

ASSESSING THE FUTURE IP LANDSCAPE OF MUSIC'S CASH COW: WHAT HAPPENS WHEN THE LIVE CONCERT GOES VIRTUAL

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If piracy has been the bane of the music industry, and live performances are a financial buoy, what happens when live performances are ported to a virtual medium that all of a sudden may be subject to piracy again? This Note examines the various intellectual property frameworks through which one can look at the protectable elements of a live show or concert and what happens to the protectability of those elements once the show is ported to virtual reality. Given that technology to date has had a much larger impact on recorded music than on live performances, the introduction of virtual reality technology has serious disruptive potential. This Note argues that one can use existing intellectual property law to weave a complex web of protected elements around less traditional targets of IP like stage, set, and lighting design, background visuals, live performers, and props. This web of intellectual property protection will encourage strong contracting and yield more avenues for resisting piracy in the virtual reality world.

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INTRODUCTION

In March of 2014, Facebook bought the virtual reality company Oculus VR, makers of the Oculus Rift headset, for two billion dollars, signaling the company’s big bet on the future of virtual reality (VR) and the myriad ways in which this technology can be deployed in the future.¹ Mark Zuckerberg, the founder of Facebook, noted the possibility of “enjoying a court side seat at a game, studying in a classroom of students and teachers all over the world or consulting with a doctor face-to-face—just by putting on goggles in your home,” and added that the most exciting question is where this technology will head in the future.²

One potentially lucrative arena for VR would be to port the live concert experience directly to an individual sitting on his or her couch. Technology has advanced such that industrious and adventurous event planners can fill their concert or arena show with cameras, networking them together to create a three-dimensional model of the show.³ In fact, the 2015 Grammy’s Album of the Year award winner, Beck, has already teamed up with music video director Chris Milk to do so.⁴ While this experiment was not even designed for the Oculus headset, one author noted that while viewing the show on the Rift, he “actually felt like [he] got a better deal than the live audience.”⁵

¹ Chris Welch, *Facebook Buying Oculus VR for \$2 Billion*, THE VERGE (Mar. 25, 2014, 5:34 PM), <http://www.theverge.com/2014/3/25/5547456/facebook-buying-oculus-for-2-billion>.

² *Id.*

³ The Oculus Rift does not even support haptic feedback yet, which could enhance the feeling of presence even further by adding physical sensations to the experience along with sight and sound. Mark Yarm, *7 Ways the Oculus Rift Could Change Entertainment as We Know It*, ROLLING STONE (Apr. 15, 2014), <http://www.rollingstone.com/culture/news/7-ways-the-oculus-rift-could-change-entertainment-as-we-know-it-20140415>. Haptic feedback is the vibration in electronic devices created by actuators or motors and controlled by embedded software. *What Is Haptics?*, IMMERSION.COM, <http://www.immersion.com/haptics-technology/what-is-haptics> (last visited Jan. 30, 2016).

⁴ Josh Constine, *How Oculus and 8 Fake Ears Could Morph Concerts into Video Games*, TECHCRUNCH (Apr. 13, 2014), <http://techcrunch.com/2014/04/13/oculus-music>.

⁵ *Id.*

While undoubtedly exciting from a consumer point of view, this new medium of live concert consumption raises important economic and intellectual property (IP) questions. If VR is rich enough to be a replacement for the live show, how do we prevent the replacement or cannibalization of the live performance? Do we even want to? If we do rely on IP protection, what elements of these live shows are protectable and how do we protect them? What changes with respect to the legal framework and the protectability of those elements when they move to VR?

This Note will use two shows as the main proxies to explore these questions: The first is an electronic music based arena event held around the world called Sensation,⁶ and the second is Roger Waters's tour and live performance of Pink Floyd's album, *The Wall*, from 2010 to 2013.⁷ The reason for choosing these two events is that they are immersive concert experiences, which makes them ideal candidates for VR.⁸ Their immersive nature is due to numerous, unique characteristics that make each show about more than just the music.⁹ These characteristics, which I will label "concert design," include stage, lighting and set design, human and interactive props, and background visuals.

If piracy has been the bane of the music industry,¹⁰ and live

⁶ SENSATION, <http://www.sensation.com> (last visited Jan. 30, 2016).

⁷ *The Wall Live (2010–13)*, WIKIPEDIA, [http://en.wikipedia.org/wiki/The_Wall_Live_\(concert_tour\)](http://en.wikipedia.org/wiki/The_Wall_Live_(concert_tour)) (last visited Jan. 30, 2016).

⁸ See Farhad Manjoo, *If You Like Immersion, You'll Love This Reality*, N.Y. TIMES (Apr. 2, 2014), <http://www.nytimes.com/2014/04/03/technology/personaltech/virtual-reality-perfect-for-an-immersive-society.html> ("[V]irtual reality is the natural extension of every major technology we use today . . . It is the ultra-immersive version of all these things, and we'll use it . . . to entertain ourselves and escape.").

⁹ See, e.g., Paul Lester, *Roger Waters: The Wall Live – Review*, THE GUARDIAN (Sept. 15, 2013, 11:59 AM), <http://www.theguardian.com/music/2013/sep/15/roger-waters-wall-live-review> ("The contrast between colourful multimedia visuals and the music . . . is now even more stark: Waters' highly personal, bleak, dour and downbeat musings . . . become a . . . bombardment[] of the senses. . . . [T]he fighter plane crashing . . . and the resulting explosions and pyrotechnics, is as impressive . . . as anything you'll see at a pop concert."); Nick Stevenson, *Sensation, Amsterdam Arena*, MIXMAG (July 9, 2012), <http://web.archive-net.com/page/545459/2012-10-28/http://mixmag.net/words/reviews/clubs/sensation-amsterdam-arena> (describing show as including gigantic spherical lighting rig, which centered the show, four large digital projections hanging from the ceiling, "death defying stunts, set-pieces and incredible light shows," making it like "Cirque Du Soleil for clubbers").

¹⁰ See STEPHEN E. SIWEK, INST. FOR POLICY INNOVATION, THE TRUE COST OF SOUND RECORDING PIRACY TO THE U.S. ECONOMY 1, 5–6 (2007), http://www.ipi.org/docLib/20120515_SoundRecordingPiracy.pdf (describing billion dollar losses to global music industry as result of piracy).

performances are a financial buoy,¹¹ what happens when live performances are ported to a virtual medium that all of a sudden may be subject to piracy again? Given that “[t]echnology has changed the market for live performances much less than it has changed the market for recorded music,”¹² the introduction of VR technology has serious disruptive potential. This Note explores the protectability of the elements of concert design in both real live performance and VR performance,¹³ and hypothesizes that VR presents a huge advertising opportunity for the music business that will most likely complement, rather than threaten, the live touring business. I conclude that by focusing on the less traditional targets of IP law like stage, set, and lighting design, background visuals, live performers, and props, one can weave a complex web of protected elements that encourage strong contracting and yield more avenues for resisting piracy. In practice, the protectable elements of virtual content may be contained in an encompassing copyright like a DVD recording of a live performance. A more effective approach, however, is to differentiate VR from video on the grounds that it is far more interactive and technically complex, making the individual elements of each virtual performance more readily identifiable and protectable under existing intellectual property regimes. Rather than look at the protectability of the music itself, which has been covered extensively, I make these conclusions by situating these disparate elements of concert design within copyright, trade dress, trademark, and design patent.

Part I provides relevant background information. This includes a review of the current economic state of the music business and highlights why touring is critical to its economic survival. I also introduce VR technology and explain how it can be used to consume live shows, and in turn, how it may serve as a competitor or complement to the existing touring model. Lastly, I describe in detail the two proxies mentioned above and why they are both good examples of profitable tours or shows, as well as ideal candidates for ported VR performances.

Part II explores the current state of IP law for live shows and concert design. I situate this discussion within multiple IP frameworks,

¹¹ See Mark F. Schultz, *Live Performance, Copyright, and the Future of the Music Business*, 43 U. RICH. L. REV. 685, 685 (2009) (noting the common claim that the concert business is robust enough to support the recording business as well).

¹² Henry H. Perritt, Jr., *New Business Models for Music*, 18 VILL. SPORTS & ENT. L.J. 63, 91 (2011).

¹³ Virtual reality performance, in the context of this Note, means a live concert recorded with special technology (discussed below) and extensively modified by software so that it is consumable on VR headsets like the Oculus Rift.

including copyright, trade dress, trademark, and design patent. Rather than apply one all-encompassing copyright to a virtual performance like you would to a concert DVD, I argue that the best protection comes from the discrete application of certain elements of the aforementioned frameworks to create a web of interlocking rights by one or more rights holders. For instance, copyright protects “original works of authorship fixed in any tangible medium of expression.”¹⁴ The owner of that copyright is the author, who must have had the “original intellectual conceptions” and have “exercised such a high degree of control” over the work.¹⁵

The question of authorship is critical to the analysis: the more complex the final VR product becomes, the more authors and owners exist. There is the engineer who makes the creative choices of how to record and film the live performance, or the programmer who writes the code that makes the recorded performance available on virtual reality hardware, or even the artist who designs the conceptually separable art on the functional stage.¹⁶ Creators of the real and virtual product could also seek protection through design patent, which grants protection to anyone who “invents any new, original, and ornamental design for an article of manufacture,”¹⁷ or trade dress which protects nonfunctional works and the “total image of a product, and may include features such as size, shape, color or color combinations, texture, graphics, or even particular sales techniques.”¹⁸

In Part III, I apply Part II’s protection frameworks to the virtual counterparts of Roger Waters’s *The Wall*, Sensation, and other content rich examples to illustrate a workable model of protection for VR concert consumption, and I look at potential technical protections for virtual performances that are not based in IP law. Because this technology has only just reached the marketplace, much of the discussion in this Part is hypothetical. In my application of these concepts to VR, I extrapolate from what other authors and scholars have discussed in their analysis of real world concerts. To date, very little has been written on this specific topic.

¹⁴ 17 U.S.C. § 102(a) (2012).

¹⁵ *Lindsay v. Wrecked & Abandoned Vessel R.M.S. Titanic*, No. 97 Civ. 9248(HB), 1999 WL 816163, at *4 (S.D.N.Y. Oct. 13, 1999).

¹⁶ The doctrine of conceptual separability yields a copyright for a work of expression in a pictorial, graphic, or sculptural work that is primarily aesthetic in nature contained within a useful or functional article. See *infra* notes 126–29 and accompanying text.

¹⁷ 35 U.S.C. § 171 (2012).

¹⁸ *John H. Harland Co. v. Clarke Checks, Inc.*, 711 F.2d 966, 980 (11th Cir. 1983).

I

AN INTRODUCTION TO THE ECONOMIC STATE OF THE MUSIC INDUSTRY, THE NUANCES OF VIRTUAL REALITY, AND TWO VERY MARKETABLE LIVE SHOWS WITH VR POTENTIAL

A. “Don’t Let Me Down”¹⁹: The Current Economic State of the Music Industry

The music industry is in a slump. Taylor Swift’s album *1989*,²⁰ shortly after its release in late 2014,²¹ was (at that point) the only album to have sold more than one million copies in that year, with the exception of the soundtrack to the Disney movie, *Frozen*.²² Swift actually had the biggest sales week since 2002, when Eminem’s *The Eminem Show*²³ sold just over 1.3 million copies in its second week on the charts.²⁴ But Swift is an anomaly, “doing big numbers at a time when no one else is doing big numbers.”²⁵

Album sales have been steadily declining since 2001, and digital downloads have followed suit, with sales through the iTunes store down thirteen percent in 2013.²⁶ As of July 2014, total album sales in all formats were down fifteen percent from the prior year, and digital downloads dropped another thirteen percent in the first six months of 2014.²⁷ Accompanying the decline in sales is a massive uptick in

¹⁹ THE BEATLES, *Don’t Let Me Down*, on LET IT BE . . . NAKED (Apple Records 1969).

²⁰ TAYLOR SWIFT, *1989* (Big Machine Records, LLC 2014).

