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The Next Verse: Challenges for Mechanical Licensing in the Metaverse

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Abstract

The COVID-19 pandemic catalyzed a paradigm shift in the music industry, compelling live music promoters and consumers to explore novel avenues for artist engagement. The emergence of remote-accessible online interactions laid the groundwork for a symbiotic evolution of consumer technology and the music industry. Livestream concerts, hosted in the burgeoning realm of the metaverse, offered a unique and shared music experience, transcending physical boundaries. Simultaneously, the surge in demand for exclusive content fueled the popularity of non-fungible tokens (NFTs) in 2021. As shared virtual environments become intertwined with music delivery, questions arise regarding the applicability of existing U.S. copyright law to music content in the metaverse, particularly mechanical licensing pursuant to Section 115. This paper scrutinizes the current mechanical licensing framework's adequacy in addressing the reproduction and delivery of music in the metaverse. The paper delves into the debate over the interactive nature of metaverse concerts, questioning their classification as "interactive." It explores the lack of legal precedent regarding mechanical reproductions in NFT minting and distribution, raising uncertainties about Section 115's applicability. The discussion underscores the need for potential revisions to Section 115 or the creation of a new exclusive right specific to the metaverse. The paper concludes with reflections on the challenges posed by compulsory mechanical licenses for NFT records and the evolving market standards required for NFT transactions within the metaverse. In the era of Web3.0, where metaverse experiences redefine the music industry landscape, this paper advocates for a nuanced approach to copyright law that aligns with the dynamic and decentralized nature of the emerging digital frontier.

Keywords: metaverse, livestream concerts, non-fungible token, NFT, music copyright, Section 115, mechanical licensing

Rise of the Metaverse

Emerging from the dust of the COVID-19 pandemic, live music promoters and music consumers were forced to find new ways to engage with their favorite artists. Since remote-accessible multi-participant online interactions became an accepted norm during the pandemic, an opportunity emerged for new consumer technology and the music industry to evolve together. Artists found success performing livestream concerts in lieu of in-person touring, for only select fans that were granted exclusive access to view the performance online.[1] This offered a unique music experience from the comfort of one's home, but one that was shared with other participants in virtual spaces. The cyberspace hosting such shared virtual experiences is often referred to, collectively, as the metaverse.

What Exactly is the Metaverse?

The concept of a metaverse has been described as a "shared online space that incorporates 3D graphics, either on a screen or in virtual reality."[2] Within these virtual environments, users can experience social and economic interactivity similar to our reality by exchanging digital assets and property.[3] There is no one singular metaverse—rather, a metaverse environment may be created by a particular collective of individual entities providing access to a shared environment. While it may sound like a futuristic concept, metaverses are not new. The video game industry has provided metaverses in games such as *Second Life* (developed by Linden Lab in 2003), *Roblox* (developed by Roblox Corporation in 2006), and *Minecraft* (developed by Mojang Studios in 2011). All these games provide avatars for their players who then use virtual materials to build or acquire property, hold events, or add dress or design to their avatars—with no specific goal or objective.[4] These are considered open worlds where users can mirror reality in a virtual setting. Metaverses have even been represented in popular culture, such as "The Matrix" depicted in the Warner Brothers film franchise of the same name which began in 1999, or the "OASIS" metaverse described in the 2011 novel *Ready Player One* by Ernest Cline and depicted in Steven Spielberg's film adaption thereof, released by Warner Brothers in 2018. In the OASIS, players would enter a multiplayer online role-playing game set in a virtual world. Even in such a virtual world, engagement with music is attractive for the user experience. The crossover between metaverses and music has been steady since at least the launch of games such as *Second Life*. In 2006, the band Duran

Duran held concerts within the *Second Life* virtual world.[5] We have especially seen significant growth of music applications in the metaverse during and since the COVID-19 pandemic. In 2020, Epic Games' *Fortnite* delivered to its users a Travis Scott concert which brought 27.7 million unique players, and the game platform *Roblox* delivered a Lil Nas X concert attracting 33 million player/viewers.[6]

