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Sample-based Hip-hop Music and Fair Use Laws in the Age of Streaming Services

Michael VanBuhler
vanbuhlm@email.sc.edu

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SAMPLE-BASED HIP-HOP MUSIC AND FAIR USE LAWS IN THE AGE OF STREAMING
SERVICES

By

Michael VanBuhler

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Approved:



Greg Stuart
Director of Thesis



John McElwaine
Second Reader

Steve Lynn, Dean
For South Carolina Honors College

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Thesis Summary

This thesis takes an in depth look at the history and processes behind creating sample-based music. Sampling was popularized during the beginnings of hip-hop music and now a wide variety of genres use samples or techniques created by sample-based music. Early hip-hop beats took samples of drum breaks or a portion of a track from another artist or band. As hip-hop grew in the late 80s and early 90s, the use of samples became a question of intellectual property rights and if it was acceptable to sample someone's copyrighted work. Lawsuits in the early 90's helped to create new caselaw concerning copyright infringement law so that hip-hop artists could continue to use samples in their beats. In most cases, the use of samples has to be approved by the original artist however a handful of cases have outlined how the use of samples could be "fair use" constituting a defense to copyright infringement claims. An important aspect of fair use and even receiving approval for a sample is how the sample is repurposed or transformed to create a new piece of music. This notion has shaped sample-based music and modern music often contains an incredibly creative use of samples. Today hip-hop is arguably the most popular genre of music despite being created over the last few decades. With that sampling has become more mainstream and everything from pop to indie music has seen its fair share of sampling.

In the early 2000s the music industry went through a radical change with the introduction of iTunes and digital music sales. In the past decade music sales have shifted to streaming services and these changes create new complications for the use of samples in music. Services such as Apple Music and Spotify allow users to pay a monthly fee to download and listen to a library of millions of songs. Another popular service for streaming music is SoundCloud, which is free for users and does not provide any payment to artists. One important advantage of SoundCloud is that artists can post DJ mixes. Apple music and Spotify have more strict terms regarding mixes, but it is possible to upload a mix with royalties given to the copyright owners of

the music in the mix. Currently SoundCloud's copyright terms suggest that samples or mixes need to have permission, but they will not be taken down automatically. The dilemma for up beginning beatmakers is that there is no way to know if their sample-based music is fair use and could be posted on a free streaming service such as SoundCloud. If a record label notices that someone has sampled their music, they can notify SoundCloud to take it down. So, it is important to outline fair use law pertaining to new streaming services. I am advocating that sampling and mixing songs on SoundCloud should have protection under fair use law mainly because the artists are not profiting off of the music.

The research done for this thesis accompanies a project that involves creating a beat tape of sample-based music. The start of this paper will detail the history and current state of sample-based music. Next, I will present the case on sampling and fair use law. Since my project involves sampling, it is important that my own music does not infringe copyright law. The problem is the line between fair use and copyright infringement can be very thin. A clearer picture of the fair use defense of sampling is needed to protect up and coming artists who use samples. Otherwise we are harming freedom of expression for sample-based producers.

Introduction

According to Merriam-Webster a sample is “an excerpt from a recording that is used in a musical composition, recording, or performance” (Merriam-Webster, 2020). Early forms of sampling involved recreating instruments to be played on a keyboard. The first digital sampling device was created by a group of engineers and programmers who later formed the company EMS (Electronic Music Studios). This London based group created the first digital sampler in their MUSYS studio in 1969. The MUSYS machine could record sound at a rate of 20 samples per second and the sound could be played back through filters and oscillators (Reid, 2000).

However, as early as the 1940s there were keyboards that could play back tape recordings of sounds, an example of this is the Mellotron (McNamee, 2009). Each key on the Mellotron contains a piece of magnetic tape and when keys are depressed a motor spins the tape to play the sound on it. At the time this was groundbreaking technology. In the case of the Mellotron, sampling is not much different from the sound created by an instrument.