²¹ See Chris Payne, *Taylor Swift Reveals New Album Title, Release Date & ‘Shake It Off’ Video*, BILLBOARD (Aug. 18, 2014, 5:45 PM), <http://www.billboard.com/articles/columns/pop-shop/6221818/taylor-swift-1989-release-date-shake-it-off-video> (noting album release date of October 27, 2014).

²² Sam Sanders, *Taylor Swift, Platinum Party of One*, NPR (Nov. 5, 2014, 3:32 AM), <http://www.npr.org/blogs/therecord/2014/11/05/361577726/taylor-swift-platinum-party-of-one>.

²³ EMINEM, *THE EMINEM SHOW* (Shady Records 2002).

²⁴ Lisa Respers France, *Taylor Swift’s ‘1989’ Has Biggest Sales Week Since 2002*, CNN (Nov. 6, 2014, 4:26 PM), <http://www.cnn.com/2014/11/05/showbiz/music/taylor-swift-1989-sales>; see also Cecilia Kang, *Taylor Swift’s ‘1989’ Becomes the First Platinum Album of the Year*, WASH. POST (Nov. 5, 2014), <http://www.washingtonpost.com/news/business/wp/2014/11/05/taylor-swifts-1989-becomes-the-first-platinum-album-of-the-year> (stating that *1989* sold 1.287 million copies in its first week).

²⁵ Sanders, *supra* note 22. Adele is another recent example of an anomalous artist who has managed to sell huge numbers of albums despite the downward trend in album sales. Keith Caulfield, *Adele’s ‘25’ Biggest-Selling Album Released Since 2011, Spends Fourth Week at No. 1 on Billboard 200*, BILLBOARD (Dec. 20, 2015), <http://www.billboard.com/articles/columns/chart-beat/6813934/adele-25-billboard-200-biggest-selling-album-since-2011>.

²⁶ Sanders, *supra* note 22.

²⁷ Christopher Morris, *Music Sales Continue to Plummet for Albums and Digital Downloads*, VARIETY (July 3, 2014, 9:24 AM), <http://variety.com/2014/music/news/music-sales-fall-albums-digital-downloads-losses-1201257795>.

streaming service use,²⁸ with these services seeing an increase of forty-two percent.²⁹ And in 2014, streaming services out performed CD sales for the first time.³⁰ These services, however, do not provide the same lucrative payday as album sales once did.³¹ Interestingly, vinyl album sales are also up forty percent, but those make up a comparatively tiny portion of the overall market for music.³²

Quite obviously, this downward trend in album sales is partly driven by changes in recent technology. But it started as early as the late '90s when "[t]he wide availability of inexpensive portable music players, the introduction of digital formats and compression software pre-installed on almost every personal computer, and the ubiquity of the Internet destroyed the control exercised by traditional gatekeepers and made intellectual property in recorded music essentially unenforceable."³³ The losses have been felt both by major record labels³⁴ and the artists themselves.³⁵ Plunging revenue from albums

²⁸ See Sanders, *supra* note 22 (noting that many music listeners have moved to streaming services like Spotify).

²⁹ Morris, *supra* note 27.

³⁰ See Michelle Geslani, *Streaming Music Services Made More Money than CD Sales for the First Time Ever*, CONSEQUENCE OF SOUND (Mar. 19, 2015, 8:36 PM), <http://consequenceofsound.net/2015/03/streaming-music-services-made-more-money-than-cd-sales-for-the-first-time-ever> ("In 2014, streaming services raked in \$1.87 billion, compared to CD sales which accounted for \$1.85 billion."); see also JOSHUA P. FRIEDLANDER, NEWS AND NOTES ON 2014 RIAA MUSIC INDUSTRY SHIPMENT AND REVENUE STATISTICS, http://www.riaa.com/wp-content/uploads/2015/09/2013-2014_RIAA_YearEndShipmentData.pdf (compiling data related to changes in the music industry's revenue composition in 2014).

³¹ Sanders, *supra* note 22. Two of the most popular streaming services are Spotify and Pandora. Spotify is a program that can be downloaded onto a user's computer, phone, or tablet, and provides three services: 1) radio, in which a user specifies a genre, artist, or song, from which the program creates a playlist, 2) streaming, in which a user can search for a song, album, or artist and stream it over the Internet, and 3) offline playlists, which are only available to Premium paying customers. Sofia Ritala, *Pandora & Spotify: Legal Issues and Licensing Requirements for Interactive and Non-Interactive Internet Radio Broadcasters*, 54 INTELL. PROP. L. REV. 23, 41–42 (2013). Pandora, much like Spotify's Radio feature, creates playlists for its users based on the user's selection of a genre, artist, or song. *Id.* at 27. The program restricts a user's ability to skip tracks and fast forward through songs. *Id.* Spotify's streaming service is considered "interactive" under the Copyright Act, while Pandora's is considered "non-interactive." *Id.* at 25. 17 U.S.C. § 114(d) (2012) sets out an extremely complicated three-tiered system to govern streaming services, with interactive services like Spotify requiring special authorization, and less interactive services like Pandora required to pay only a compulsory license. For a precise definition of interactive service, please see 17 U.S.C. § 114(j)(7) (2012). The statutory license fees for non-interactive digital audio transmissions are set out in 37 C.F.R. §§ 380, 382–84 (2011). I should note that the use of the term "interactive" here is a term of art, specifically relating to these sections of the Copyright Act. "Interactive" as used elsewhere in the Note maintains its regular meaning.

³² Morris, *supra* note 27.

³³ Perritt, Jr., *supra* note 12, at 75.

³⁴ See *id.* at 76–78 (describing financial performance of four major record labels: EMI, Warner Music Group, Universal Music Group, and Sony BMG). EMI suffered a dip in

and singles has meant that artists and labels have had to look elsewhere to make a buck.

This is where touring and live performance comes in.³⁶ Consider the following quote regarding touring as a potential solution to the music industry's woes:

The solution must assume that peer-to-peer file sharing is here to stay and that attempting to stamp out flexible, adaptive, general-purpose personal computers and criminalize one of our most basic social-cultural practices will, and ought to, fail. Once we understand that, we can focus our energies on the range of solutions that have been suggested—from government funding to tip jars and performances—that aim at preserving the livelihood of artists, not the twentieth-century business model of industrial cultural production.³⁷

It seems, though, that touring can support the livelihoods of both artists and big business. Everyone from Paul Krugman to Arcade Fire agrees.³⁸ In 2007, the industry began to shift, as Madonna, U2, and Jay-Z inked huge deals with concert promoter Live Nation.³⁹ In 2013,

revenue of £330 million from 2006 to 2007; Warner Music Group's revenue dipped to \$3.4 billion in 2007 from \$3.5 billion in 2006, while going from a net profit of \$60 million to a net loss of \$21 million over the same period; Universal Music Group's revenues declined 1.7%, while its earnings fell 16% from 2006 to 2007; and lastly Sony BMG contributed an increased net income of \$5 billion to its parent company from the previous year, but that amount had little to do with record sales. *Id.*

³⁵ See, e.g., Kang, *supra* note 24 (noting that David Lowery, who co-founded the band Cracker, received only \$17 in royalties from the band's song "Low," which was listened to over a million times on Pandora); Aloe Blacc, *Aloe Blacc: Streaming Services Need to Pay Songwriters Fairly*, WIRED (Nov. 5, 2014, 6:30 AM), <http://www.wired.com/2014/11/aloe-blacc-pay-songwriters> (arguing that streaming services pay "abhorrently low" rates to songwriters, and showing that Avicii's "Wake Me Up," which the author co-wrote and was the most streamed song in Spotify history, yielded only \$12,359 to be split among three songwriters). Further highlighting the disconnect between streaming revenue and streaming volume, the Copyright Royalty Board recently set streaming royalty rates lower than the rates for which SoundExchange argued. Press Release, SoundExchange, SoundExchange Statement on Web IV Rate Decision (Dec. 16, 2015), <http://www.soundexchange.com/pr/soundexchange-statement-on-web-iv-rate-decision>. SoundExchange is the independent collective management organization that deals with artists' and copyright holders' digital performance royalties. *About*, SOUND EXCHANGE, <http://www.soundexchange.com/about> (last visited Jan. 30, 2016).

³⁶ See Schultz, *supra* note 11, at 686 (claiming it is common wisdom that most artists make their money on tour).

³⁷ Yochai Benkler, *Sharing Nicely: On Shareable Goods and the Emergence of Sharing as a Modality of Economic Production*, 114 YALE L.J. 273, 353 (2004).

³⁸ See Zack O'Malley Greenburg, *Paul Krugman and Arcade Fire Agree: Touring Is the Key to Music Money*, FORBES (Mar. 19, 2015, 3:48 PM), <http://www.forbes.com/sites/zackomalleygreenburg/2015/03/19/paul-krugman-and-arcade-fire-agree-touring-is-the-key-to-music-money> ("[L]ive music is . . . where artists make the bulk of their bucks.").

³⁹ Amy Phillips, *Jay-Z Signs with Live Nation for a Bazillion Dollars*, PITCHFORK (Apr. 3, 2008, 1:53 AM), <http://pitchfork.com/news/29001-jay-z-signs-with-live-nation-for-a>

the top ten tours of the year grossed a combined \$1.33 billion.⁴⁰ Touring continues to grow, as domestic grosses were up 3.4% over 2013 and estimates show that the global touring business is valued near \$20 billion annually, a record high.⁴¹ Live Nation had a record year for its stadium shows and pulled in a total gross of \$2.1 billion.⁴² Success was had across the board, from rock and pop legends to decade old acts to the new boy band in town, and Coachella, a music and art festival in southern California,⁴³ reported its highest gross ever.⁴⁴ In 2014, out of the top ten earners in music, only Dr. Dre did not earn the bulk of his money through touring.⁴⁵ The prognosis remains bullish for live music.⁴⁶ In fact, in 2015, over half of every dollar spent on music went to live performances.⁴⁷

One genre that has seen especially significant growth and revenue through live performances is electronic dance music. Income from performances at festivals and clubs makes up \$4.2 billion of electronic music's overall revenue of \$6.2 billion.⁴⁸ In 2014, the top nine earners

bazillion-dollars. Jay-Z's deal was worth \$150 million, encompassing tours, albums, endorsements, and other business ventures for the next ten years; U2 signed a twelve year deal, including touring, merchandising, and website management, but not recording, and the financials were not disclosed; Madonna's deal was worth \$120 million, and was a true 360 deal. *Id.*

⁴⁰ *Top 25 Tours of 2013*, BILLBOARD (Dec. 13, 2013, 8:00 AM), <http://www.billboard.com/articles/list/5820092/top-25-tours-of-2013>. The number was calculated by adding the total gross of the tours ranked one through ten. *Id.*

⁴¹ Ray Waddell, *Live Music's \$20 Billion Year: Rolling Stones, One Direction, Live Nation Top Boxscore's Year-End*, BILLBOARD (Dec. 12, 2014), <http://www.billboard.com/articles/business/6406028/boxscore-top-tours-2014-rolling-stones-live-nation>.

⁴² *Id.*

⁴³ *Coachella Valley Music and Arts Festival*, WIKIPEDIA, http://en.wikipedia.org/wiki/Coachella_Valley_Music_and_Arts_Festival (last visited Jan. 30, 2016).

⁴⁴ Waddell, *supra* note 41.

⁴⁵ Greenburg, *supra* note 38.

⁴⁶ See Glenn Peoples, *PwC's Music Biz Forecast for the Next Four Years? More of the Same, Despite Looming Changes*, BILLBOARD (June 2, 2015), <http://www.billboard.com/articles/business/6583239/pwcs-music-biz-forecast-for-the-next-four-years-more-of-the-same-despite> (noting that PricewaterhouseCoopers's annual Entertainment & Media Outlook report sees live music as continuing to grow over next five years); see also Ray Waddell, *Live Music's \$20 Billion Year: The Grateful Dead's Fare Thee Well Reunion, Taylor Swift, One Direction Top Boxscore's Year-End*, BILLBOARD (Dec. 11, 2015), <http://www.billboard.com/articles/news/6805333/top-boxscores-2015-power-healthy-touring-industry> (describing the continued strong performance of major live acts and tour promoters such as Live Nation and AEG, while also noting the growth and "stickiness" of the industry in terms of attendance and revenue).