NFTs and the Metaverse

Given the consumer's proven appetite for exclusive access to content offered by artists during the COVID-19 pandemic, it should have been no surprise that the demand for non-fungible tokens ("NFTs") became exceptionally popular in 2021, conveying exclusive ownership rights to limited digital assets released by artists. NFTs are digital certificates that link to digital assets (such as digital photos, audio files, and video files), which can be traded, resold, and otherwise transferred in the metaverse. NFT transactions are verified and stored on a decentralized digital ledger, known as a blockchain. Each NFT contains a specific code that makes it unique and non-interchangeable with any other token. They are powered by smart contracts which contain the metadata associated with ownership and rights pertaining to the NFT, which cannot be altered.[7] One of the first artists to release an album as an NFT collection in 2021 was the band Kings of Leon, who grossed over two million dollars in the first week of its release.[8] Notwithstanding the success of such NFT record releases, the initial hype over NFTs has significantly faded since 2021, as NFT sales revenue decreased from $6.2 billion in August 2021 to just $1.1 billion in August 2022,[9] and NFT trading decreased 90 percent across all sectors.[10] According to a 2022 report released by the technology consulting firm Activate Consulting, 2023 will mark "the conclusion of the Non-Fungible Tokens (NFTs) hype cycle." The study forecast this downturn would lead to a more practical use of NFTs in social networking and e-commerce.[11] NFTs have served as a vital commodity within metaverses, providing digital assets and currencies which may be transacted for virtual goods and services—including exclusive access to music within a metaverse. Even if NFT collections have lost their mass appeal as standalone properties, their value and functionality within a metaverse, or any shared social media space, should not be overlooked.

Web3.0 and Music Rights

Web3.0 has been the buzz term for the next iteration of the world wide web—one that would be based on the notion of decentralization, token-based economics, blockchain, and "bottom-up" design.[12] In the Web3.0, code and platforms would not be controlled as proprietary by any small groups, but would be developed within everyone's access and view, and there would be no central authority controlling content or operations. Business transactions would be peer-to-peer exchange, without intermediaries handling data, currency, or ownership.[13] In this vision of a re-democratized world wide web, shared virtual experiences in the metaverse and the use of NFTs as commodities exchanged in peer-to-peer transactions seem like natural inclusions in the Web3.0 premise. Because NFTs, albeit faded in popularity, may remain vital to metaverse applications, the Web3.0 concept is paving the way for the metaverse to emerge as a viable new forum for the music industry to capitalize upon. As shared virtual environments become increasingly intertwined with the delivery of music experiences in the next generation of the world wide web, this increasing interconnectivity and decentralization may reveal the inevitable dichotomy between existing United States copyright law and evolving technology—the specific focus in this discussion being the application of compulsory mechanical licensing rights, which are enumerated in Section 115 of the U.S. Copyright Act[14] ("Section 115"), to music content delivery in the metaverse.

This issue is all too familiar, as the Music Modernization Act of 2018[15] (the "MMA") was thought to have simplified mechanical licensing in new forms of digital delivery of sound recordings (namely, streaming music) by implementing a blanket mechanical licensing structure in lieu of the previous song-by-song compulsory licensing scheme. However, since the enactment of the MMA, the rise of metaverse concerts and the deployment of NFTs have created new revenue streams for music reproduction within a digital environment, requiring further consideration of Section 115. This paper examines the extent to which current mechanical licensing systems may be applied to various forms of reproduction and delivery of music in the metaverse. Furthermore, this paper acknowledges that Section 115 of the U.S. Copyright Act currently does not apply to metaverse concerts nor secondary NFT sales, but raises questions as to whether the scope of Section 115 and/or the U.S. Copyright Act generally requires

expansion to balance the interests of rights owners and consumers in the wake of Web 3.0.

Mechanical Licensing: Past and Present

What is a Mechanical License?

Every recorded song consists of two copyrights: 1) one for the recording of the song, and 2) one for the underlying musical composition embodied on such recording (i.e., the melody and lyrics of the song). Copyright owners are afforded a bundle of exclusive rights in connection with their copyrighted work, including the exclusive rights to reproduce and distribute their work.[16]

A mechanical license is the permission from the copyright owner of a musical composition to reproduce and distribute that musical composition in a recorded form. Thus, every sale or distribution of a recording containing a copyrighted musical composition requires a mechanical license from the copyright owner of that musical composition (if not from the songwriter's music publisher, administrator, or publishing designee who may control such licensed rights). Without a mechanical license, such commercial sales and distributions of recordings would be copyright infringement of the underlying musical compositions. Mechanical licenses are not required, however, for the use of musical compositions in audiovisual works, e.g., films, television, commercials, video games, lyric videos, etc., (but note that other types of licenses are required).