According to Merriam-Webster a recording is “to cause sound to be registered on something in reproducible form” (Merriam-Webster, 2020). One might consider that a piano is just reproducing the sound that is naturally recorded on a metal wire. The sound of a piano is a sample taken from metal wire that’s created when struck with a felt hammer. So, it is possible that sampling was never really invented or created but that it has always been a part of music. While sampling has always been a part of music, the technology to create and manipulate sound has improved over time. This is important to recognize because a common criticism of sample-based hip-hop is that it is not real music. Many have claimed that because hip-hop sampling uses music from an old record that it is stealing someone’s work and therefore involves a lack of effort. A great analogy for sampling is to compare it to painting. As Joseph Schloss states in his book about sample-based hip-hop “If you believe that musicians should make their own sounds, then Hip-Hop is not music, but, by the same token, if you believe that artists should make their own paint, then painting is not art.” (Schloss, 23). This paper will provide a history of sampling and the current state of sample-based music. Next will be an analysis of copyright law and why sampling should be permitted on free streaming services. Last will be an in depth look at the methods used to create my own sample-based beats.

Main Body

History:

Sampling in music likely does not have a starting point however the start of hip-hop has a more definitive timeline. The birth of hip-hop can be traced back to August 11th, 1973 when DJ Kool Herc was DJing at a back to school party for his sister. During his career DJ Kool Herc noted that “people used to wait for particular parts of the record to dance” (History.com, 2018). This was usually the drum break where the vocals and instrumentation dropped out leaving just the groove. Herc developed a technique that involves isolating a drum break by using 2 copies of the same record and spinning them to create a continuous loop. DJ Kool Herc showed off his new technique at his sister's party, now known as the birthplace of hip-hop (Hip-hop is born, 2018). He was also discovering sample-based hip-hop because he was using pre-recorded material to make a new beat. However hip-hop was not created by just one person and there are a number of social and cultural factors that contributed to its development. In the American Academy of Arts and Sciences, Marcyliena Morgan describes hip-hop as “the distinctive graffiti lettering styles that have materialized on walls worldwide. It is the latest dance moves that young people perform on streets and dirt roads” (Morgan, 2011). The creation of hip-hop was not simply born out of the elaborate techniques of DJs in the 1970s. There was an entire African American culture that fostered its development. Some sociologists have described hip-hop’s emergence as a coping mechanism to poverty and racism. Robin Kelley points out in his essay that “While some aspects of black expressive cultures certainly help inner-city residents deal with and even resist ghetto conditions, most of the literature ignores what these cultural forms mean” (Schloss, 27). Kelley goes on to explain that sociologists overlook what might also be at stake which is aesthetics, style, and pleasure. While DJs started to further experiment with spinning records, some DJs would talk to the crowds during their shows. This eventually evolved

into an MC (Master of Ceremonies) rhyming and rapping. Later bands such as the Sugar Hill Gang started to write rap songs to the beats that MC's were making. According to Keith Leblanc of the Sugar Hill Gang they would listen to DJs in the Bronx and recreate the drum breaks that they liked with their studio band (Schloss, 34). Soon after that the SP-12 by E-mu systems was released in 1986. This digital sampler gave musicians the opportunity to take the drums from a drum break and sequence them (Schloss 35). Since then there were many advancements in hardware sampling machines throughout the late 80s and 90s. Sampling technology has continued to evolve and now most producers chop up samples entirely on a computer.

In the past two decades artists and modern technology have revolutionized sample-based hip-hop. Hip-hop sampling has also influenced other styles and genres of music. A few techniques and trends of current music can be traced back to sample-based hip-hop. One of the styles that has become very popular in current music is using vocal chops. One can hear the use of vocal chops in EDM, rap, and pop music. A vocal chop can be described as a fragment of audio that contains vocals and is used like an instrument for its melodic sound. An example of this can be heard in the 2015 single "Roses" by the Chainsmokers. In this song the Chainsmokers sample small vocal blips from the singers vocal without recording an original piece of audio. In the article "From Thomas Edison to The Chainsmokers: The Journey of Vocal Chops" the author, Shkyd, explains that with the heavy use of vocal chops the "Artists themselves became the sample" (Shkyd, 2017). The earliest example of vocal chops may be on the track I.O.U (megamix) by Freez which was released in 1983. Around the 6:48 mark of the song one can hear a vocal sample arranged into an elaborate melody. Meanwhile hip-hop beats evolved a similar style of manipulating vocals. Many beats took soulful vocal sections from older music and chopped them in creative ways. A great example of this technique at its full potential can be heard on the 2006 album *Donuts* by J Dilla. In the song "One Eleven" Dilla mixes together

multiple vocal samples with quick chops that create a new melody. This type of sampling is very popular in current hip-hop music and has influenced the vocal chops that are so prominent in today's music.