⁴⁷ Paul Resnikoff, *In 2015, 52% of All Music Spending Went to Live Concerts*, DIGITAL MUSIC NEWS (Jan. 8, 2016), <http://www.digitalmusicnews.com/2016/01/08/one-third-of-all-music-spending-goes-to-live-events>.

⁴⁸ KEVIN WATSON, IMS BUSINESS REPORT 2014: AN ANNUAL STUDY OF THE ELECTRONIC MUSIC INDUSTRY 23 (2014), http://www.internationalmusicsummit.com/img/stand_alone_files/file/original/ims-business-report-2014-vfinal-12.pdf.

in this genre pulled in roughly \$225 million, which is just under double what the top nine had earned the year before.⁴⁹ Because much of electronic dance music's growth and revenue can be attributed to live performances, and because these shows often involve intense visual and lighting displays,⁵⁰ the genre is an interesting and readily applicable case study for the potential effects of VR.⁵¹

B. *"In Some Ways, the Biggest Competitor . . . Might Be a Bottle of Wine"*⁵²: *An Introduction to Virtual Reality*

"Talking about virtual reality is like dancing about architecture."⁵³ Recognizing that it is quite difficult to put into words something that must be experienced to be believed, let us jump in to a brief survey of the world of VR. Facebook's purchase of Oculus VR certainly made a big splash and propelled VR into the spotlight. But Oculus is by no means the only company vying to compete in the new space. In the headset market alone, HTC has teamed up with Valve to create the Vive,⁵⁴ Samsung has released its own Gear headset,⁵⁵ Sony will be releasing its Playstation VR system in October of 2016,⁵⁶ and Microsoft's HoloLens is also in the works.⁵⁷ Stanford University's

⁴⁹ *Id.* at 8.

⁵⁰ See, e.g., Michelle Lhooq, *Why Eric Prydz's EPIC 3.0 at Madison Square Garden Was a Middle Finger Aimed at Lazy EDM*, THUMP (Sept. 29, 2014), http://thump.vice.com/en_us/article/why-eric- Prydzs-epic-30-at-madison-square-garden-was-a-middle-finger-aimed-at-lazy-edm (describing elements involved in Prydz's show, including "[r]ainbow lasers as tall as skyscrapers," "[t]he world's largest hologram," and "[d]igital screens bigger than jumbo jets" which took the "live visuals to the next level" and turned the DJ set into "artistry"); see also Yankee, *Eric Prydz Epic 3.0 4K Hologram @ Madison Square Garden*, YOUTUBE (Sept. 30, 2014), http://www.youtube.com/watch?v=QVVO_wmH6-M.

⁵¹ Lhooq even noted that this show was a completely immersive, *individual* experience, where she was "swallowed up by a hurricane of lights and sounds" and had very little interaction with friends, indicating the potential ease with which a show like this could make the jump to VR. Lhooq, *supra* note 50.

⁵² Manjoo, *supra* note 8.

⁵³ Josh Rubin, *QuoTED 2015*, COOL HUNTING (Mar. 23, 2015), <http://www.coolhunting.com/culture/ted-2015-quotes> (quoting Chris Milk in 2015 TED talk).

⁵⁴ Carlos Rebato, *HTC Vive: Virtual Reality That's So Damn Real I Can't Even Handle It*, GIZMODO (Mar. 4, 2015, 1:00 PM), <http://gizmodo.com/htc-vive-virtual-reality-so-damn-real-that-i-cant-even-1689396093>.

⁵⁵ Nicole Lee, *Samsung Gear VR Review (2015): A No-Brainer if You Own a Samsung Phone*, ENGADGET (Nov. 25, 2015), <http://www.engadget.com/2015/11/25/samsung-gear-vr-review-2015>.

⁵⁶ Scott Stein & Sean Hollister, *Playstation VR: \$399, Coming in October, and It Looks Pretty Good to Us*, CNET (Mar. 16, 2016, 1:43 AM), <http://www.cnet.com/products/sony-playstation-vr>.

⁵⁷ Jessi Hempel, *Project HoloLens: Our Exclusive Hands-On with Microsoft's Holographic Goggles*, WIRED (Jan. 21, 2015, 1:43 PM), <http://www.wired.com/2015/01/microsoft-hands-on>.

Virtual Human Interaction Lab claims to have “one of the most intense, immersive virtual reality experiences on the planet.”⁵⁸ On the other end of the spectrum, Google, at its I/O conference in June 2014, used a cardboard box to transform attendees’ smartphones into VR headsets.⁵⁹ These products are all at various stages of development, however, with Samsung releasing their Gear VR headset commercially in November of 2015.⁶⁰

How exactly do these headsets work? They send computer generated images to each eye.⁶¹ A feeling of immersion occurs when the headset tracks the movement of your head and eyes, adjusting the images in response to your movements.⁶² The HTC Vive utilizes something called positional tracking, which makes use of two sensors that you put on a wall and two controllers that serve as virtual hands that track you and the movements of your whole body.⁶³ Microsoft’s HoloLens is different still. The device makes use of a depth camera that has a field of vision that spans 120 by 120 degrees, sensing where your hands are and what they are doing.⁶⁴ The device’s sensors send massive amounts of data, quite rapidly, to the onboard central processing unit (CPU), graphics processing unit (GPU), and a unique, one of a kind holographic processing unit (HPU).⁶⁵ The key to the realism of the HoloLens is making your brain see light as matter. It does this by bouncing light particles around the device’s “light engine,” which subsequently enter the goggle’s lenses, where the photons crash between red, blue, and green glass before reaching the back of your eye.⁶⁶ This is, effectively, a recreation of the way your brain processes light and thus, a recreation of how you see the world around you in your day-to-day life.⁶⁷

⁵⁸ Manjoo, *supra* note 8 (noting that the lab has a pair of five-pound, \$30,000 goggles, which are far more intricate and sophisticated than headsets that will be marketed to consumers like the Rift).

⁵⁹ See Pierce, *supra* note 55 (hypothesizing that smartphones already contain many of the elements needed in a VR headset).

⁶⁰ John Gaudiosi, *This Company Dominates the Virtual Reality Business, and It's Not Named Oculus*, FORTUNE (Mar. 19, 2015, 6:27 PM), <http://fortune.com/2015/03/19/unity-virtual-reality> (discussing the VR devices being developed); Lee *supra* note 55.

⁶¹ Manjoo, *supra* note 8.

⁶² See *id.* (indicating that quality of experience depends on accuracy of headset in tracking those movements, and that if it is just a little off, the simulation loses its realism).

⁶³ Rebato, *supra* note 54.

⁶⁴ Hempel, *supra* note 57.

⁶⁵ *Id.*

⁶⁶ *Id.*

⁶⁷ See *id.* (detailing how realistic holograms work).

Regardless of how exactly the data goes from the headset to your brain, that data is created by software.⁶⁸ The ways in which software is used and deployed are as varied and interesting as the creation of the headsets themselves. Virtualis, in conjunction with the British Geological Survey, has created a product called GeoVisionary, which is visualization software that loads massive amounts of data for the purpose of analyzing large geographic regions, allowing the user to interact with it in three or four dimensions.⁶⁹ Unity Technologies, a company specializing in gaming, architecture, and gambling experiences, produces a VR development kit that it claims has been used in ninety to ninety-five percent of the content created for VR devices.⁷⁰ Jaunt, another emerging VR player, provides both hardware and software—combining cameras with 3D stereoscopic video recording capabilities and 3D sound field microphones with software that transforms and renders the recorded audiovisual data into a VR compatible experience—in an effort to provide, what they describe as “cinematic,” immersive content of the “highest quality.”⁷¹

As illustrated above, the range of capabilities within the VR universe is vast, from hyperrealistic 3D gaming, to virtual data mapping, to real world cinematic recreations of immersive environments. So how are these capabilities actually being channeled to ordinary consumers? Arkamys, a company that specializes in car audio, has created a 360 degree, audiovisual demo for the Rift that allows a user to adopt someone else’s perspective, and showed this through a one-on-one basketball demo.⁷² Google’s augmented reality company Magic Leap recently released a video demo of a game in which real objects around the office, including decorative guns, turn into virtual weapons to shoot virtual zombies that appear in the office.⁷³ Even apparel retailers are getting into the game. Outdoor apparel company, the

⁶⁸ See *About Virtualis*, VIRTUALIS, <http://www.virtualis.com/about.php> (last visited Jan. 30, 2016) (describing company’s creation of various VR software applications).

⁶⁹ *GeoVisionary*, VIRTUALIS, <http://www.virtualis.com/geovisionary/#prettyPhoto> (last visited Jan. 30, 2016).

⁷⁰ Gaudiosi, *supra* note 60.

⁷¹ *Technology*, JAUNT, <http://www.jauntvr.com/technology> (last visited Jan. 30, 2016).

⁷² Ben Popper, *This Company Is Using Virtual Reality to Make 360-Degree Movies: With VR Headsets Multiplying, Companies Are Preparing to Ride a Booming New Industry*, THE VERGE (Jan. 5, 2015, 12:10 PM), <http://www.theverge.com/2015/1/5/7490557/arkamys-360-degrees-audio-video-virtual-reality>.

⁷³ Adi Robertson, *Magic Leap Just Revealed an Augmented Reality Steampunk Shooter*, THE VERGE (Mar. 19, 2015, 3:39 PM), <http://www.theverge.com/2015/3/19/8259561/magic-leap-weta-workshop-augmented-reality-game>. While the video demo looks intriguing, augmented reality is “notoriously difficult to represent.” *Id.*

North Face, is introducing VR headsets at its store in Chicago.⁷⁴ The company teamed up with the aforementioned Jaunt to create a short movie transporting the shoppers to a virtual world alongside North Face athletes Sam Elias and Cedar Wright as they climb mountains in the Moab Desert and Yosemite National Park.⁷⁵

Jaunt has also created content in the music world, collaborating with Big Sean, Jack White, and Paul McCartney, in what they describe as their “first publicly released cinematic VR experience.”⁷⁶ Jaunt’s collaboration with Big Sean involves TV network REVOLT, and when asked about the partnership, Jaunt’s CEO said “[c]oncert and festival environments are perfectly suited for virtual reality and our content provides fans with a truly unique opportunity to feel like they’re up close and personal with their favorite artist.”⁷⁷ And it is not just software companies attempting to merge music with VR.⁷⁸ Dutch concert promoter ID&T teamed up with YouVisit to create an interactive tour of their TomorrowWorld festival held just outside Atlanta, Georgia.⁷⁹ Artists themselves are also taking the initiative.⁸⁰ Björk released a video for her album *Vulnicura*’s “Stonemilker,”⁸¹ shot spe-

⁷⁴ David Matthews, *The North Face’s New Virtual Reality Gear Takes Shoppers to Moab, Yosemite*, DNAINFO (Mar. 23, 2015, 6:00 AM), <http://www.dnainfo.com/chicago/20150323/streeterville/north-faces-new-virtual-reality-gear-takes-shoppers-moab-yosemite>.

⁷⁵ *Id.*

⁷⁶ *Cinematic Virtual Reality*, JAUNT.COM, <http://www.jauntvr.com/ny/> (last visited Mar. 21, 2016); see also Dan Raile, *Super-Humanizing: Virtual Reality, Music and the Coming Revolution*, BILLBOARD (Nov. 20, 2014), <http://www.billboard.com/articles/business/6327151/virtual-reality-oculus-rift-paul-mccartney-jaunt> (describing author’s experience watching Paul McCartney concert in virtual reality).

⁷⁷ Bruce Houghton, *Virtual Reality Concerts: Music TV Network REVOLT Partners with Jaunt*, HYPEBOT (Mar. 23, 2015), <http://www.hypebot.com/hypebot/2015/03/virtual-reality-concerts-music-tv-network-revolt-partners-with-jaunt.html>.