The Compulsory Mechanical License

The origin of our compulsory mechanical licensing structure in the United States dates to the 1909 U.S. Copyright Act where Congress first created a compulsory license allowing anyone to make a mechanical reproduction of a musical composition as a sound recording, commonly referred to as a "phonorecord," or within the music business, simply a "record." Congress' creation of this compulsory mechanical licensing scheme was in response to the technological development of the player piano which raised questions as to whether copyright owners should be compensated for the mechanical player rolls containing musical compositions which were then performed by the player piano, and whether a copyright owner's exclusive rights extend to such mechanical reproductions of their work.[17]

Historically, pursuant to Section 115 of the U.S. Copyright Act, a licensee was not required to obtain consent from the copyright owner of the musical composition to create a mechanical reproduction so long as the musical composition had previously been distributed to the public by the copyright owner (i.e., after the so-called "first use"),[18] subject to other conditions provided in Section 115, including the payment of a mechanical royalty at a rate determined by a panel of judges comprising the Copyright Royalty Board.[19] Section 115 has thus provided a song-by-song licensing scheme which is deemed "compulsory" in that a license is automatically granted under those circumstances.

Compulsory Mechanical Licensing for Digital Phonorecord Delivery

When it comes to digital delivery of records, this song-by-song approach to mechanical licensing has been reliable with respect to digital retail, such as permanent download purchases through the iTunes store or Amazon Music. When digital music files first became available for consumption, Section 115 applied to digital phonorecord delivery ("DPD") in the same manner it did for physical goods such as vinyl records or CDs, on a song-by-song basis. The only practical difference was the accounting of the mechanical revenue streams. Retailers of permanent digital downloads, such as iTunes, did not assume the legal responsibility for obtaining mechanical licenses or paying mechanical royalties. Rather, the record companies and distributors remained liable for those payments and obligations, given that their royalty and accounting departments were already capable of administering mechanical royalties. Digital download services would pay record companies and distributors revenue that was deemed to be inclusive of mechanical payments.[20] In this manner, the original system for mechanical licensing was able to fit squarely within the new digital model of record distribution. However, this system was viable only until technology evolved further to provide a new delivery method in the form of interactive streaming music platforms, such as Spotify or Apple Music. It may have been convenient to presume there was no difference, with respect to mechanical royalties payable, between the delivery of a digitally downloaded file vs. an interactive stream. However, those delivery methods differ greatly. Whereas digital downloads are merely the online equivalent of purchasing a single recording as a physical good, interactive streaming also included a public performance and the ability to initiate a

tethered download—the latter of which is a mechanical reproduction that is stored only for a limited duration. Furthermore, interactive streams are considered DPDs because recorded copies of a musical composition are cached on the server utilized by a streaming service, as the source material to stream and download from. To clarify the definition of DPD, the U.S. Copyright Office has stated that DPDs are:

> …the individual digital transmission of a sound recording resulting in a specifically identifiable reproduction by or for a recipient, regardless of whether the digital transmission is also a public performance of the sound recording or any underlying nondramatic musical work. ...The reproduction may be permanent or available to the recipient for a limited period of time or for a specified number of performances. A DPD includes all phonorecords that are made for the purpose of making the delivery. Permanent downloads, limited downloads, and interactive streams are DPDs.[21]

The song-by-song compulsory mechanical licensing system was problematic for licensing the delivery of recorded musical compositions on a streaming platform, due to a confluence of factors. First, there has been an extraordinary surge in the volume of new music being released in the streaming era. This is partially due to the fact that music can now be produced on digital audio workstations, which may be utilized ubiquitously—songs may be written, recorded, mastered, and then self-distributed through independent distribution channels (e.g., CD Baby, TuneCore) all from a portable device. Artists no longer necessarily require expensive professional studio rentals, outboard gear, or production personnel. Because this eliminates some of the barrier to entry for many emerging artists, the volume of music being released has naturally increased. This surge in volume imposed tremendous stress on the song-by-song licensing system.[22]