Another style of sampling that has become commonplace is half-timing the tempo of a sample. This technique was not very practical until music was made entirely in a DAW (Digital Audio Workstation) on a computer. With this technique a producer uses a melodic sample and reduces the tempo in half. This can create a slow motion feel in the melody while keeping the drums at the original tempo. A great example of this is "Mask Off" by Future. The beat uses a flute sample from the song "Prison Song" by Carlton Williams. In the introduction of "Mask Off" the sample is pitched down and played at half the normal speed. The sample returns to the tempo of the beat when the drums are brought in. This technique was much more difficult with early digital samplers.

Lastly hip-hop itself has been influential in American pop culture and social dynamics. Hip-hop was originally created from DJing in clubs and at parties and as a result the music is linked to social dynamics. One style of sampling that shows the link to pop culture is using samples that come from social media. An example of this is the use of the audio "Damn Daniel" which was popularized on the platform Vine in 2016. This phrase is sampled on "Midas" by Jace and also "Drug Dealers Anonymous" by Jay-Z featuring Pusha T. This type of sampling shows the close connection of hip-hop to pop culture and is something that is rarely heard in other genres. Sampling content from social media presents another complicated issue under copyright law, which will be examined further in the next section.

Legality

Hip-hop sampling has been the topic of many lawsuits and very few lawsuits have been won on the premise of fair use of a sample. With free music streaming services such as SoundCloud there are a new set of legal circumstances. SoundCloud allows music to be monetized but they do not accept DJ mixes or music that contains samples, unless the rights to use the samples have been obtained (SoundCloud, 2020). So, if you are creating mixes or sample-based music for SoundCloud you are most likely doing it for free. Currently there is no clear legal guidance on fair use when posting tracks to SoundCloud because there have been no legal cases in this situation. This means that beginner producers and DJs who use samples or create mixes could face copyright infringement lawsuits from record labels or artists.

To establish copyright infringement two things must be proven. First the plaintiff has to prove that they own a valid copyright to the work. Second, the plaintiff must show that the defendant copied the plaintiffs work and violated their rights. The first element is straight forward but may require research as artists and creators are automatically granted copyright and not required to register their work. Furthermore, the plaintiff cannot allege copyright if their work is not a protectable element. For example, a “single common chord by itself may not be considered original enough to be worthy of copyright protection” (Eckhause, 2018). For the second element the plaintiff must prove that the copied work is substantially similar to the authors original work. The first copyright case involving sampling that ended in a legal decision was *Grand Upright Music v. Warner Bros. Records*. In this case renowned rapper Biz Markie used a piano section from the song “Alone Again (Naturally)” by Gilbert O’Sullivan. Grand Upright Music alleged that the small section used as a loop in Biz Markie’s “Alone Again” was copyright infringement. This case occurred in 1991 in the earliest years of sample-based hip-hop and so there was no existing legal guidance concerning the defense of fair use when using

samples. The court decided that the song in question was copyright infringement and that the defendant willingly used the sample with the intention of selling “thousands upon thousands of records.” (*Grand Upright Music v. Warner Bros. Records*, 1991). This ruling made it clear that one has to receive permission or license a sample from the copyright owner of the sample. However, if copyright infringement is established the defendant may raise the defense of fair use. The fair use doctrine is contained in section 107 of the Copyright Act. This section sets forth four factors that the court evaluates when considering fair use:

“(1) The purpose and character of use, including whether such use is of a commercial nature or is for nonprofit educational purposes;

“(2) The nature of the copyrighted work;

“(3) The amount and substantiality of the portion used in relation to the copyrighted work as a whole; and

“(4) The effect of the use upon the potential market for or value of the copyrighted work.” (17 U.S.C. § 106, *Limitations on exclusive rights: Fair use*)