⁷⁸ See, e.g., *supra* notes 3–5 and accompanying text (discussing Chris Milk and Beck’s collaboration); see also Vevo Looks to Take Music Videos into Virtual Reality, BILLBOARD (Sept. 3, 2014), <http://www.billboard.com/articles/business/6236682/vevo-virtual-reality-videos-samsung-gear-vr-headset> (discussing video hosting website’s plan to have fully redesigned music video experience to accompany Samsung Gear).

⁷⁹ Lauren Moraski, *Take a Tour Inside the TomorrowWorld Music Festival*, CBS NEWS (Nov. 24, 2014, 12:34 PM), <http://www.cbsnews.com/news/take-a-tour-inside-the-tomorrowworld-music-festival>. ID&T is the same promoter that organizes the range of Sensation events, see ID&T, SFX, <http://www.sfxii.com/sfx-entertainment-companies/idt> (last visited Mar. 30, 2016), indicating that ID&T might already have an eye towards the VR space.

⁸⁰ See Raile, *supra* note 76 (noting that The Who have launched VR app, Swedish singer Jose Gonzalez has released music video made with Oculus Rift, and Taylor Swift has released 360-degree music video for “Blank Space”).

⁸¹ Björk, *Björk: Stonemilker (360 degree virtual reality)*, YOUTUBE (June 6, 2015), <https://www.youtube.com/watch?v=GQEyzu7G20>.

cifically for VR headsets, using a 360 camera.⁸² And while Björk may be interested in creating museum worthy art,⁸³ other artists may be more interested in using VR to help them overcome stage fright.⁸⁴ Suffice it to say, the marriage of music and VR is not hard to imagine.

C. *A Tale of Two Tours*

Before diving into IP doctrine, let us quickly take a look at our two case studies: Sensation and Roger Waters's *The Wall Live*. Sensation is a global electronic music production.⁸⁵ The event started back in 2000, and held its fifteenth anniversary on July 4, 2015.⁸⁶ Sensation is generally themed—either White or Black corresponding to the genre of music the DJs will play⁸⁷—and has hosted some of the world's most famous electronic music artists.⁸⁸ The event is highly aesthetic, with attendees of Sensation White required to dress in all white.⁸⁹ Each stop on the tour is given a title—Ocean of White, for example—which signals the story each show intends to tell.⁹⁰ The show requires a large crew to follow it from city to city, setting up and engineering the production in various arenas around the globe.⁹¹ The unique atmosphere is highlighted by a signature rotating center stage, with pyrotechnics, acrobats, live installations, wild décor, and high-

⁸² Bill Pearis, *Bjork Played 2 Shows at King's Theatre (Pics, Setlists), Showing Virtual Reality "Stonemilker" Vid @ MoMA PS1 & Rough Trade*, BROOKLYNVEGAN (Mar. 23, 2015), http://www.brooklynvegan.com/archives/2015/03/bjork_played_2.html.

⁸³ See *id.* (highlighting that "Stonemilker" video will have installation at MoMA PS1).

⁸⁴ See Dalya Alberge, *Concert Hall Simulator Helps Musicians Prepare to Perform*, THE GUARDIAN (Mar. 21, 2015, 8:05 PM), <http://www.theguardian.com/music/2015/mar/22/musicians-virtual-reality-technology-prepare-live-performances> (charting development of a "performance simulator" by the Royal College of Music in London designed to help musicians handle real life distractions).

⁸⁵ See *Past Events*, SENSATION, <http://www.sensation.com/past-events> (last visited Jan. 25, 2016) (describing events held in over thirty countries).

⁸⁶ See *Sensation "The Legacy" in the Amsterdam Arena*, AMSTERDAM ARENA (Mar. 9, 2015), <http://www.amsterdamarena.nl/Tonenop-paginas-1/Default-showon-page/Sensation-The-Legacy-in-the-Amsterdam-Arena.htm> (describing Sensation's fifteenth anniversary event on July 4, 2015).

⁸⁷ See *Sensation (event)*, WIKIPEDIA, [http://en.wikipedia.org/wiki/Sensation_\(event\)](http://en.wikipedia.org/wiki/Sensation_(event)) (last modified Mar. 6, 2016) (describing Sensation White as focusing more on trance and house, while Sensation Black highlights hard trance, hardstyle, and hardcore).

⁸⁸ Raju Mudhar, *Sensation White: 5 Things You Need to Know*, THE STAR (May 31, 2013), http://www.thestar.com/entertainment/music/2013/05/31/european_sensation_makes_its_canadian_debut.html; see also WIKIPEDIA, *supra* note 87 (listing Tiësto, Afrojack, David Guetta, and more as having performed at Sensation). Those DJs are numbers three, six, and two, respectively, on Forbes's 2014 list of the top earning DJs. *The World's Highest-Paid DJs 2014*, FORBES, <http://www.forbes.com/pictures/eeel45eljkm/the-worlds-12-highest-paid-djs-2> (last visited Jan. 30, 2016).

⁸⁹ Mudhar, *supra* note 88.

⁹⁰ See *id.* ("Toronto's stop . . . is called 'Ocean of White.'").

⁹¹ *Id.*

tech lighting,⁹² which seems to create a devoted reverence among house music fans.⁹³

The event can draw up to 50,000 fans,⁹⁴ with tickets selling out repeatedly.⁹⁵ Robert Sillerman's SFX paid \$130 million for a hundred percent stake in ID&T in 2013.⁹⁶ SFX's infusion of cash helped propel Sensation to successful new debuts in Dubai and Monterrey, and SFX's revenue rose to \$386.2 million, with attendance for events and festivals up 8.9%.⁹⁷ Live performance attendance for SFX's brands rose 38.4% over the previous year through the third quarter of 2015,⁹⁸ signaling a growing demand for shows and products like Sensation.

Roger Waters, on the other hand, inhabits a totally different sect of the music market. The former lead singer of Pink Floyd⁹⁹ took *The Wall Live* on tour for three years, starting in 2010.¹⁰⁰ The tour totaled

⁹² *Id.*; Sophia Zee, *Bud Light Sensation Toronto – Review*, THE SCENE (June 5, 2013), <http://www.thescenemagazine.ca/bud-light-sensation-toronto-review>.

⁹³ See, e.g., Marcus Laflamme, *10 Reasons Bud Light's Sensation Will Be 2013's Most Insane Party*, AUX (Mar. 26, 2013), <http://www.aux.tv/2013/03/10-reasons-bud-lights-sensation-will-be-2013s-most-insane-party> (calling show an “unparalleled feast for the senses”); *Sensation Canada Was Pure Magic (Review)*, EDMCANADA (June 4, 2013), <http://www.edmcanada.com/blog/2013/6/4/sensation-canada-was-pure-magic-review> (“[I]t was intoxicating. It felt like we were all united for a single purpose as if we were all part of the same culture.”); Zee, *supra* note 92 (describing her incredibly high expectations for show that is “about the holistic journey and story-like experience built in unity through each artists’ sets supported by the overarching theme with all those in attendance”). But see Zel McCarthy, *Sensation's Lukewarm Ocean of White Stops in Las Vegas: Review*, BILLBOARD (Oct. 8, 2013), <http://www.billboard.com/articles/columns/code/5748153/sensations-lukewarm-ocean-of-white-stops-in-las-vegas-review> (arguing that the show's production “missed the bar” by Las Vegas standards).

⁹⁴ Stevenson, *supra* note 9.

⁹⁵ E.g., Matthew Cassella, *Sensation USA Sells Out Tickets for October 27 Date in Less Than Two Hours*, MIXJUNKIES (June 8, 2012), <http://www.mixjunkies.com/sensation-usa-sells-out-tickets-for-october-27-date-in-less-than-two-hours>.

⁹⁶ *SFX Entertainment Acquires 100% of ID&T, World Leader of Dance Music Events*, MARKETWATCH (Oct. 21, 2013, 8:00 AM), <http://www.marketwatch.com/story/sfx-entertainment-acquires-100-of-idt-world-leader-of-dance-music-events-2013-10-21>.

⁹⁷ See *SFX Entertainment Reports Fourth Quarter Financial Results and Provides Update on Recent Developments*, BUSINESSWIRE (Mar. 13, 2015, 7:00 AM), <http://www.businesswire.com/news/home/20150313005099/en/SFX-Entertainment-Reports-Fourth-Quarter-Financial-Results> (noting, in particular, the “dramatic growth” of ID&T's brand repertoire).

⁹⁸ *SFX Entertainment Reports Third Quarter Financial Results*, BUSINESSWIRE (Nov. 9, 2015, 6:20 PM), <http://www.businesswire.com/news/home/20151109006865/en/SFX-Entertainment-Reports-Quarter-Financial-Results>.

⁹⁹ See Kory Grow, *Roger Waters Reminds Curious Fans: 'I Am Not Part of Pink Floyd'*, ROLLING STONE (Oct. 2, 2014), <http://www.rollingstone.com/music/news/roger-waters-reminds-curious-fans-i-am-not-part-of-pink-floyd-20141002> (noting that Waters left the band in 1985).

¹⁰⁰ Bob Allen, *Roger Waters Passes Madonna for Solo Boxscore Record with \$459M Wall Live Tour*, BILLBOARD (Oct. 4, 2013, 7:14 PM), <http://www.billboard.com/biz/articles/news/5748070/roger-waters-passes-madonna-for-solo-boxscore-record-with-459m-wall-live>.

an “impressive” 219 performances.¹⁰¹ *The Wall Live*, like Sensation, is a heavily visual, context driven performance.¹⁰² The show involves, “live action, garish puppetry, actors, musicians and enough projected motion pictures to warrant its coverage in a film column like *The Next Reel*,” and as it progresses, the wall itself is built up and used as a screen, eventually shielding Waters, only to be torn down “in a violent tumble of smoke and broken brick.”¹⁰³ Like Sensation, *The Wall Live* was also immensely profitable. The tour grossed \$459 million over its three-year life span, shattering Madonna’s solo tour record of \$407 million, and earning Waters the third highest grossing tour of all time.¹⁰⁴

Sensation and *The Wall Live* are prime candidates of live performances through which one can analyze the potential impact of VR. For one, they are both moneymakers, so if VR is a suitable replacement to the live show, there is a lot to (potentially) lose.¹⁰⁵ And if VR is a suitable addition and complement, there is a lot to (potentially) gain.¹⁰⁶ Additionally, both of these shows are content rich beyond the music itself.¹⁰⁷ That means that not only are they well suited for the immersive, potentially interactive VR environment,¹⁰⁸ but the IP questions surrounding the protectability of the virtual environment are complex and unanswered.¹⁰⁹

II

AN OVERVIEW OF THE APPLICABLE INTELLECTUAL PROPERTY REGIMES TO “CONCERT DESIGN”

As a preliminary note, I will not be discussing the protectability of the music itself. Many scholars have studied the copyrightability of

¹⁰¹ *Id.*

¹⁰² See J.C. Macek III, *The Cinematic Experience of Roger Waters’ ‘The Wall Live’*, POPMATTERS (Sept. 4, 2012), <http://www.popmatters.com/column/162226-the-cinematic-experience-of-roger-waters-the-wall-live> (describing tour as a “theatrical production”).

¹⁰³ *Id.* For a very detailed recap of all the animation, visuals, and associated imagery that accompanied Roger Waters’s performance, see *id.*

¹⁰⁴ Allen, *supra* note 100.

¹⁰⁵ Cf. Perritt, Jr., *supra* note 12, at 92 (explaining that the virtual experience is not a substitute for the “special kind of satisfaction” that fans get from attending live show).

¹⁰⁶ See Constine, *supra* note 4 (hypothesizing that virtual reality could unlock “much more vivid” experiences for those who are not able to attend concerts).

¹⁰⁷ See *supra* Part I.C.