Additionally, in the streaming era, music publishers no longer want to use record labels as an intermediary for collecting mechanical royalties—instead favoring a direct relationship with streaming services. This is in part because in 2008 the Copyright Royalty Board established mechanical royalty rates for interactive streaming and limited downloads

based on a percentage of the streaming revenue. Such rates required royalty calculations that differed vastly from the previous (and then-standard) penny rate for mechanical royalties of 9.1 cents per song for each recording sold. Record companies' royalty structures had been historically based upon the previous penny rate which stemmed from a retail sales model of record distribution.[23] Furthermore, unless the streaming services negotiated for complete songwriter information and metadata to be delivered to them by the record labels, there was no legal obligation for record labels or distributors to provide this information to the streaming services. (There still is no legal obligation for this.) This can be problematic to the extent a streaming service makes available recordings without accurate rights data concerning their underlying musical compositions, as the music industry will play a game of "telephone" as to who is to be compensated for mechanical rights, and how those monies would be split according to ownership percentages.

Without an accounting system set up for the new statutory mechanical royalty calculations, and potentially without complete or accurate songwriter data, mechanical licensing on a song-by-song compulsory licensing system proved to be no longer viable for streaming music business models. Unable to financially and administratively fulfill their obligations with respect to mechanical licensing, the doors for litigation opened up to music publishers and individual songwriters who sued streaming platforms for failure to obtain mechanical licenses.[24] Notwithstanding settlements resulting from such litigation, these legal woes for both copyright owners and streaming platforms were more adequately addressed by the implementation of the MMA's new blanket mechanical licensing system.

Blanket Mechanical Licensing

The MMA created two fundamental shifts in compulsory mechanical licensing. First, it modified the "first use" requirement for streaming music services to obtain a compulsory mechanical license for interactive streams, limited downloads, and permanent downloads.[25] The need for the work to have actually been previously reproduced and distributed has been eliminated, but the label still must obtain first use permission to reproduce and distribute it. Thus, pursuant to the MMA, if this permission has been obtained by the label, digital service providers such as Spotify and Apple Music are eligible for a compulsory mechanical license even if the first

instance of distribution of a record's underlying musical composition is through their streaming service.

Second, the MMA replaced the song-by-song licensing process with a blanket compulsory licensing system.[26] The Mechanical Licensing Collective ("The MLC") was established pursuant to the MMA to streamline the process of mechanical licensing specifically for interactive streaming DPDs. A streaming platform now only needs to obtain a mechanical license through The MLC, authorizing the streaming service to issue DPDs to consumers for any musical compositions eligible for a license pursuant to Section 115.[27] Copyright owners seeking mechanical royalties for DPDs of their musical compositions on an interactive streaming service (a service that is relying on the blanket license available pursuant to the MMA) may now register with The MLC to collect those royalties. (Note that MLC membership is not required; if they choose, copyright owners are still free to negotiate directly with a digital music service rather than have their mechanical royalties collected and paid by The MLC.)

The MLC's blanket mechanical licensing scheme provides some predictability in the administration of mechanical licenses; however, it is only currently utilized for streaming platforms and download services, the latter of which may either adopt the blanket license system provided by the MMA or continue to license music on a song-by-song basis. As the concept of streaming evolves into a virtual space, the MLC's blanket compulsory mechanical licensing system may not be a permanent solution for adequately compensating copyright owners.

Applying Section 115 to the Metaverse

As the metaverse offers new platforms and revenue streams for uses of music, we must determine to what extent mechanical licenses are currently required for such uses, and then whether our current licensing structures adopted pursuant to Section 115 would sufficiently balance the interests of rights holders and consumers. While we haven't fully realized all potential uses of music in the metaverse, some methods of music exploitation thus far have included 1) virtual concerts or DJ parties that may only be attended within the metaverse by NFT holders, 2) streaming music within the metaverse, and 3) sales of NFTs associated with digital music files. Each such exploitation is analyzed in turn below.

Metaverse Concerts

As the law currently stands, Section 115 does not apply to metaverse concerts nor background music within the metaverse. The Copyright Act's definition of a DPD includes the stipulation that "A digital phonorecord delivery does not include the digital transmission of sounds accompanying a motion picture or other audiovisual work as defined in section 101."[28] Because a virtual environment, particularly a virtual concert, includes a virtual image that accompanies the music, a metaverse concert may be regarded as an audiovisual work—not a DPD, which simply delivers a digital copy of a recording. The Copyright Act defines an audiovisual work as "a series of related images which are intrinsically intended to be shown by the use of machines, or devices such as projectors, viewers, or electronic equipment, together with accompanying sounds, if any…"[29] Additionally, whereas Section 115 applies to only *interactive* streams (in addition to limited and permanent downloads), metaverse concerts would not be considered "interactive." An interactive stream is one that is transmitted through an interactive service—one that "enables a member of the public to receive a transmission of a program specially created for the recipient, or on request, a transmission of a particular sound recording, whether or not as part of a program, which is selected by or on behalf of the recipient."[30] A metaverse concert playlist is not specially created for any individual recipient, and is not created upon any user's request, the same way a service such as Spotify or Apple Music allows a user to curate and play music on demand. A concert attendee in the metaverse has no control over the music played by the performer.

