key noise, as well as subtle pops and crackles from the vinyl source. He uses only five melodic pitches, taken from Hancock's C minor

arpeggio in bar two of *Jessica*, the sample length being limited presumably partly due to the short sampling duration his technology allows. Figure 3
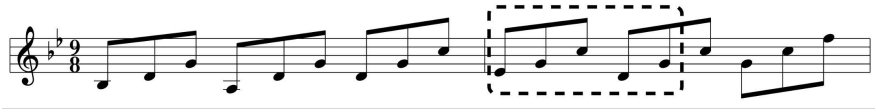
Figure 3. Jessica piano intro [sampled section].

Havoc states: “I sampled into the EPS+ [keyboard sampler] … you could move up and down the keys and change the pitch of the sample … and if you listen closely you can hear the ‘pop’ in the records.”[48] The sample is depitched using this method (which, using the technology of the time, also increases its duration by playing back at a slower speed): First by nine half-steps, creating an arpeggio of Eb minor. Then, by fourteen half-steps, creating a slower, lower-pitched arpeggio of Bb minor; for this second part, Havoc uses only four notes of the five originally sampled.

The source material is recontextualized in its timing, from Hancock’s lilting 9/8 to a solid, metrical 4/4 time. The keyboard repitching of the Hancock sample changes pitch and timing simultaneously, and the player reacts to what he hears in rhythmic context: “The drums … kinda made me play the keys how I played them.”[49] Hancock’s original expressively flexible microtiming, at this reduced tempo, creates fluctuations in the rhythm of the retriggered sample that define noticeable syncopations when heard over a 4/4 beat—creating a groove never intended by the original pianist. The resultant melody, we would argue, would be unrecognizable to anyone familiar with *Jessica*—it is a new derivative work, and certainly transformative. Figure 4
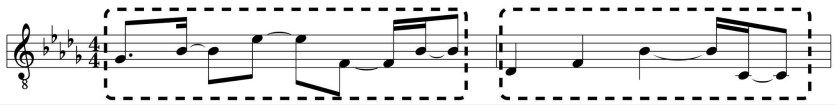
Figure 4. Shook Ones piano riff [Jessica sample depitched—slowed down].

The bass line is created next, again using audio rather than melodic choices as the first creative step: “I need[ed] a bass line, so I filtered a note of the piano, isolated it, and then used that as a bass.”[50] This single-note sample is played, one note at a time, on the keyboard—Havoc chooses each pitch to be consonant with the depitched looping two-bar piano phrase.

These creative decisions, coincidences, and technological constraints transform Hancock’s lyrical five-note C minor arpeggio half-bar fragment into a grooving nine-note two-bar phrase in 4/4, with new chords of Gb6 and Bbm. Not a single pitch choice or rhythmic value remains from *Jessica*, even though it represents 100 percent of the source material for the new melody.
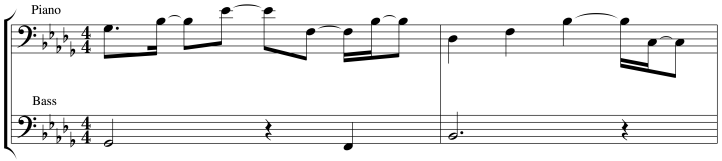
Figure 5. Shook Ones (Part II) Piano Riff with bassline

The American Society of Composers, Authors and Publishers (ASCAP) database credits only two composers for *Shook Ones Pt. II*.[51] Although we do not know what industry negotiations took place regarding post hoc sample clearance, we can imagine that a fee might have been paid to Hancock's publisher/label, and we can reasonably infer that the owners of the original MWs and SRs agreed not to pursue Mobb Deep for royalties or a songwriting credit. Figure 5