¹⁰⁸ It’s not too difficult to imagine a virtual Sensation in which there were fully interactive digital replicas of the art installations present at the real arena, or to imagine virtually attending *The Wall Live*, watching over the arena sitting atop the floating war pig. See, e.g., Constine, *supra* note 4 (highlighting ability of user in VR show to control vantage point and where he or she looks); Macek, *supra* note 102 (describing Pink Floyd pig flying over audience).

¹⁰⁹ See *infra* Part III.

music in multimedia format,¹¹⁰ and the results would likely be the same for VR. Rather, I will be looking at IP regimes as they apply to the aspects of concert design.

A. Stage, Lighting, and Set Design; Background Visuals

There is almost no literature or case law that specifically discusses stage, lighting, and set design in live musical performances. Presumably, this is because, like with film,¹¹¹ the firms hired to do this work sign a contract with the tour promoter or with the artist that relegates the final product to a work made for hire.¹¹² When a work of authorship is considered a work made for hire, the copyright vests in the “employer or other person for whom the work was prepared.”¹¹³ Authorship, in this case, is a function of the industry,¹¹⁴ and recognition of what Professor Justin Hughes terms “microworks” can have detrimental effects on the overall copyright system.¹¹⁵

While the film industry may have found a way to decrease litigation while remaining in line with the greater purpose of copyright,¹¹⁶ stage, lighting, and set design, could be protectable. Copyright is one avenue under which stage, lighting, and set design could be protected.¹¹⁷ Stage, lighting, and set design for concerts is a highly crea-

¹¹⁰ See, e.g., Vlad Kushnir, *Legal and Practical Aspects of Music Licensing for Motion Pictures*, 8 VAND. J. ENT. & TECH. L. 71 (2005) (discussing copyrightability of music in motion pictures); Kurt Hunt, Note, *Copyright and YouTube: Pirate's Playground or Fair Use Forum?*, 14 MICH. TELECOMM. & TECH. L. REV. 197, 203 (2007) (discussing licensing of copyrighted music on YouTube); Eugene C. Kim, Note, *YouTube: Testing the Safe Harbors of Digital Copyright Law*, 17 S. CAL. INTERDISC. L.J. 139, 146 (2007) (discussing copyright protection of music on YouTube); Robert G. Martin, Comment, *Music Video Copyright Protection: Implications for the Music Industry*, 32 UCLA L. REV. 396 (1984) (discussing copyright protection of music videos).

¹¹¹ See Rebecca Tushnet, *Performance Anxiety: Copyright Embodied and Disembodied*, 60 J. COPYRIGHT SOC'Y U.S.A. 209, 224 (2012) (“[Work made for hire contracts] are routinely signed with the traditionally recognized author-candidates involved in creating a film.” (internal citation omitted)).

¹¹² For a description of how a work is created as a work made for hire, see Cmty. for Creative Non-Violence v. Reid, 490 U.S. 730, 742–43 (1989).

¹¹³ 17 U.S.C. § 201(b) (2012).

¹¹⁴ See Tushnet, *supra* note 111, at 230–37 (highlighting performers’ authorship issues in *Innocence of Muslims* video).

¹¹⁵ See Justin Hughes, *Size Matters (or Should) in Copyright Law*, 74 FORDHAM L. REV. 575, 578 (2005) (defining microworks as tiny pieces of overall expressive work).

¹¹⁶ See *id.* (noting copyright’s originality principle, and that small enough works should not pass that bar).

¹¹⁷ Traditional copyright theory would suggest otherwise—that a stage is a structure, which serves a utilitarian purpose (to showcase the band), and is thus not copyrightable. See 1 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 2.08 (D)(2)(b) (2015) (“[A]n architectural structure . . . has ‘an intrinsic utilitarian function that is not merely to portray the appearance of the article or to convey information.’ For that reason, such structures remain unprotected by United States copyright law . . .”).

tive process,¹¹⁸ and given that copyright protects “original works . . . in any tangible medium of expression,”¹¹⁹ this aspect of concert design could reasonably fall under copyright’s purview. Martin Phillips is the man behind one of the most iconic structures in touring history: Daft Punk’s pyramid from their *Alive* tour.¹²⁰ Phillips broke the mold during that tour by figuring out a way to let Daft Punk freestyle via Ableton Live, while still synchronizing the visuals to the set.¹²¹ Given how electronic music concerts emphasize visuals and light,¹²² the creative prowess of the stage and lighting designer is front and center in the *Alive* tour, as is the case in many other modern electronic music concerts. The pyramid¹²³ and other visuals in these concerts are analogous to the images in the DEFENDER video game at issue in *Williams Electronics, Inc. v. Artic International, Inc.*, which were held protectable under copyright.¹²⁴ The coordinated visuals and light shows accompanying concerts could thus reasonably be considered an original work of authorship, fixed in a tangible medium of expression, and protected by copyright.

Yet not all stage, lighting, and set design involves moving visuals. Take, as another example, this photo of the main stage at an ID&T event called Tomorrowland:

¹¹⁸ See, e.g., *Live Entertainment*, PKSOUND, <http://www.pksound.ca/live/services/live-entertainment> (last visited Mar. 21, 2016) (describing company’s “full portfolio of services including video and lighting, including theatrical design, rigging, staging, and special effects” as satisfying concert-goers’ demands for an “entire sensory experience”).

¹¹⁹ 17 U.S.C. § 102(a) (2012).

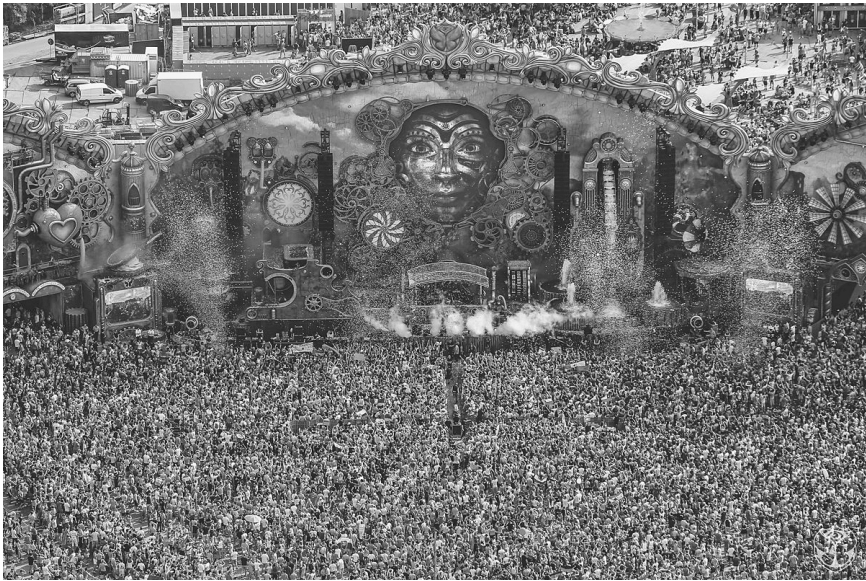
¹²⁰ Mike Sugarman, *Meet the Man Behind the Daft Punk Pyramid and the Presets’ New Tour*, THE CREATORS PROJECT (Oct. 29, 2014), <http://thecreatorsproject.vice.com/blog/meet-the-man-behind-the-daft-punk-pyramid-and-the-presets-new-tour>.

¹²¹ See *id.* (“This kind of sonically storytelling show would require an elegant communication between technologies, with pieces of music from Daft Punk’s live set triggering certain video elements and lighting gestures.”).

¹²² See *id.* (quoting Phillips comparing old shows like Queen, which were highly focused on the band, to modern shows, where DJs are often limited to one spot on the stage).

¹²³ See, e.g., valhalla66, *Daft Punk at Coachella 06 (GREAT QUALITY)*, YOUTUBE (May 1, 2006), <https://www.youtube.com/watch?v=9a5dBJDz2vs> (showing Daft Punk’s pyramid at 2006 performance).

¹²⁴ 685 F.2d 870, 874 (3d Cir. 1982) (holding that audiovisual features of the DEFENDER game repeat and are thus sufficiently permanent to constitute fixation).



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Certain aspects of this stage would indeed be functional, like the confetti canons, and thus unavailable for copyright protection. Even if one considered the whole stage a structure, and thus utilitarian, a good amount of this stage is aesthetically protectable under the doctrine of conceptual separability.¹²⁶ This stage would likely pass all the tests, as it is primarily aesthetic based on the amount and detail of the structural and painted on ornamentation,¹²⁷ the aesthetic and utilitarian features are not even close to “inextricably intertwined,”¹²⁸ and the set designer could simply say he or she sought aesthetic ends.¹²⁹ The conceptually separable aspects of this stage function like a

¹²⁵ TOMORROWLAND, *Untitled* (photograph), http://www.tomorrowland.com/sites/default/files/styles/image_gallery_full/public/media/Galleries/2014%20-%20W1/2014_-we1-104.jpg (last visited Jan. 30, 2016).

¹²⁶ The doctrine of conceptual separability is defined and articulated in the following cases: *Brandir International, Inc. v. Cascade Pacific Lumber Co.*, 834 F.2d 1142, 1143–44 (2d Cir. 1987); *Carol Barnhart, Inc. v. Economy Cover Corp.*, 773 F.2d 411, 413–14 (2d Cir. 1985); *Kieselstein-Cord v. Accessories By Pearl, Inc.*, 632 F.2d 989, 993 (2d Cir. 1980). The basic idea behind the doctrine of conceptual separability is that a useful article, usually products of industrial design, are not copyrightable unless “the aesthetic features of a useful article can be identified separately from, and can exist independently of, the work’s utilitarian functions.” Barton R. Keyes, Note, *Alive and Well: The (Still) Ongoing Debate Surrounding Conceptual Separability in American Copyright Law*, 69 OHIO ST. L.J. 109, 110 (2008) (internal citation omitted).

¹²⁷ See *Kieselstein-Cord*, 632 F.2d at 993–94 (explaining that belt buckle was conceptually separable because it was ornamental and aesthetic, not merely utilitarian).

¹²⁸ *Carol Barnhart*, 773 F.2d at 419.

¹²⁹ See *Brandir Int’l*, 834 F.2d at 1146–47 (holding that RIBBON RACK was not copyrightable because it was primarily utilitarian, not aesthetic).

painting, sending visual cues to the crowd about where they are, and the experience they should be having.¹³⁰

Creative use of design patent could also be applied to protect these aspects of concert design should copyright fail. Turning again to the Daft Punk pyramid and lighting scheme, Jason Du Mont and Mark Janis argue that design patents are actually quite a good fit for virtual designs.¹³¹ Thinking about the light show and visuals as the surface treatment of the various computer commands sent from the light and stage director to the lights and screens,¹³² these elements of the show might be eligible for design patent protection. It does not matter that the designs are not permanently fixed on the screen, as “the permanence of any design is a function of the materials in which it is embodied and the effects of the environment thereon.”¹³³ In 2005, the design patent guidelines were officially amended to allow for animated virtual designs as well.¹³⁴

Design patent might also work for the Tomorrowland stage. Design patents are granted to anyone who “invents any new, original, and ornamental design for an article of manufacture.”¹³⁵ Thus, the plain wood, steel, and other materials used to put the stage together could be deemed articles of manufacture, and certainly one could argue that the stage, in its completed form, is an article of manufacture as well.¹³⁶ Thus, the three-winged design of the stage, the ornamentation on top of the stage,¹³⁷ and the placement of the large face in the middle of the wall could all reasonably be covered by design patent.¹³⁸

¹³⁰ See, e.g., Rebeca Sánchez-Roig, Note, *Putting the Show Together and Taking It on the Road: Copyright, the Appropriate Protection for Theatrical Scenic and Costume Designs*, 40 SYRACUSE L. REV. 1089, 1116 (1989) (arguing that theatre scenery, unlike a utilitarian product, “functions as a sensory mechanism to allow a viewer to fulfill emotionally pleasurable needs or undergo a cathartic experience”).

¹³¹ Jason J. Du Mont & Mark D. Janis, *Virtual Designs*, 17 STAN. TECH. L. REV. 107, 112 (2013).

¹³² See *id.* at 114 (explaining how virtual designs characterized as surface treatments are eligible for design patent protection).