However, the question may be raised, as a policy matter, as to whether a metaverse concert should be deemed a non-interactive audiovisual work in the first place. It may be advantageous for songwriters and music publishers to argue that a live concert experience in the metaverse is different than a traditional audiovisual work because it is an entirely new use and revenue stream for musical compositions. As such, delivery of metaverse concerts should require a separate license from traditional audiovisual synchronization. It could also be argued that because of the inherent digital environment of the concert, any composition performed therein creates a reproduction of those compositions which is cached on the servers of the platforms sharing metaverse space. Under such a theory, each song's performance could be considered a DPD under Section 115, in that the metaverse operates as a dynamic collective platform which includes

streaming music from a copy stored by the entities that have partnered to provide that specific metaverse. Additionally, entry into a metaverse concert could be argued to be "interactive" as applicable to Section 115. Metaverse concerts are ticketed events which can be limited and exclusive to NFT holders and/or specific metaverse participants. Because a metaverse concert could be limited to a specific audience, the metaverse could arguably be an interactive service, in that it is transmitting a program specifically created for individual participants, and the songs featured therein are selected on those participants' behalf.

In this view, the term "interactive" stream would require new meaning in the metaverse context. It would not relate to a participant's ability to stop, play, or skip songs during the concert, but rather a specific participant's immersive engagement and perception of the composition in a fixed digital world. Under this premise, a live metaverse concert performance could arguably be treated as an equivalent to a DPD—thus theoretically licensable pursuant to the existing provisions of Section 115. If this argument is accepted, a blanket mechanical licensing scheme would make the most sense to apply to this exploitation, as "venues" within the metaverse would be able benefit from a comparable system to the blanket venue licenses available from performing rights organizations in the real world, such as BMI and ASCAP.[31] Furthermore, to the extent those experiences are exchangeable by way of transferring those NFTs which grant access to specific metaverse concerts, it raises additional questions as to whether any mechanical rights are implicated by such NFT transfers. This leads us to the discussion of NFT holders and digital assets exchanged in the metaverse.

NFT Records

Currently there is no legal precedent nor statement from the U.S. Copyright Office that addresses when or if mechanical licenses (and mechanical royalty payments) are required in connection with NFT record sales. Theoretically, if a basic music streaming service was offered within the metaverse itself, just like any other DPD in reality, such delivery of recordings would likely fall under Section 115; however, if a recording is sold in the metaverse in the form of an NFT, it is different. NFTs present specific challenges to the purpose of Section 115, as our existing compulsory mechanical licensing structures do not support NFT and blockchain technology in a manner that is advantageous to copyright owners. This is

because of the minting process of NFTs, the lack of clarity as to whether NFTs are for private or commercial use, and the fact that transfers of NFTs are not considered mechanical reproductions—yet such transfers are precluded from protection under the "first sale doctrine" of copyright law, further discussed below.

Minting and Mechanicals

NFTs are initially created through a process known as minting, just like any other physical currency. Some may consider the minting of an NFT itself to be a process of mechanical reproduction, where the digital file is turned into a crypto collectible and stored on a blockchain. In this view, a mechanical license would be required for minting the NFT itself—before we even consider the subsequent sale or distribution of that NFT. However, this view should be reevaluated. It would be a misconception that an NFT is the same as the digital asset it represents. Rather, the token merely represents title and ownership over the asset to which the token is linked. The digital asset itself (the digital file of the copyrighted work) is linked within the code of the NFT, but the audio file is held on a storage server—not the blockchain.[32] Rather, it is the NFT marketplace offering the asset which enables the ability to stream or download the recording that is associated with the NFT.