2.2.2 Creativity and Copyright

What is the *essence* of *Shook Ones Pt. II* as a musical work? Which parts of the listening experience were created by Havoc and Prodigy, and which by Hancock (and the other originators of the vinyl records)? And which elements are protected copyrights? If we take Fishman's narrow-but-reliable definition of composition,[52] the melody and lyric are the only copyright-protected elements. But then whose melody is this? All the pitches were originated by Hancock, at a different time, and for a different purpose. They were substantially changed by Havoc as part of his own creative process (or, given the legal implications of the term "substantial," perhaps safer adverbs would be "drastically" or maybe "measurably"). And if someone were to reuse Mobb Deep's two-bar melody, which composer, if any, might they credit as a cowriter? Helpfully, we have at least one reliable answer: in 1997, Mariah Carey's song *The Roof (Back In Time)* [53] featured a sample of the *Shook Ones Pt. II* piano riff. Mobb Deep was credited as a featured artist (and rapped on the extended remixes). As before, we do not know the business deals relating to royalties or buyouts, but we know from public records that neither Mobb Deep nor Hancock is credited as a cowriter, despite being jointly responsible for a qualitatively important part of the song's melody.

We use Mobb Deep's creative process as a demonstration of how complex the chain of ownership and influence can be in partly derivative works, and how any bright-line answer to the what-is-a-song debate may always be elusive in law because of the complexity and breadth of creative processes in DAW-based songwriting. Even in an imaginary world where melody (presumably, vocal toplines or prominent hooks, perhaps with a demotion for low-in-the-mix accompaniments) would be the only musical characteristic protected by copyright, we could not possibly quantify Hancock's protectable melodic contribution to *Shook Ones Pt. II*, nor Havoc and Prodigy's contribution to Carey's *The Roof*. Piano notes chosen by Hancock in 1969 clearly and measurably appear in a song by Mariah Carey in 1997. But almost nothing of Hancock's composition appears in *Shook Ones Pt. II*, still less in *The Roof*.

In *Shook Ones Pt. II*, there is no easy way to identify which of the elements we hear are part of the compositional copyright. The two-bar piano riff and its bassline are the only parts of the whole recording that could meaningfully be described as a melody; the rest of the recording's artistic creativity manifests itself as sample selection/manipulation, sound design, lyrics, and rap flow; Prodigy and Havoc are the sole songwriters. Even for a work composed in the early days of sample-based songwriting, the MW–SR distinction evaporates when viewed through the lens of the actual creative decisions taken by the cowriting team. *Shook Ones Pt. II* is a classic hip-hop song, loved and valued by millions of listeners. But its commercial success and emotional power is not revealed by a lead sheet transcription, nor by the standard music notation we are using in this chapter. Mobb Deep made a phonorecording, which not only embodies a composition but *is* a composition in its own right.

2.3 *Billie Eilish:* Everything I Wanted

Everything I Wanted[54] is a medium-fast (120 BPM) pop/electronica song, cowritten by Billie Eilish and her brother—and producer—Finneas.

> Billie Eilish started releasing music when she was 14 years old. Her debut album came out … when she was 17. It debuted at Number 1 on Billboard, went triple platinum, and won her five Grammys. Billie made that record with her brother and creative partner, producer and artist Finneas O'Connell [a.k.a. Finneas], in their parents' house in Highland Park, Los Angeles. While working on that album, they also started writing this song, "Everything I Wanted," which came out as a single in November 2019. It was Billie's second top ten hit, and it went double platinum, too. [This interview includes] some of the original voice memos Billie and Finneas made while writing.[55]

2.3.1 Process Analysis

Everything I Wanted is broadly in the key of A major (or perhaps F# minor), but never resolves to its home chord. This creative decision, along with its understated production, breathy vocal, and soft timbres, perhaps enhances its lyric themes of death, suicide, familial love, and self-actualization. Eilish begins the *Song Exploder* interview with a discussion of the song's back story:

> I literally had had a dream the night before that I had jumped off, like, a building or something … and I basically had died in my dream. And the whole dream was me watching how everything went after I'd died … I told Finneas about it, and we just had to write about it. It needed to be said … Having Finneas listen, and also know me … has really been important for our creative process.[56]

Finneas continues to explain:

> One of the benefits of Billie … having such a clear cut vision is that, when I'm working on music production for her, I know the color palette that something should be. So I crafted what would be almost the entire instrumental of the song.[57]

Both writers outline clearly the first two steps in the creation of *Everything I Wanted*: broad lyric theme first, followed by the almost complete creation of the backing track.