The following breakdown of the four factors of fair use establishes why sample-based music on SoundCloud should be afforded fair use protection:

Factor #1: The purpose and character of use:

This factor focuses on the extent to which the sample being used is transformative and if it is for commercial purpose. In previous cases, the courts looked for work that adds “something new, with a further purpose or different character, altering the first [work] with new expression, meaning, or message.” (*Campbell v. Acuff-Rose Music Inc*, 1994). The case of *Campbell v. Acuff-Rose* has helped provide the framework for how a sample can transform the purpose of the

original work. In this case, 2 Live Crew was sued for using a sample of the song “Oh, Pretty Woman” by Roy Orbison. However, the court held that the song “Pretty Woman” by 2 Live Crew was a parody of the original and was not copyright infringement. This case found that not every use of a sample needs permission even if it is for commercial use. This was a profound judgement that highlights how important transforming a sample is in fair use. Historically transforming the purpose and character of a sample has been fundamental to the success of sample-based music. For example, the song “Through the Wire” by Kanye West uses a sample from Chaka Khans 1985 single “Through the Fire”. The way the sample is pitched up actually changes the lyrics that one hears from through the fire to through the wire. This was an incredibly innovative use of a sample, which helped the song peak at 15 on the Billboard charts. This example shows how important the creative use of the sample is to the success of the song. Many sample-based hip-hop beats take samples from unique genres of music. For example, the song “Hypnotize” by The Notorious B.I.G samples music from track “Rise” by jazz musician Herb Alpert. This transforms the music to a new genre and exposes it to a new audience. The creative beat behind the “Hypnotize” track helped it peak at number 1 on the Billboard charts. So, transforming the sound and genre of a sample is very important in the success of sample-based music.

The other aspect to this factor is whether the sample is being used for commercial reasons. By default, sample-based music and DJ mixes uploaded to SoundCloud cannot be directly profited from (SoundCloud, 2020). This is important because all of the legal cases about copyright infringement of samples involve music that is being sold for profit. This distinction changes the fundamental purpose of the sample-based music. When selling music with samples the original author becomes associated with another artists brand/business. So, the original author has the right to decide if their work can be sampled and to license their work for profit.

However, when someone uploads music to SoundCloud for free, the purpose changes from commercial to focusing on creating good music. As mentioned in the previous paragraph, the goal of good sample-based music tends to be transforming the sample. Furthermore, if samples have to be licensed on a free platform it harms freedom of expression and discourages beginning artists from using samples. This provides an unfair advantage to those with money and resources who have the ability to get their samples cleared. One solution to this would be for streaming services to use a compulsory licensing system. This would allow artists to use samples based on a set licensing fee. This would help eliminate the unknowns of sampling someone's work. However, the original artists could agree to a high licensing fee making it unreasonable to sample their work especially when creating music for a free platform.

Factor #2: The nature of the copyrighted work

This factor "calls for recognition that some works are closer to the core of intended copyright protection than others, with the consequence that fair use is more difficult to establish when the former works are copied." (*Campbell v. Acuff-Rose Music Inc*, 1994). A judge is more likely to find fair use if the material that was copied is educational or informative rather than fictional and for entertainment. According to the Supreme Court "copying a news broadcast may have a stronger claim to fair use than copying a motion picture." (*Sony Corp. of America v. Universal City Studios Inc*, 1984). This is because copying informational works encourages the spread of ideas and educational information. This means that this factor may weigh against fair use in sampling. However, this factor may be of "limited usefulness" if the court has determined "that the creative work of art is being used for a transformative purpose." (*Estate of Smith v. Cash Money Records, Inc.*, 2017).

Factor #3: Amount and substantiality of the portion used

This factor seeks to compare the amount of work copied to the original work to see if the portion copied is reasonable for fair use. The “clear implication” of this inquiry “is that a finding of fair use is more likely when small amounts, or less important passages, are copied than when the copying is more extensive, or encompasses the most important parts of the original.”