In this regard, the sale of the NFT would not count as a mechanical reproduction, because the file itself would not be reproduced on the blockchain. Only the linked digital file containing the copyrighted work, wherever stored online, would require a mechanical license. The storage of that file is different from the process of minting a token that contains a link referring to the digital file. For analogous purposes, the title to a particular car may change hands when a car is sold, but that transaction does not create a duplicate car for the new owner. Because each NFT has its unique code making it non-fungible, it will likewise not be duplicated to deliver the token to a new owner. The NFT simply moves from one owner's wallet to the successive owner's wallet. The actual recording and musical composition are not reproduced in this process. Under this lens, no mechanical license nor mechanical royalty payments should be required for either the initial minting of an NFT or the subsequent transfer of the NFT, because the creation and sale of a token is distinct from the creation and sale of a recording itself.

Conversely, it could be argued that since multiple NFT holders would be linking to the original digital file stored on an NFT marketplace, that storage would function like a digital locker service requiring a mechanical license. While it is the case that an NFT must be minted from a digital file stored on an NFT marketplace (or on any server), and that such a process requires a mechanical license, the mechanical reproduction only occurs in connection with the upload of the recording file—not in the creation of the token. Therefore, it may be true that a mechanical license is required to link a file to an NFT, but the minting process of the token itself, arguably, may not fall within the type of activity requiring a mechanical license. This means that copyright owners of musical compositions may not be entitled to payment for this new revenue stream.

Private or Commercial Use?

Even if we alternatively assume that the transfer of an NFT amounts to a mechanical reproduction, another obstacle for the application of Section 115 rests upon the ambiguity over whether NFTs are distributed for private use vs. commercial use. Digital distribution of musical compositions in the form of sound recordings are permitted under Section 115 for private use only of the work.[33] Thus, for digital copies of sound recordings which are downloaded, or even where the consumer may be entitled to a tethered download, the consumer is not allowed to then subsequently distribute or transfer their rights to that copy. Like any crypto asset, NFTs are transferable in secondary markets online, which may be transacted through automated smart contracts requiring no permission from the copyright owner of the musical work embodied in the recording linked to the NFT. In fact, it is plausible for entire metaverse secondary markets to exist where NFT records are traded, auctioned, or sold. Consumers may choose to enter these secondary markets purely for commercial gain. Although the *possession* of digital audio files is not exchanged in these secondary markets (as argued above), the right to access those files are—creating a new revenue stream in connection with NFTs. Accordingly, it is not clear whether secondary NFT record transactions should be deemed "commercial" or "non-commercial" exploitations of music. If a compulsory blanket mechanical license structure is implemented to compensate copyright owners for NFT transfers as a matter of law (as opposed to mere terms of a smart contract), this may be contradictory to the notion that Section 115 is only applicable to private uses.

Similarly, still alternatively assuming for argument that an NFT sale constitutes a mechanical reproduction, a song-by-song compulsory mechanical licensing structure would be problematic. In each instance of an NFT sale, copyright owners must rely on the terms and conditions of NFT marketplace platforms to ensure that their works are being licensed for private use only. Whether or not NFT transfers can be restricted for private use only depends on the terms and conditions of the smart contract, which often do not include provisions as to how those terms can be enforced. Unfortunately, there has been no proper legal contract coded within the NFT itself. Rather, the marketplace offering provides terms and conditions regarding the distribution of the assets. This is an inherent flaw within existing smart contracts, as they are only able to effectuate simple "if-then" operations. Smart contracts are not able to detect the intent of an NFT holder simply from the transfer of an NFT. Thus, any legal restrictions governing these transactions, such as private vs. commercial use, are limited to an NFT platform's restrictions, and would need to be enforced in an applicable court outside of the metaverse.

Lack of Legal Consistency for Transferability

The final challenge in applying Section 115 to the distribution of NFTs is the inconsistency between legal treatment of resales for digital assets vs. physical products. At their foundation, NFTs are digital commodities. The U.S. Congress and courts have established that digital goods may not be resold without a license, and this has been applied to sound recordings specifically. The "first sale doctrine" of copyright law, as codified in 17 U.S.C. § 109(a), states:

> Notwithstanding the provisions of section 106(3), the owner of a particular copy or phonorecord lawfully made under this title, or any person authorized by such owner, is entitled, without the authority of the copyright owner, to sell or otherwise dispose of the possession of that copy or phonorecord…[34]