Everything I Wanted features an underlying chord pattern of Dmaj7—E—C#m—Dmaj7, with an occasional variation of Dmaj7—E—C#—Dmaj7. Figure 6

Figure 6. Everything I Wanted primary chord loop.

Finneas explains:

> What I try to do with instrumentals is have something that feels organic and human, and then … play it in a way that may be a little atypical. So, just a piano for the first twenty seconds of the song—how can I make that unique? And so that was when the sidechain compression idea came to me. Sidechain, in this song, is a compression plugin (effects processor) on the piano, configured to react not to the piano itself, but to the [audio signal from] another track, in this case, a muted kick drum. So you get an undulating tide-going-in-and-out feeling on the piano, without having to hear the kick drum, [which then] comes in halfway through the verse.[58]

Eilish responds: "The piano is so beautiful. It just drew me in right away."[59] The piano chord loop appears to be composed in one joined-up process—the timbre (soft electric piano), the chord choices, and the effects processing. Production is not treated as an afterthought, to embellish a composition; rather, Finneas is considering the effect of all elements as a sonic whole. The softness of the piano sound is made perhaps more wistful by the choice of melancholy major-seventh chords, played in a pattern that avoids the key's home chord of A major; throughout the song, the chord sequence never resolves, engendering a literally rootless feeling that supports the lyric's contemplative themes of depression, regret, and the need for emotional support from others. The unresolved feeling is enhanced by the uneven rhythmic placement of the chords—whereby every other chord is played a beat early. Music theory, instrumentation, lyric theme, and digital signal processing are working together to create the songwriting team's desired mood.

With the keyboard loop and effects processing now established in the DAW, Finneas continues to build the timbral sound world, next adding a backbeat:

> There's a tonal snare to the song; it's actually just a synth layer, but it only plays on the twos and fours [plays high-pitched metallic sound on a high note of B natural]. It's like … Snow White and The Seven Dwarves, like an icepick hitting a gold mine. It has that "ting" sound which I thought was super interesting. That, com-

> bined with the sidechain compression of the piano—those were the two things that got us excited. And then we were just writing to that.[60]

By "writing to that," Finneas means that these sonic elements are the audio backing track over which melodic and lyric ideas can be tried (note the similarity to Koz's "write to" reference in the Dua Lipa example). A moment of sound design is created—the ice-pick snare, with the subjective Snow White reference that Finneas finds "super interesting." But now that the digital audio track is specified in such detail, the duo steps away from the computer and spends some time improvising ideas acoustically, using just live piano and vocal.

> [Finneas:] The piano … as an acoustic instrument in the room is such a huge help in terms of writing songs … The loop on your computer can drive you crazy, so just sitting there and playing the piano, going as slow as you want, picking up a chord change if you want it to be there … is so vital.
>
> [Eilish:] My brother and I have voice memos on our phones; we record everything we do.
>
> [Finneas:] That audio file is essentially us doing what we always do when we write songs, make-believing them into existence … singing gibberish, and bad melodies for over an hour, just to get the right thing.[61]

During Summer 2019, the songwriting of *Everything I Wanted* was delayed for a period of several months while the duo undertook touring and promotional activities, and the melody and lyric were augmented and iterated in fragments "line by line it would come together [in downtime while on tour]."[62] In a later session, the cowriters returned to the core concept, to address the thematic issue of the lyric's bleakness, as Eilish explains:

> We were really stuck. We didn't know where to go with it, because it was such a downer of a song … I was wanting it to be a different perspective … What is the end of this song? Where does it go? It's talking about a horrible thing? What can we do that will help people that feel that way too? … We decided that we would make the song about us, our relationship with each other, and how we pull each other out of dark places.[63]