¹³³ *In re Hruby*, 373 F.2d 997, 999 (C.C.P.A. 1967).

¹³⁴ Du Mont & Janis, *supra* note 131, at 126.

¹³⁵ 35 U.S.C. § 171(a) (2012).

¹³⁶ See *Riter-Conley Mfg. Co. v. Aiken*, 203 F. 699, 703 (3d Cir. 1913) (“The term ‘manufacture,’ as used in the patent law, . . . embrac[es] whatever is made by the art or industry of man” (internal citation omitted)).

¹³⁷ This is particularly reminiscent of *Gorham Co. v. White*, 81 U.S. (14 Wall.) 511, 531 (1871), in which the Supreme Court enforced the patentability of an ornamental design on the handle end of a spoon.

¹³⁸ See *Egyptian Goddess, Inc. v. Swisa, Inc.*, 543 F.3d 665, 678 (Fed. Cir. 2008) (en banc) (rejecting point of novelty test and setting standard for infringement at whether ordinary viewer would view the infringing design as substantially the same).

B. Human Actors and Interactive Props

The interesting analysis for the human and interactive components of a live show comes later when that show is ported to VR. In a live show, the dancer, actor, or other performer generally would not be up on the stage without having signed a contract. In the odd case that he or she did not, in the case of a DVD of the live show, for example, that actor or dancer might have a claim to a right of publicity.¹³⁹ Additionally, the author of any choreographic work, as long as the work rose to the requisite level of originality, would have a copyright in the dance(s) involved in the live show.¹⁴⁰ As for interactive props and installations, Roger Waters's pig would likely be eligible for copyright protection as a sculptural work,¹⁴¹ and side art installations would also be protected under copyright,¹⁴² while any branding on sponsored interactive entertainment would be protected by trademark law.¹⁴³ Sponsored content already serves as a possible supplement to slow the financial bleeding from the dive in record sales,¹⁴⁴ and the options could be much wider in the virtual world.

III

WILL VR SINK OR SAVE THE LIVE PERFORMANCE: ANALYZING THE PRACTICAL AND INTELLECTUAL PROPERTY IMPLICATIONS OF PORTING THE LIVE SHOW TO YOUR LIVING ROOM

¹³⁹ See, e.g., *Zacchini v. Scripps-Howard Broad. Co.*, 433 U.S. 562, 576 (1977) ("Ohio's decision to protect petitioner's right of publicity . . . rests on more than a desire to compensate the performer for the time and effort invested in his act; the protection provides an economic incentive for him to make the investment required to produce a performance of interest to the public.").

¹⁴⁰ See 17 U.S.C. § 102(a)(4) (2012) (protecting "pantomimes and choreographic works" under copyright).

¹⁴¹ See 17 U.S.C. § 101 (2012) (defining sculptural work as "two-dimensional and three-dimensional works of fine, graphic, and applied art, photographs, prints and art reproductions, maps, globes, charts, diagrams, models, and technical drawings, including architecture plans"); *Ty, Inc. v. GMA Accessories, Inc.*, 132 F.3d 1167, 1173 (7th Cir. 1997) (upholding district court's finding of infringement on stuffed animal pig).

¹⁴² See 17 U.S.C. § 101(a)(5)–(6) (protecting graphic works under copyright).

¹⁴³ See *Hanover Star Milling Co. v. Metcalf*, 240 U.S. 403, 412 (1916) ("The primary and proper function of a trade-mark is to identify the origin or ownership of the article to which it is affixed.").

¹⁴⁴ See, e.g., Michael A. Einhorn, *Thinking Outside the Box: The Next Generation Moves in the Music Business*, 56 J. COPYRIGHT SOC'Y U.S.A. 201, 201 (stating that music industry has already come to terms with advertising as source of income); Perritt, *supra* note 12, at 196–98 (detailing various ways in which advertising can serve as source of income to music industry); Schultz, *supra* note 11, at 708 (suggesting revenue sharing from advertising as model on which music industry could make money).

A. *Inside the IP Fortress*

It is all well and good to dream wistfully about the technological wonders that lie ahead, but VR will only challenge (or supplement) live performances if it is a serviceable product. After all, the live show “is really selling an experience rather than a product,” which, happily for the music industry, “is much harder to copy.”¹⁴⁵ This introduces two key questions, each appearing to be mutually dependent on the other: Does VR serve as a full, robust substitute to the live performance? And will putting the live performance on a VR headset open it up to piracy? If VR is not an adequate substitute, opening up the VR music universe to piracy will not matter nearly as much, since people will still go to the live shows.¹⁴⁶ If VR is an adequate substitute, IP protections for concert design will be less important if VR does not end up being a target of piracy, since content providers will presumably find a way to monetize VR absent the threat of piracy. Since VR is still in its infancy, we can only speculate as to how good the technology might be, and if and how it might be affected by piracy. This Part’s analysis of IP protections in the VR world assumes the worst—that VR live shows will be pirated like .mp3s were in the heyday of Napster.¹⁴⁷

The key to a top-notch VR experience is a sensation called presence.¹⁴⁸ Presence is the sensation of actually being part of what you are looking at, essentially forgetting that you are viewing a simulation.¹⁴⁹ Reviews so far mostly indicate that VR is well on its way to

¹⁴⁵ Christopher Sprigman, *The Knockoff Economy and the Power of Performance and Brands*, VOLOKH CONSPIRACY (Oct. 18, 2012, 7:35 AM), <http://volokh.com/2012/10/18/the-knockoff-economy-and-the-power-of-performance-and-brands>.

¹⁴⁶ See Paul Tassi, *Whatever Happened to the War on Piracy*, FORBES (Jan. 24, 2014, 9:38 AM), <http://www.forbes.com/sites/insertcoin/2014/01/24/whatever-happened-to-the-war-on-piracy> (suggesting that movie theatres have been safe from piracy because difference in quality between cam copy of film in theatres and going to theatre itself is so vast).

¹⁴⁷ See Nick Bilton, *Internet Pirates Will Always Win*, N.Y. TIMES (Aug. 4, 2012), <http://www.nytimes.com/2012/08/05/sunday-review/internet-pirates-will-always-win.html> (arguing that piracy technology and those who use it are always a step ahead of laws or anti-pirating techniques that try to stop them). But see Sarah Michael, *New Technology Could Spoil Your Illegal Downloading: Secret ‘Watermarks’ Record Details of Every Person Who Pirates a Music or TV File to Give to Police*, DAILY MAIL (July 16, 2014, 5:52 PM), <http://www.dailymail.co.uk/news/article-2695217/New-technology-spoil-illegal-downloading-Secret-watermarks-record-details-person-pirates-music-TV-file-police.html> (writing about technological watermark that is supposedly much more effective than prior ones, and that can be used for music, video, or any other digital file).

¹⁴⁸ Cf. *supra* note 62 and accompanying text (noting accuracy with which VR headset must track user’s movements).

¹⁴⁹ See Woodrow Barfield, *Intellectual Property Rights in Virtual Environments: Considering the Rights of Owners, Programmers and Virtual Avatars*, 39 AKRON L. REV. 649, 650 (2006) (defining “presence”); see also Daniel E. Atkins, *University Futures and New Technologies: Possibilities and Issues* 6 (2005) (unpublished discussion paper),

simulating the real experience. At Stanford's Virtual Human Interaction Lab, Farhad Manjoo fell into a virtual pit, and his body—in real life—crumpled to the ground and when the VR headset had him crashing into objects, he rotated his body out of fear of the impending impact.¹⁵⁰ More impressive was that even though the people in Mr. Manjoo's simulation did not look real, he felt like his actions violated their personal space.¹⁵¹ Even outside of expensive university labs, the reactions have skewed towards wonder. One reviewer described the totally *natural* sensation he felt using the HTC Vive to walk around a virtual kitchen, making virtual food with virtual ingredients.¹⁵² As it applies to concerts, Jaunt appears to have the best product out there, which, while not exactly invoking a complete feeling of "presence," still provided a remarkable experience.¹⁵³ So while VR might not completely replace the live show at this moment, it still allows one to be standing amidst a "pyrotechnic storm," looking out over the massive crowd as Paul McCartney sings "Live and Let Die"¹⁵⁴ in their ear.¹⁵⁵ The experience seems far better than not getting to the concert at all—and possibly better than standing too far away to hear, or behind a pole (or really tall person) obstructing your view.¹⁵⁶

This brings us to the question of infringement. Take the examples used in the real world IP section—the Daft Punk pyramid and lighting, the Tomorrowland stage, the pig from *The Wall Live*, and the performer, art installation, and branded promotional content from Sensation—and assume they were all infringed upon in the virtual world. What is different? Well, as a preliminary matter, there is a new question of ownership. Is the virtual reproduction of the live show itself a separately protectable product? Copyright law says both no and yes. The most analogous case to the rendering of a real, physical thing into a digitized, virtual model is *Meshwerks, Inc. v. Toyota*

www.oecd.org/edu/skills-beyond-school/36758866.pdf ("Virtual and augmented reality offer immersive interfaces between humans and computational systems. Virtual reality is a product of total digital synthesis of sensory experiences and augmented reality is a composite of the synthetic and observed world.").

¹⁵⁰ Manjoo, *supra* note 8.

¹⁵¹ See *id.* ("I felt as if I were dealing with real people—and violating their personal space.").

¹⁵² Rebato, *supra* note 54.

¹⁵³ See Raile, *supra* note 76 (describing video resolution, depth of field, and sound as "remarkable," and as requiring "very little effort" to suspend his disbelief).

¹⁵⁴ PAUL MCCARTNEY AND WINGS, *Live and Let Die, on LIVE AND LET DIE* (Apple Records 1973).

¹⁵⁵ Raile, *supra* note 76.

¹⁵⁶ Constine, *supra* note 4.

*Motor Sales U.S.A.*¹⁵⁷ In *Meshwerks*, the court held that Meshwerks's digital model of a Toyota car was just the "car as car," and thus did not meet the requisite level of original expression.¹⁵⁸ Assuming the virtual model of Roger Waters's show at the Scottrade Center in St. Louis replicated exactly who and what was there down to every exacting detail, would that not just be uncopyrightable "raw facts in the world"?¹⁵⁹ While it seems slightly crazy, given copyright's constitutional purpose,¹⁶⁰ to penalize the team who put this virtual world together for being *too* good at their job, *Meshwerks* suggests that might be the case.¹⁶¹

If that outcome shocks the conscience, there could be a way out. Recall how virtual technology works: The model is built using software and the venue is filmed and recorded with high-tech cameras and microphones.¹⁶² Each of these elements might create copyrightable subject matter in its own right. With regard to the audiovisual aspect, it can be tough to tell what is actually protected: the underlying activity or the camerawork.¹⁶³ In a movie, the actors are not considered to be authors; rather, the film is copyrightable because of the creative choices made in capturing those performances.¹⁶⁴ In this case, it would appear that copyright law works in favor of the creative choices that the engineer would make in setting up the 3-D cameras and audio.¹⁶⁵ Yet this is complicated by the fact that unlike a movie

¹⁵⁷ 528 F.3d 1258, 1260 (10th Cir. 2008).

¹⁵⁸ *Id.* at 1265.

¹⁵⁹ *Id.*

¹⁶⁰ U.S. CONST. art. I, § 8, cl. 8 ("To promote the progress of science and useful Arts, . . .").

¹⁶¹ It should be noted that *Meshwerks* is not a perfect analogy. The underlying work in *Meshwerks*, the wireframe car, was uncopyrightable, whereas here there are several individually copyrightable elements of the underlying work. Additionally, this hypothetical presumes a "perfect" virtual recreation of the concert, which, in all likelihood, is not technologically feasible at this point. *Cf. In re NCAA Student-Athlete Name & Likeness Licensing Litig.*, 724 F.3d 1268, 1271 (9th Cir. 2013) (applying transformative use test to right of publicity case in which the Ninth Circuit found that because the depiction of NCAA football players in the game was so realistic, the factual elements dominated the creative ones so that First Amendment protections did not apply to stop right of publicity claim). In other words, this is another area of law in which protections fade away because designers are too accurate in their depiction of reality.