This notion was confirmed in 2013 when a federal court in the case of Capitol Records, LLC v. ReDigi, Inc., held that the first sale doctrine would not allow customers to resell their pre-owned digital music files.[35] ReDigi operated a website permitting the resale of digital files in an on-

line secondary marketplace. The court reasoned that the first sale doctrine only applies to a purchaser's *particular* phonorecord—i.e., a non-fungible good:

> [A] ReDigi user owns the phonorecord that was created when she purchased and downloaded a song from iTunes to her hard disk. But to sell that song on ReDigi, she must produce a new phonorecord on the ReDigi server. Because it is therefore impossible for the user to sell her "particular" phonorecord on ReDigi, the first sale statute cannot provide a defense…. Here, ReDigi is not distributing such material items; rather, it is distributing reproductions of the copyrighted code embedded in new material objects, namely, the ReDigi server in Arizona and its users' hard drives.[36]

Under this reading, all digital assets require a license for *secondary* distribution. Although this paper argues that sales of sound recording NFTs are not sales of digital files of sound recordings themselves, even if we assume for argument that such sales were indeed transfers of sound recordings, then such sales would require a license for their resale because they are digital assets. Therefore, regardless of whether a mechanical reproduction has occurred within the sale itself, the copyright owner must always issue a license for the subsequent distribution of an NFT—which conflicts with the ability for an NFT holder to freely trade the NFT in secondary markets. Current NFT smart contract functionally enables the automatic resale and payment to the original NFT owner a predetermined royalty set by the original NFT owner. This technology does not conform to the current copyright law affirmed in Capitol Records, LLC v. Redigi, Inc., which would require permission from the original copyright owner in each instance of an NFT transfer. It remains unclear whether this permission would be a mechanical license or an entirely new type of license for NFTs, which are distinct from both digital audio files and physical goods. The smart contract functionality of NFTs will likely create the circumstance where the free market will establish industry practices, and Congress will need to address these changes through additional legislation.

Mechanical Licensing is Premature for the Metaverse

There needs to be some protection for copyright owners to capitalize on evolving revenue streams developed in metaverse environments, beyond simply a one-time synchronization license for pairing visuals with music. If copyright owners desire to be compensated with royalties for metaverse exploitations of music, this could be done by either adopting a compulsory song-by-song licensing approach, or a compulsory blanket licensing approach, such as in Section 115. However, based on the foregoing discussion, it is debatable as to what extent Section 115 is applicable to copyright owners with respect to certain metaverse uses of music.

It is not clear whether metaverse public performances require any cached copy of the compositions performed "live." There is a provocative argument over the "interactive" nature of a metaverse concert and whether it should be retrofitted into the definition of an interactive digital stream of music. Nor is there established legal precedent as to whether there is any mechanical reproductions in the minting or subsequent distribution of NFT records, apart from the initial server copy or the album which is uploaded online and linked to the NFT. The difficulty in fitting Section 115 into metaverse applications of music delivery might suggest that either Section 115 should be revised to incorporate the metaverse uses into its scope, or that Congress should legislate a new exclusive right for copyright owners of musical compositions, which exists solely in the context of the metaverse.

As the metaverse and Web3.0 will continue to provide new revenue streams to copyright owners, simply applying preexisting licensing structures may be a simpler but possibly more inadequate way of addressing music rights moving forward. If a songwriter releases an album as an NFT, would compulsory mechanical licenses be available without regard to a first use? Moreover, would a compulsory mechanical licensing system diminish the songwriter's ability to capitalize on this new revenue stream (for sales and secondary market sales) by eliminating the ability for the songwriter or publisher to choose their licensed uses? Blanket compulsory mechanical licenses may resolve any song reproduction issues for metaverse concerts (if it becomes settled law that any reproduction and/or DPD exists in those contexts), but may be premature for the NFT records, as we do not yet know how metaverse economics will evolve with respect to NFTs. Congress should observe industry norms which develop with respect to fees paid for secondary sales of NFT recordings, and the

way such transactions may require regulation—prior to any immediate attempt to apply Section 115 to such uses. The booming auctions of NFTs in 2021 are likely not to resurface, but NFTs will not disappear. They will remain a constant asset in the metaverse, and it is only a matter of time before the music industry develops market standards to accompany NFT transactions. Whether Congress will need to inject protections like it did in Section 115 to this market will depend on how much commercial interests (whether by consumers or record distributors) will outweigh the interests of songwriters' protections. Web3.0 is not on the horizon—it is already here, and Congress must keep its ears open.

Endnotes

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