The decision to add a new, more positive lyric theme leads to some technical linguistic problem-solving, as Finneas explains:

> We were parsing our way through the chorus, trying to figure out how to change the narrator. The verse is in first person; the chorus is in first person, but they're playing different roles, so I thought if we introduce the chorus with "and you say" … that allows it to be a conversation, as opposed to one person.[64]

This lyric choice to change characters moves the songwriters back to production and arrangement decisions, in this case to support the revised theme and the introduction of a new character. Finneas's own vocal is introduced as an underscore to Eilish's upper-oc-

tave lead, singing in warm effects-processed harmonies the soothing line “as long as I’m here, no-one can hurt you.” Here, again, lyric/melody decisions work hand in hand with production decisions to achieve the overall effect.[65]

Emboldened by agreement on thematic balance in the lyric, the songwriting team gets back to the studio, and the creative hiatus is over. In the following quotation, Finneas uses the metaphor of songwriting “architecture” in reference to song form but applies it to the effect of instrumentation and production on an imagined listener:

> [Finneas:] Second verse architecture in songs is all about reintroducing the same ideas in a compelling and attention-grabbing way, and I felt that the piano’s presence [in the phonorecording] had become taken for granted. The way to get someone to pay attention to something is to take it out, then put it back in. So I introduced a low chordal bass arpeggio.[66]

From form and instrumentation, he next turns to vocal effects processing, backing vocal design, and additional vocal improvisations all of which are tracked (recorded) straight into the DAW, and many of which will eventually be used in the final phonorecording:

> [Finneas:] I’ve always been a huge fan of literalization of lyrics. I love the idea of pulling out all of the high end on her voice when she says “my head was underwater” – you just hear muffled sounds.
>
> [Eilish:] There’s so many vocals that you would never even notice if somebody didn’t play them isolated. Like harmonies, like a little whisper, or just repeating the word. It really changes a song. I did *so* many vocals. It’s fun to see what your brain comes up with, without you even thinking.[67]

2.3.2 Creativity and Copyright

The creation of *Everything I Wanted* starts with a broad lyric theme (a bleak dream of suicide), which inspires the creation of an audio loop (processed electric piano and drums).

As the song develops, the cowriters undertake computer-based DAW work, acoustic improvisation, and lyric-writing duties, moving between them as the song is iterated over a period of months. As the songwriters describe their own process, it appears that traditional songwriting ideas such as topline melodies and lyric concepts are considered to have equal importance with production ideas like sidechain compression and vocal overdubs. Ideas build on each other iteratively: the conceptual theme affects the choice of piano sound, the chord loop the melody, the melody the vocal performance, and the vocal performance the backing vocals. These interrelationships are not linear—each (expression of an) idea is tweaked in relation to the other, and the creators move between processes as required. Often, and throughout, they stand back and reflect on the overall emotional impact of the whole—on themselves in relation to their creative vision, and on an imagined listener in relation to an eventual release. The composers’ goal is not a topline with a lyric. It is a complete, fully realized listening experience.

3. Implications for Interpreting Music Copyright

We reiterate that these case studies—Dua Lipa, Mobb Deep, and Billie Eilish—were fairly arbitrarily chosen from the 200+ *Song Exploder* episodes. Almost all of the respondents reported similar creative phenomena (of composing straight-to-audio), including songwriters as musically diverse as metal band Slipknot, rapper Big Boi, electronica duo 100 Gecs, and pop/dance singer Robyn, among many others. In each case, the songwriter or team created production gestures in the same breath (and session) as pitches and lyrics, and they only considered the song to be completed when they had a satisfactory phonorecording.