(*Authors Guild v. Google*, 2015). Previous cases have decided that this factor does not imply that artists only sample as little as possible. Instead the secondary artist is encouraged “to ‘conjure up’ at least enough of the original” to accomplish the transformative purpose of the sample (*Campbell v. Acuff-Rose*, 1994). SoundCloud currently has a system in place that can already help identify samples that use an unreasonable portion of the original work. SoundCloud’s automated scanner will take down remixes unless you have the license to use the original (SoundCloud, 2020). From personal experience SoundCloud will not take down work that contains samples. This is because the scanners cannot identify an original work when it has been transformed by changing the pitch, tempo etc. If a sample is used that has not been transformed from the original sound and the length is unreasonable, SoundCloud will take it down anyways. In the case of *Lenz v. Universal Music Corp*, a mother, Stephanie Lenz, posted a video on YouTube of her child dancing to the song “Let’s Go Crazy” by Prince. Universal Music Corp issued her a takedown notice on the basis that her use of the song was not authorized. Stephanie Lenz sued Universal Music Corp for knowingly misrepresenting that Ms. Lenz had infringed upon Universal Music Corp’s copyrights. The court ruled in favor of Lenz’s finding that Universal Music Corp had issued a takedown notice in bad faith because it never analyzed whether Ms. Lenz had a fair use defense. This case shows that is important to protect those who are attempting to use samples. Otherwise, on a free platform such as SoundCloud, artists who do

not have the power to even inquire about licensing a sample are put at tremendous risk when creating sample-based music.

Factor #4: Effect on the market for the copyrighted work

When referring to the effect of using an older song in a remix or a recognizable sample Robert Vrana of the Washington and Lee Law Review discusses the effect on the original work, “Finally, it will often give the original composers and performers of songs increased exposure to new audiences and increased royalty payments.” (Vrana, 2011). When exposing an audience to a sample where they have not heard the original song, there is a chance they listen to the original. Without the use of the sample those listeners likely would not have listened to the original. In a case where the artist is not profiting off of the sample, they are actually potentially promoting the original artists’ work. If a sample is used for commercial purposes the court places a lot of importance on this factor because the use of the sample could provide competition to the original. The Supreme Court has even claimed that this factor is “undoubtedly the single most important element of fair use.” (*Harper & Row Publishers, Inc. v. Nation Enter*, 1985). However, this factor is closely linked to the transformative use of the sample, “The more transformative the secondary use, the less likelihood that the secondary use substitutes for the original.” (*Castle Rock v. Gonzalez*, 2005). In the case of *Estate of Jimmy Smith v. Cash Money Records* a rap song called “Pound Cake / Paris Morton Music 2” by Drake was the subject of a lawsuit because of its use of a spoken word piece. The song used a spoken word sample from the piece “Jimmy Smith Rap” by Jimmy Smith. Notably the original piece states “Jazz is the only real music that's gonna last. All that other bullshit is here today and gone tomorrow. But jazz was, is and always will be”. In Drake’s song he changed the words to “Only real music's gonna last. All that other bullshit is here today and gone tomorrow.” Cash Money Records had licensed

the piece from the Estate of Smith however the plaintiff claimed that the composition of the piece was not licensed. In other words, Jimmy Smith was a jazz musician and his estate claimed that they did not license the use of the piece for a rap song. US District Court judge William H. Pauley III ruled in favor of Cash Money Records on the grounds that Drake's use of the sample changed the meaning to reflect a commentary on the nature of the creative process. This case highlighted the importance of the transformative nature of the use of the sample, but it also pointed out the market implications of the use of the sample. The court found that “there is no evidence in the record to suggest that Pound Cake usurps any potential market for JSR or its derivatives.” (*Estate of Smith v. Cash Money Records*, 2017). The use of the sample in this rap song changes the purpose of the sample and targets a completely different audience than the original. Furthermore, the plaintiff never attempted to establish a market for licensing derivatives of any of his work. This case reflects what sampling attempts to do in the first place which is to target a new audience and therefore enter a new market. So, if the purpose of sampling is to create new music for a different market there should not be regulation of reasonably sized samples on platforms like SoundCloud.