¹⁶² See *supra* notes 68–71 and accompanying text.

¹⁶³ See Tushnet, *supra* note 111, at 222 (discussing example of when copyright's incentives were based on the underlying activity captured, not camera angles).

¹⁶⁴ *Id.*

¹⁶⁵ See NIMMER & NIMMER, *supra* note 117, at 2.09(F) (arguing that work camera men and directors do when covering live football game unquestionably counts as authorship); *cf. Mannion v. Coors Brewing Co.*, 377 F. Supp. 2d 444, 452–54 (S.D.N.Y. 2005) (describing three ways in which photograph may be considered original: rendition (angle, lighting, shade, and effects), timing, and creation of the subject).

where the actors are not authors of their performances, the artists performing their songs are likely owners of a musical copyright in the songs they are performing.

Software is even trickier. Knowing what aspects of the code used to create the virtual world are protected by copyright is especially difficult after the Federal Circuit's decision in *Oracle America, Inc. v. Google, Inc.*¹⁶⁶ Applying Third Circuit case law, both the object code¹⁶⁷ and source code¹⁶⁸ are copyrightable as literary works.¹⁶⁹ The Second Circuit also finds the source and object code to be protectable, but expands copyright slightly to the nonliteral elements of the program.¹⁷⁰ To figure out which elements those are, the court would isolate each level of "abstraction" in the computer program, filter out the non-protectable elements, and consider what is left to be the core of the protectable expression.¹⁷¹ Copyright is uneasy as it relates to who owns protectable elements of this new virtual world. There are clearly layers of ownership of the virtual product. The cameramen, the performing artists, and the software engineers have all contributed separately copyrightable works to the final VR product. These rights will almost certainly be tied up in a contract to avoid ownership disputes, but for the contractual owner of those rights, there are now multiple ways to attack infringement in court.

The code, camera, *Meshworks* analysis also applies to the recreations of the Daft Punk pyramid, the Tomorrowland stage, the Sensation art installation, and choreography. This is simply because if the worlds are recreated to the best of the technological capabilities, those elements of the real world remain unchanged in VR. Ultimately, porting to VR does not change the protectability of these examples, except to add two more layers of potentially copyrightable material. Of course, these would all have different authors and owners, so if potential problems in the drafting of a contract—or even the absence of a contract—were to leave a resolution of these disparate rights to a judge, the court would have a real mess on its hands.¹⁷²

¹⁶⁶ 750 F.3d 1339, 1354–72 (Fed. Cir. 2014), *cert. denied*, 135 S. Ct. 2887 (2015) (discussing copyrightability of application programming interfaces).

¹⁶⁷ Object code is code in binary language that a computer can process. *Comput. Assocs. Int'l v. Altai, Inc.*, 982 F.2d 693, 698 (2d Cir. 1992).

¹⁶⁸ Source code is the programming language that computer programmers write in. *Id.*

¹⁶⁹ *Apple Comput., Inc. v. Franklin Comput. Corp.*, 714 F.2d 1240, 1249 (3d Cir. 1983).

¹⁷⁰ *Computer Associates*, 982 F.2d at 702.

¹⁷¹ This is known as the "Abstraction-Filtration-Comparison" test. *Id.* at 706–11.

¹⁷² See Tushnet, *supra* note 111, at 241 ("Infringement inquiries also raise difficult questions about how to compare distinct media, particularly when one medium includes a performance element and the other doesn't.").

The software code, creative directorial choices, and the packaged entirety of the VR product would undoubtedly receive copyright protection, as the code and choices are established copyrightable aspects and the packaged end product is a creative work fixed in a tangible medium of expression. The remaining question is what happens to the individually copyrightable real life elements like the Tomorrowland stage, Daft Punk pyramid, or flying pig prop? Despite the likely protection for the packaged entirety of the VR product, it is unlikely that the shift in format from live show to VR yields additional protections to those existing individually protected elements. The one avenue that could be explored is to claim that the virtual representations of the physically copyrightable objects are derivative works.¹⁷³

The protection of derivative works is established in 17 U.S.C. § 103, and the copyright applies only to the “material contributed by the author of such work, as distinguished from the preexisting material employed in the work.”¹⁷⁴ One could argue that since the form of the derivative work—a virtual 3D model—is so categorically dissimilar to the existing physical object, the derivative work is sufficiently different to constitute originality.¹⁷⁵ However, that test has been cabined to works that were already in the public domain.¹⁷⁶ So while an imperfect virtual model of the live show might satisfy the originality requirement for a derivative work,¹⁷⁷ the granting of a copyright in the derivative work would most likely interfere too substantially with the scope of the copyright in the preexisting material.¹⁷⁸ This does not necessarily foreclose any future derivative work rights in the virtual reproductions of these elements of concert design though. The more advanced the technology gets and the more interactive these elements become, it is foreseeable that they could—at some point—be considered sufficiently transformative so as not to impinge on the

¹⁷³ Derivative works are defined in 17 U.S.C. § 101 (2012).

¹⁷⁴ 17 U.S.C. § 103(b) (2012).

¹⁷⁵ See *Doran v. Sunset House Distrib. Corp.*, 197 F. Supp. 940, 944–45 (S.D. Cal. 1961) (declaring that change in form and medium were sufficient to create copyright in Santa Claus figure).

¹⁷⁶ See *Entm’t Research Grp. v. Genesis Creative Grp.*, 122 F.3d 1211, 1219 (9th Cir. 1997) (refusing to apply this originality test to product that was based on preexisting models, copyrighted, and owned by private entity).

¹⁷⁷ See *Alfred Bell & Co. v. Catalda Fine Arts*, 191 F.2d 99, 102–03 (2d Cir. 1951) (holding that all that is required to satisfy originality requirement of copyright is contribution of something that is more than a “trivial variation”).

¹⁷⁸ See *Entertainment Research Group*, 122 F.3d at 1220 (“Second, the original aspects of a derivative work must reflect the degree to which it relies on preexisting material and must not in any way affect the scope of any copyright protection in that preexisting material.”(quoting *Durham Indus. v. Tomy Corp.*, 630 F.2d 905, 909 (2d Cir. 1980))).

preexisting copyright of their physical manifestations.¹⁷⁹ Of course, a fair use defense would be unnecessary here as the owner of the original copyright is seeking additional copyright protection in the new virtual form. Still, the idea is to reflect the principle in the second prong of the *Durham* test that transformative equals fair, in the sense that the more transformative the derivative work is, the less the original aspects of the derivative work affect the scope of the copyright protection of the original work.

While VR might give additional avenues of IP protection, it also taketh away. The casualty is design patent protection. Design patent protection for the Tomorrowland stage was conditioned upon it being an article of manufacture.¹⁸⁰ The underlying design patent on the physical stage would remain intact, ultimately raising the question of whether the design patent should travel with the stage into the virtual medium.¹⁸¹ Once the stage becomes a virtual recreation of its physical counterpart, the stage's article of manufacture status fades away—and so too does the protection of a design patent. The fate of the design patent for the animations on the Daft Punk pyramid is a little less clear. Now, rather than being images embedded on a tactile screen, the images are software recreations of those images. The surface treatment of the pyramid is now one level removed, as the entire pyramid itself could be considered a surface treatment on the lens of the VR headset.¹⁸² It is likely a stretch to continue to describe a fully immersive, interactive environment as the surface treatment of the screen on the VR lens, and as a result, design patent protection would likely fail in this instance as well.

It is also possible that trade dress protection, following *Two Pesos, Inc. v. Taco Cabana, Inc.*,¹⁸³ could extend to virtual realities.¹⁸⁴ Theoretically, if the virtual reality were “inherently distinctive,” it would be protected by trade dress.¹⁸⁵ In *Two Pesos*, the Supreme Court eliminated the need for an inherently distinctive trade dress to

¹⁷⁹ Whether a use is transformative is an element of establishing a fair use defense. *E.g.*, *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 578–79 (1994).

¹⁸⁰ See *supra* notes 135–38 and accompanying text.

¹⁸¹ Sarah Burstein would argue that the virtual representation of the stage is not the same product and thus design patent should not cross over into the virtual world. Sarah Burstein, *The Patented Design 49* (Feb. 5, 2015) (unpublished manuscript) (on file with author).

¹⁸² See *supra* notes 131–34 and accompanying text.

¹⁸³ 505 U.S. 763, 764, 776 (1992) (extending trade dress protection to interior of restaurant).

¹⁸⁴ See MICHAEL D. SCOTT, *SCOTT ON MULTIMEDIA LAW* § 5.08 (3d ed. 2008) (“It has been suggested that in light of the *Two Pesos* decision, trade dress law could be used to protect user interfaces, website designs, and virtual realities.”).

¹⁸⁵ *Id.*

have a secondary meaning.¹⁸⁶ Following this reasoning, if Sensation, for example, were to apply for a trade dress protecting their distinctive concert set up, that protection could foreseeably extend to the virtual environment as well. Given that trade dress has also been extended to the tactile aspects of a work, there might be an interesting future use of trade dress in VR especially for protection over elements including haptic feedback, and other virtual “tactile” realities.¹⁸⁷

Depending on how advanced the VR technology gets, users might be able to have real time, actual interactions with an identical avatar of someone else watching the same show via their VR headset. This development would be especially apt for shows designed for VR audiences.¹⁸⁸ This advancement, unfortunately, raises all sorts of next-gen cyber crime issues that are beyond the scope of this piece. Additionally, it raises concerns about the right of publicity for those who are actually attending the concert. In a human-to-human real world interaction, you have a certain degree of autonomy with respect to who you interact with and how you interact with them in return. In the virtual world, with the ability to move through the crowd at will¹⁸⁹ and basically play with time, the virtual attendees have unfettered access to your real representation in their virtual world. Perhaps this could be moderated by the presence of other virtual “attendees” who are able to see each other. Regardless, these complications suggest a strong consideration in favor of enforcing the right of publicity or for including a voluntary opt out for shows that are being filmed or streamed to VR. How the technological opt out might work is not yet clear.

Lastly, this Part turns to the branded content portion of the VR world. While the shift to VR does not drastically affect the trademarks of the branded content, it has significant economic potential. Companies like Ensequence are building interactive ads for cable and satellite TV that allow the viewer to interact with ads on their television via remote or cell phone.¹⁹⁰ Putting a branded portal in a virtual show has literally limitless potential. Imagine having a line of sponsors along the side of the virtual show. Step through the one marked

¹⁸⁶ 505 U.S. at 776.

¹⁸⁷ See, e.g., *Hartford House, Ltd. v. Hallmark Cards, Inc.*, 846 F.2d 1268, 1271 (10th Cir. 1988) (noting that tactile elements of product are part of “complex composite” of trade dress (quoting *SK&F Co. v. Premo Pharm. Labs., Inc.*, 481 F. Supp. 1184, 1187 (D.N.J. 1979))).

¹⁸⁸ See Constine, *supra* note 4 (describing potential for “choose-your-own adventure” style VR experience that would “blur the lines between passive and interactive art”).

¹⁸⁹ *Id.*

¹⁹⁰ *ADCONNECT+*, ENSEQUENCE, <http://www.ensemble.tv> (last visited Mar. 21, 2016).

Mercedes-Benz, and all of a sudden you are in a virtual showroom ready for a virtual test drive. Since advertisers still have to provide the hardware for this kind of experience, their attempts at VR ads have been mostly experimental and confined to large events.¹⁹¹ Given the existing potential for profitable collaboration between advertisers and the music business,¹⁹² VR has the power to expand those opportunities. Couple the potential advertising revenue with a smart, convenient pricing and delivery method for VR musical content,¹⁹³ and the music business may have a strong money maker in the near future.