The shift in songwriters' creative methods that the case studies demonstrate has already had an economic impact on the music industry, with producers and beat makers receiving a slice of the publishing for their contribution; a 2016 study by *MusicWeek* magazine found that the average number of cowriters on a hit single was 4.67.[68] This is partly due to the contribution of producers and beat makers, and, relatedly, the increasing popularity of styles of music (hip-hop, Trap/EDM) where production is a major component of the artistic value. We would argue that this new category of beat- or production-oriented writers does not yet enjoy the same protection for their MW contributions as their melody- and lyric-writing teammates. If the history of successful music copyright infringement litigation is any indicator, the "everything counts" definition of a MW takes second place to the "melody only" one.

What does DAW-based songwriting practice mean for the ongoing definition of a MW, and how might music copyright be interpreted and used in the future? One solution, and not just for copyright infringement litigation, might be to raise drastically the qualitative and even quantitative threshold for what constitutes a "substantial part." Why shouldn't courts just *allow* fragmentary melodic similarity, derivative drum patterns, copying of any production technique, and lyric quotes galore as *de minimis*, if only a single isolated element is copied? In this scenario, any passing similarity—whether intentional or not—could become just an innocent allusion, allowing culture to grow, adapt, and thrive evolutionarily, as it always has.

There are indeed signs of progress here, at least in SR-related litigation. *Salsoul v. Madonna* allows for a *de minimis* sampling time-floor above zero,[69] creating a circuit split with the *Bridgeport* bright-line "Get a license or do not sample" zero-tolerance standard.[70] Trends in MW and melody-related litigation are less clear, but here too there appears to be progress. A good example is the dismissal of the jury's verdict in *Gray v. Perry* on the grounds that plaintiffs failed to satisfy the extrinsic test because "[the] 8-note ostinato … is not a particularly unique or rare combination."[71] This verdict is especially welcome because of a musical truism that one of this chapter's authors has observed in his own work as a forensic musicologist—that coincidental fragmentary melodic

similarity is a considerably more commonplace phenomenon than actual melodic copying by songwriters.

4. Conclusion

In this chapter, we have attempted to demonstrate that the MW–SR distinction is becoming less relevant because most music creators make their work on a DAW. We have argued that if copyright law were to interpret the MW as fully embodied in a phonorecording, then this would be more representative of the way creators and consumers experience music in the twenty-first century. But with this broader definition of a MW, we are also advocating for a more expansive and tolerant view of what constitutes a substantial part thereof—effectively raising the *de minimis* threshold, particularly when only a single isolated element such as a melodic fragment is similar. This relaxation of substantiality would encourage partial copying and would mean that copyright infringement litigation would only be needed in the most egregious of cases, where the later work was clearly making an obvious and "substantial" musical allusion to the earlier one. These two measures—interpreting the MW definition more broadly and raising the substantiality threshold—would, taken together, empower downstream creators, flood society with yet more creative content, and protect compositional expression in all its forms.

Acknowledgments

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Notes:

(1) Paul Zollo, *Leiber & Stoller: The Bluerailroad Interview*, BLUERAILROAD, https://bluerailroad.wordpress.com/leiber-stoller-the-bluerailroad-interview/ (last visited Feb. 8, 2021).

(2) US COPYRIGHT OFF., Compendium of U.S. Copyright Office Practices § 802.1 (3d ed., 2021) (emphasis added). Note that MWs are not defined in the Copyright Act itself. *See id.,* § 801.2.

(3) *Id*.

(4) 17 U.S.C. § 101 (emphasis added).

(5) *Id*.

(6) *See,* e.g., Joseph P. Fishman, *Music as a Matter of Law*, 131 HARV. L. REV. 1861 (2017).

(7) Robin Thicke, T.I., & Pharrell Williams, *Blurred Lines* (Interscope Records 2013).

(8) Williams v. Gaye, 895 F.3d 1106 (9th Cir. 2018); *see also* Eberhard Ortland, *Blurred Lines: A Case Study*, *in* The Aesthetics and Ethics of Copying 225–250 (Darren Hudson Hick & Reinold Schmücker eds., 2016).