The Process of Creating A Beat Tape

Before attending the University of South Carolina, I had no musical experience, nor did I have any known desire to make music. Growing up I was a skilled artist and learned to draw and paint. I took painting classes as a kid and entered competitions on occasion. During my time in high school I took two drawing classes where I really pushed myself in my ability with colored pencils. During the last semester before graduation in my drawing class I started to wonder if my drawing skills could translate to making music. I had never considered making music before that point and so I did not know where to start. My Freshman year at UofSC started and I looked for

a club that involved music production. However, the most similar club is the SNAPS club which focuses on music appreciation and a weekly album listening. I then spent some time researching music production on the internet. GarageBand was recommended as a great way for beginners to learn about music production and it is free if you own a Mac computer. I learned that most modern music is recorded and processed with a computer and sometimes all of the instrumentation is done within a computer. Some producers such as DeadMau5 do not even use pianos to record melodies and instead draw notes in with computer software. I spent some time with GarageBand and made a handful of beats. I also downloaded a third-party plugin to perform sampling. Once I decided that I enjoyed music production I upgraded to Logic which is Apple's DAW (Digital Audio Workstation). When looking back during my time using Logic, I rarely used samples for my beats. This is in part because I was focused on creating drums, melodies, and chord progressions from scratch. But also sampling in Logic is a bit challenging and not very intuitive. This is when I made the switch to another DAW, Ableton. Ableton is widely used amongst EDM producers for various reasons and mainly because Ableton has a great workflow. Workflow is important because it helps producers achieve unique sounds without taking too much time. For example, in Ableton one could reverse the note of a piano recording in about 5-10 seconds. Before computer music a band had to take the physical tape of a recording and reverse it. This took a lot of time and the quality of the tape could be damaged in the process. So, I spent time learning how to work in Ableton and experiment with samples and instruments.

The sound design of this beat tape is the result of more than 3 years of experimenting with sampling and instrumentation. In Ableton I made music similar to what I listened to which was mainly hip-hop and EDM. In modern EDM music there is usually influences from hip-hop beats and many songs mix the two genres together. So, I spent time learning how to create and

experiment in both genres. After a while of making beats I found that stretching samples in creative ways could create unique sounds that I have not heard often in current music.

One of the key components to the style of my beat tape is Ableton's time warping algorithms.

The different algorithms help to retain the quality of audio samples when changing the speed or pitch. Most of the time a producer uses time warping to retain the original sound of a sample.

However, if one stretches the tempo of a sample by a factor of two, three, or four it creates unique textures that can be chopped up to create effects or even a unique sounding instrument. I realized the potential of this technique when working on the original beat called Impatient Soul.

The title track of the beat tape is Impatient Soul which was an ordinary beat that my roommate and I made together. During my junior year I reworked the beat and rather than adding anything new I created an intro section of the beat by resampling the existing sample and instruments. I then stretched the new samples to create a full sound. The result was a sound that was glitchy yet extremely organized. I began to do this stretching technique with instruments and when sampling an old song. The beauty of this technique is you can add a completely new sound by stretching a small part of a sample, but the new sound still retains character and similarities of the sample.

The genre of the beats mainly combines elements of sampled hip-hop and EDM music. The use of samples in dance music is not common, but I believe is an emerging style. The reason this combination works is that many modern styles of hip-hop still use sampling frequently such as trap and drill style beats. On the other hand, many dance/electronic music styles contain trap beats but not samples. So, there is an opportunity to combine these elements in creative and new ways.

Another important part of my beat tape is the tempo of the tracks. In the fall when I started to make beats for this project, I did not give much consideration to the tempo of the tracks. My process usually involved looking for samples on YouTube or old records and then