A simple hypothetical might serve to illustrate how this framework would look in action. Suppose, in the future, Roger Waters embarks on a tour that resembles *The Wall Live*. In this future, Oculus Rift headsets occupy many living rooms, and consumers can use those headsets to watch a virtual performance of Waters's tour the day after he performs live. Rather than pay to go to the show or pay for the licensed virtual performance, a significant number of consumers watch a pirated version of the performance on their Rift headsets. Breaking down the complex virtual performance into discrete layers of protectable material allows each rights holder to attack the act of piracy through various avenues of IP protection rather than through the single avenue available for a copyrighted DVD performance.

B. *Falling Outside the Walls of IP*

Of course, the practical effects of this framework depend largely on the assumption that copyright and IP are, in general, effective modes of law enforcement. This is not necessarily the case. One of the chief criticisms of IP law, and particularly copyright, is that it is an outdated and ineffective method of both enforcing the law and of deterring bad actors in the age of the Internet.¹⁹⁴ For example, today's

¹⁹¹ See Cotton Delo, *Virtual Reality: Advertising's Next Big Thing?*, ADVERTISINGAGE (July 28, 2014), <http://adage.com/article/digital/virtual-reality-advertising-s-big-thing/294328> (highlighting moves that Coke, Nissan, and HBO have already made in VR space).

¹⁹² See *supra* note 144 and accompanying text.

¹⁹³ See Sophie Curtis, *Spotify and Netflix Curb Music and Film Piracy*, THE TELEGRAPH (July 18, 2013), <http://www.telegraph.co.uk/technology/news/10187400/Spotify-and-Netflix-curb-music-and-film-piracy.html> (covering Norwegian study that attributes decline of online piracy to streaming services like Spotify and Netflix); Tassi, *supra* note 146 (noting that silence surrounding piracy could be due, in part, to smart pricing and extreme convenience of services like Netflix, Amazon, and Spotify).

¹⁹⁴ See, e.g., John O. Hayward, *Grokster Unplugged: It's Time to Legalize P2P File Sharing*, 12 INTEL. PROP. L. BULL. 1, 15 (2007) (arguing that copyright enforcement on the Internet is impossible, and that there is no deterrent effect).

most popular file sharing tool, BitTorrent,¹⁹⁵ raises additional hurdles in trying to take an infringement case to court. BitTorrent decentralizes the file sharing process.¹⁹⁶ An individual user who wants to download a file does so by acquiring discrete pieces of that file from many other BitTorrent users.¹⁹⁷ This technology makes the act of infringement a cooperative effort among a large number of nameless individuals, causing joinder and personal jurisdiction problems while simultaneously insulating the BitTorrent protocol itself from litigation.¹⁹⁸

Another proposed justification for the ineffective enforcement of copyright law is a two-pronged moralistic rationale. Scholars have pointed out that the current woes surrounding copyright enforcement might be due to a “backlash” against the overzealous attempts of the RIAA to squash piracy in the early aughts,¹⁹⁹ and that the poor deterrent effect of IP regimes as a whole may be because Internet piracy does not carry the same social stigma as, say, stealing an album from your local record store.²⁰⁰ So in the absence of effective copyright enforcement, how do we protect VR? One answer is technological protection measures or Digital Rights Management (DRMs).²⁰¹

The Digital Millennium Copyright Act sets forth anticircumvention provisions,²⁰² basically establishing a cause of action for violations of what the Act dubbed either “access protection measures”²⁰³ or “rights protection measures.”²⁰⁴ The legal distinction between the two is not particularly important for the purposes of this discussion, nor is it particularly clear, as the two categories are not mutually exclusive

¹⁹⁵ Sean B. Karunaratne, Note, *The Case Against Combating BitTorrent Piracy Through Mass John Doe Copyright Infringement Lawsuits*, 111 MICH. L. REV. 283, 283 (2012) (noting that BitTorrent is the most popular file sharing tool today).

¹⁹⁶ *Id.* at 290.

¹⁹⁷ See *id.* (describing mechanics of BitTorrent).

¹⁹⁸ Since there are no central servers on which the pirated data is stored and the BitTorrent trackers contain very little data themselves, it is nearly impossible to bring suit against BitTorrent in the same way the record industry was able to do against Napster. See *id.* (“Thus, when copyrighted data is transmitted via BitTorrent, the copyright holder is largely limited to holding the individual file shares liable for infringement.”).

¹⁹⁹ Ben Depoorter, Alain Van Hiel & Sven Vanneste, *Copyright Backlash*, 84 S. CAL. L. REV. 1251, 1255–57 (2011).

²⁰⁰ See Miriam Bitton, *Rethinking the Anti-Counterfeiting Trade Agreement’s Criminal Copyright Enforcement Measures*, 102 J. CRIM. L. & CRIMINOLOGY 67, 78–81 (2012) (arguing that social norms might not construe copyright infringement as morally wrong or as being particularly harmful).

²⁰¹ See Christopher Buccafusco & Jonathan S. Masur, *Innovation and Incarceration: An Economic Analysis of Criminal Intellectual Property Law*, 87 S. CAL. L. REV. 275, 280 (2014) (suggesting that DRMs will be used to prevent unauthorized copying).

²⁰² 17 U.S.C. §§ 1201–1205 (2012).

²⁰³ 17 U.S.C. § 1201(a).

²⁰⁴ 17 U.S.C. § 1201(b)(2).

and often blend together.²⁰⁵ Technologically though, differentiating between access controls and rights protection measures is useful in understanding how VR might employ either one, the other, or both.

A typical example of an access protection measure can be found in modern DVD players. DVDs use a technology called Contents Scramble System or CSS, which encrypts the data on the disk.²⁰⁶ DVD player manufacturers then purchase licenses for keys that decrypt the DVDs and allow the content to be played on your TV.²⁰⁷ Thus, the technological protection restricts initial access to the copyrighted material contained on the disk. Rights protection measures, by contrast, do not restrict access to copyrighted work, but rather what you can do with that work once you are in possession of it. For example, a rights protection measure might limit a user's ability to put a song purchased on the iTunes store on a Sony .mp3 player.²⁰⁸

Since VR technology is just hitting the market, there is little known about what types of technological protections it might employ or how effective those technological protections may be. The logical place to look for an appropriate existing medium is the world of video games. Virtual Reality will be a significant gaming platform,²⁰⁹ so engineers and developers will likely look to that existing model first. Additionally, video games today are complex multifaceted virtual worlds with a significant online presence closely resembling the products that will be available on VR. Today's consoles and video game manufacturers implement sophisticated DRM schemes to protect against the unauthorized use and piracy of videogames.²¹⁰ These DRM systems require a high level of cooperation between the game publishers and the console makers in order to make sure the game is compatible with the console.²¹¹ A DRM program like SecuROM employs a two-pronged defense, preventing the direct copying of a

²⁰⁵ See *Apple, Inc. v. Psystar Corp.*, 673 F. Supp. 2d 931, 941 (N.D. Cal. 2009) ("Although Apple's technological measure may have been primarily aimed at controlling access, it also effectively protected its right to copy"); 1 RAYMOND T. NIMMER, INFORMATION LAW § 4:31 (2005) ("[S]ince the two provisions in DMCA are not described as mutually exclusive, there is no reason to suspect that any given technology can fall into only one of the two categories.").

²⁰⁶ *321 Studios v. Metro Goldwyn Mayer Studios, Inc.*, 307 F. Supp. 2d 1085, 1089 (N.D. Cal. 2004).

²⁰⁷ *Id.*

²⁰⁸ See David Choi, *The Ineffectiveness of DRM*, 51 ORANGE COUNTY LAW., July 2009, at 14, Westlaw 51-JUL OCLAW 14 (describing how DRMs restrict uses of digital media on various formats).

²⁰⁹ See *supra* notes 70–75 and accompanying text.

²¹⁰ MICHAEL D. SCOTT, SCOTT ON MULTIMEDIA LAW § 24.02 (3d ed. Supp. 2011–12).

²¹¹ *Id.*

disk (a rights protection measure) and requiring user activation upon install (an access protection measure).²¹²

Put simply, DRMs are another layer of protection available to the VR performance. There is no reason to believe, however, that using DRMs in VR technology will yield different results from their uses in DVDs, music, and video games before it. Technical protection measures on VR will be subject to the same challenges of DRMs in other technology. DRMs to date have been compromised relatively easily and quickly by hackers and hobbyists alike.²¹³ They have been described as inflexible,²¹⁴ invasive,²¹⁵ and nonuniform.²¹⁶ Perhaps most importantly, DRMs restrict innovation by locking out interoperation and modification.²¹⁷ The extent to which innovation might impair your standard concert DVD experience pales in comparison to how it might affect the VR experience. In the former, your viewing experience is relatively predictable: the better the quality of the TV, speakers, and camera with which the concert is viewed and recorded, the better the overall experience. The content is relatively predictable too. The DVD would likely include the concert and a few extras, like some behind-the-scenes interviews.

VR, on the other hand, has the limitless potential of cloud-based storage for content. Those aforementioned ad portals will require interoperability between the advertiser and the concert publisher. Interoperability will also be required for a product to be seamlessly available on various manufacturer's VR headsets. Additionally, the draw of the VR live show is the ability to freely move around and interact with the virtual environment. The technology's capability to

²¹² David Fry, *Circumventing Access Controls Under the Digital Millennium Copyright Act: Analyzing the SecuROM Debate*, 2009 DUKE L. & TECH. REV. ¶ 1, 5 (2009).

²¹³ See Viktor Mayer-Schönberger, *Beyond Copyright: Managing Information Rights with DRM*, 84 DENV. U. L. REV. 181, 185 (2006) (describing how tools to compromise DRMs are widely available); Andrew V. Moshirnia, *Giant Pink Scorpions: Fighting Piracy with Novel Digital Rights Management Technology*, 23 DEPAUL J. ART, TECH. & INTELL. PROP. L. 1, 6–7 (2012) (explaining that hackers “inevitably defeat” DRMs).

²¹⁴ DRMs are inflexible in the sense that they employ a one-size-fits-all policy to a diverse audience. See Choi, *supra* note 208 (arguing that pirates and law abiding purchasers do not deserve the same treatment and DRM fails to adequately reconcile differences in behavior between these two groups of consumers).

²¹⁵ See Fry, *supra* note 212 ¶ 3 (noting that installing software with technical protection measures can create security risks on users' computers); Mayer-Schönberger, *supra* note 213, at 193 (arguing that in principle, for DRM system to be effective, it must track user's every move, amounting to total surveillance).

²¹⁶ There tends to be a lack of standardization among DRM systems, and tech companies like to employ vertically integrated measures, which further restricts interoperability. Choi, *supra* note 208.

²¹⁷ Wendy Seltzer, *The Imperfect Is the Enemy of the Good: Anticircumvention Versus Open User Innovation*, 25 BERKELEY TECH. L.J. 909, 946 (2010).

create an inviting complementary product to the live show depends largely on the development of innovative and creative software to serve that purpose. The fact that overly restrictive DRMs will likely impede this innovation is enough to establish concern over the uninhibited use of DRMs in this fledgling technological arena. The track record of DRMs is not promising, and it is likely that the costs outweigh the benefits. But perhaps for virtual concerts specifically, the hand has already been played, as record labels have practically abandoned DRMs for digital music anyway.²¹⁸

CONCLUSION

Virtual reality presents a huge market opportunity for the music business. Good content, convenient access, smart pricing, and savvy marketing could ensure that consumers flock to the real product rather than a pirated one. However, should the industry need the protections of IP law, they are there to be had. In the VR world, and often in the real world of modern live performance, concert design plays a big role in drawing the crowd. Without good contracting, the law makes it a burden to figure out authorship rights for concert design, but this should have no effect on fighting piracy. In fact, the complexity added by VR technology adds layers of protection to the final product via trade dress and copyright.

²¹⁸ See, e.g., Catherine Holahan, *Sony BMG Plans to Drop DRM*, BLOOMBERGBUSINESS (Jan. 4, 2008), <http://www.bloomberg.com/bw/stories/2008-01-04/sony-bmg-plans-to-drop-drmbusinessweek-business-news-stock-market-and-financial-advice> (highlighting that Sony BMG was the last label to drop DRMs).