(9) I.e., a test for substantial similarity based on "specific criteria which can be listed and analyzed[, which may involve] analytic dissection and expert testimony." The "extrinsic test" usually precedes the "intrinsic test," which depends on "the response of the ordinary reasonable person." The extrinsic test typically uses experts; the intrinsic one requires juries. *See* Sid & Marty Krofft Television Prod., Inc. v. McDonald's Corp., 562 F.2d 1157. 1164 (9th Cir. 1977).

(10) Marvin Gaye, *Got to Give It Up* (Tamla 1977).

(11) Fishman, *supra* note 6.

(12) *Id.* at 1871.

(13) *Id.* at 1909

(14) Fishman, *supra* note 6, at 1871.

(15) *Id.* at 1916.

(16) Aram Sinnreich, *Music, Copyright, and Technology: A Dialectic in Five Moments*, 13 INT'L J. COMMC'N 422, 422 (2019).

(17) John Lynch, *For the First Time in History, Hip-Hop has Surpassed Rock to Become the Most Popular Music Genre, According to Nielson*, BUS. INSIDER (Jan. 4, 2018, 12:44 PM), https://www.businessinsider.com/hip-hop-passes-rock-most-popular-music-genre-nielsen-2018-1.

(18) Joe Bennett, *Constraint, Collaboration and Creativity in Popular Songwriting Teams*, *in* The Act of Musical Composition: Studies in the Creative Process 139, 146 (David Collins ed., 2012) (bracketed editorial addition in original).

(19) Mihaly Csikszentmihalyi, *Society, Culture, and Person: A Systems View of Creativity*, *in* The Nature of Creativity: Contemporary Psychological Perspectives 325–39 (Robert Sternberg ed., 1988).

(20) MARGARET BODEN, The Creative Mind : Myths and Mechanisms (2d ed. 2004).

(21) Cases, GW L. BLOGS: MUSIC COPYRIGHT INFRINGEMENT RES., https://blogs.law.gwu.edu/mcir/cases-2/ (last visited Feb. 8, 2021).

(22) *About the Show*, SONG EXPLODER, https://songexploder.net/about (last visited Feb. 11, 2021) (hereinafter SONG EXPLODER).

(23) Isolated audio tracks are the single tracks within a multitrack recording that contain the raw recording of only on particular instrument, such as a vocal or bass. They are distinct from a master, which is the finished mix of all the tracks together.

(24) *Episode 194: Dua Lipa "Levitating,"* SONG EXPLODER (Oct. 7, 2020) (hereinafter "*Episode 194*").

(25) Dua Lipa, *Levitating* (Warner Records 2020).

(26) *Episode 194*, *supra* note 24.

(27) *Id.*

(28) A lead sheet is a simple form of sheet music that contains "only the partial lyrics, chord symbols and the melody line of a song." *Learn How to Read Lead Sheets: The Theory Behind Music's Most Versatile Pages*, MUSICNOTES NOW, https://www.musicnotes.com/now/tips/learn-read-lead-sheets-theory-behind-musics-versatile-pages/ (last visited Feb 8, 2021).

(29) *Id*.

(30) *Id.*

(31) Bee Gees, *Stayin' Alive* (RSO Records 1977).

(32) *Episode 194*, *supra* note 24.

(33) *Id.*

(34) *Id*.

(35) *Id.*

(36) *Id*.

(37) A talkbox is an audio device that enables musicians to modulate the sounds of their instrument, usually guitar, with their mouths. The unit sends the amplified instrument sound from an enclosed loudspeaker through a plastic tube up to an open end placed near the musician's microphone. The musician then modulates the instrument's tonal qualities with the mouth (because the sound is pushed into the mouth via the tube) with the resultant vowel changes picked up by the microphone. *See* Michael Dregni, *Heil Talk Box*, VINTAGE GUITAR MAG. (Sept. 2013), https://www.vintageguitar.com/16339/heil-talk-box/.

(38) *Episode 194*, *supra* note 24.

(39) We are using the term "beats" here in the contemporary sense of "backing track" (i.e., a stereo mix including drums, bass, and other instruments, without a topline vocal).

(40) We contend that such a phenomenological approach to song analysis is defensible on the grounds that it has long been used in popular musicology and acknowledges the interpretive role of the listener in ascribing value and meaning to songs. We suggest, only partly mischievously, that this is the musicologist's equivalent of a one-person jury. *See* Allan F. Moore, *Introduction*, *in* Analyzing Popular Music 8 (Allan F. Moore ed., 2003).

(41) Other examples include Queen, *Another One Bites the Dust* (EMI 1980); Patrice Rushen, *Forget Me Nots* (Elektra 1982); and The Emotions, *Best of My Love* (Columbia Records 1977).

(42) *Episode 194*, *supra* note 24 (Dua Lipa states that she deliberately uses this pronunciation "because a lot of the time when I sing people can't tell that I'm British").

(43) Mobb Deep, *Shook Ones (Part II)* (Loud & RCA Records 1995).

(44) Herbie Hancock, *Jessica* (Warner Records 1969).

(45) Daly-Wilson Big Bank, *Dirty Feet* (Festival Records 1972).

(46) Quincy Jones, *Kitty With the Bent Frame* (Reprise Records 1972).

(47) *Episode 186: Mobb Deep Shook Ones (Part II)*, SONG EXPLODER (hereinafter *Episode 186*).

(48) *Id.*

(49) *Id*.

(50) *Id*.

(51) *Shook Ones Pt II*, ASCAP REPERTORY, https://www.ascap.com/repertory#/ace/search/title/shook%20ones%20PT%20II/performer/Mobb%20deep?at=false&searchFilter=SVW&page=1 (last visited Feb. 11, 2021) (listing Albert Johnson and Kejuan Waliek Muchita as writers, when viewing the entry under the default "Songview" results filter).

(52) *See* Fishman, *supra* note 6.

(53) Mariah Carey, *The Roof (Back in Time)* (Columbia Records 1997).

(54) Billie Eilish, *Everything I Wanted* (Darkroom & Interscope Records 2019).

(55) *Episode 197: Billie Eilish "Everything I Wanted"* SONG EXPLODER (Nov. 18, 2020) (hereinafter *Episode 197*).

(56) *Id.*

(57) *Id*.

(58) *Id*.

(59) *Id*.

(60) *Id*.

(61) *Id*.

(62) *Id*.

(63) *Id*.

(64) *Id*.

(65) Changing the first-person voice of the narrator midsong is a rare phenomenon in popular music, and not easy to achieve, because the listener so readily identifies the singer's voice with the protagonist. When it is necessary, a production device is often employed to tell the listener that a different character is singing. *See,* e.g., The Beatles, *She's Leaving Home* (Parlophone 1967) (the "we" in the chorus represents the parents, played by a reverbed Lennon and McCartney, in contrast to the latter's echo-free omniscient narrator in the verses); Cat Stevens, *Father and Son* (Island Records 1970) (each character sings in a separate octave, to represent age and youth, respectively).

(66) *Episode 197*, *supra* note 55.

(67) *Id*.

(68) Mark Sutherland, *Songwriting: Why It Takes More Than Two to Make a Hit Nowadays*, MUSIC WEEK (2017), http://www.musicweek.com/publishing/read/songwriting-why-it-takes-more-than-two-to-make-a-hit-nowadays/068478 (last visited May 22, 2017).

(69) 824 F.3d 871 (9th Cir 2016).

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

(71) Gray v. Perry, 2020 WL 1275221 (C.D. Cal. No. 2:15-CV-05642-CAS-JCx) (Mar. 16, 2020).

Joe Bennett

Professor of Professional Music, Berklee College of Music, and Forensic Musicologist at Joe Bennett Music Services LLC.

Sean M. O'Connor

Professor of Law and Executive Director, Center for IP x Innovation Policy (C-IP2), George Mason University; Founder and Executive Director, Music Ecosystems Institute