building the beat around the tempo and key of the sample. Halfway through the process of the project I realized how important the beats per minute (bpm) are to the feel of the beat. After that I began to look for samples with very specific bpm ranges in order to have a variety of styles on the beat tape. In the study “Optimal Tempo for Groove: Its Relation to Directions of Body Movement and Japanese *nori*”, researchers found that an optimal tempo for “Groove” is somewhere between 100-120 bpm (Etani, 2018). After seeing this study, I made sure that if I wanted a more dance-oriented beat it would have to be at least 100 bpm. Many EDM producers and tutorials describe 128 bpm as the perfect number for EDM and sure enough many EDM songs are around that number. There are perhaps exceptions because music of any tempo can be danced to. However, it is quite rare to find a song under 100 bpm that is geared towards dance music. In another study that measured participants' emotional response to different types of music, researchers found a correlation between feelings of happy and sad and the tempo of a song. The research showed that participants associated high tempo with expressiveness and happiness while low tempo songs were associated with the terms relaxing but also boring and expressionless (Fernández-Sotos, 2016). This study likely points more towards the association of higher tempos with a desire to move because a song at any tempo can evoke different emotions for different people. Sad songs usually bring a feeling of comfort and joy to the listener, so this does not mean that low tempos are not as well received. Hip-hop tempos are usually from 60-100 bpm or many modern trap and drill styles are anywhere from 135 to 155 bpm. With this knowledge I started to look for samples based on bpm to create different styles on my beat tape. Furthermore, the bpm was very important in the track list order so that the songs flow nicely.

The final step to finishing my beat tape project was mixing and mastering. For me this was the most difficult process to learn and understand. Most producers work with mixing and mastering engineers because the processes are very difficult. Mixing is important because the

sounds and instruments of a beat could be revolutionary but if the kick drum or the snare is a few decibels too high it ruins the entire beat and renders it unlistenable. Furthermore, without proper mastering a beat does not achieve the volume of commercial music and will not sell or be played on the radio. When switching between songs on one's phone if the next song is significantly lower in volume the listener will perceive it as less quality. Unfortunately, mastering has brought about a loudness war in music. The loudness war is described as “a sonic “arms race” where every artist and label feel they need to crush their music onto CD at the highest possible level, for fear of not being competitive” (Loudness War, 2018). Once music passes zero decibels it starts to distort on analog speakers and equipment. To prevent this, producers use limiting which prevents any sound from passing zero and distorting. Limiting is also used to increase the volume of a track, but as the volume is increased the peaks of the track are turned down. Furthermore, compression is used to tame the peaks of a track with a ratio which is much cleaner than a limiter (Swisher, 2019). Most modern pop music is heavily compressed so that it has a high volume and full sound. The problem is that heavy compression and limiting sacrifices the dynamic range of a mix. In the *Journal of Professional Sound* Derek Sylwesterzak discusses the current state of the Loudness War. He notes that when comparing the level of a dynamic mix that is a bit quieter to a compressed mix the “difference in level is enough to dismiss the quieter master as inferior” (Sylwesterzak, 2014). Today streaming platforms measure loudness in LUFS (Loudness Unit Full Scale) which measures the short- and long-term average loudness of the sound. CD's can handle > -9 LUFS which encouraged producers to compress their music as much as possible without destroying the sound (Song Mastering, 2016). Streaming services have helped this problem by using loudness normalization. Streaming services such as Apple music and Spotify will turn down tracks that are too loud and also turn up tracks that are quiet to a similar level. Spotify normalizes their music to an average of -14 LUFS (Song Mastering, 2016).

This allows producers to retain the dynamics in their mix by discouraging heavy compression that has been used to achieve extremely high volumes. Unfortunately for my beat tape project Soundcloud does not normalize any of their music. So, my music is slightly more compressed than is ideal. I analyzed around 7 of my favorite tracks on SoundCloud to get an idea of the LUFS that I would target. I aimed to have all of my tracks around -8 LUFS to retain similar levels to commercial music on SoundCloud.

Conclusion

Overall there is a lot that is yet to be discovered about sample-based music, but it is certain that it is not just another short-term trend. This paper first explored the history and current context of sampling in order to explore a gap in the legal framework for sampling. After an analysis of previous legal cases involving sampling it is clear sampling should be protected on free music platforms. Further, it is important to address this issue because without such legal clarification sampling remains somewhat off limits to beginning producers. It is hard to say what the future holds for sample-based music and the corresponding copyright law. If anything, infringement cases in visual arts point to more liberal application of fair use when sampling someone's work. For the project part of my thesis I worked really hard to create an entirely sample-based beat album that uses samples in a transformative way. I think the legal component to my thesis helped me create better sample-based music. As I learned about the importance of the transformative nature of a sample in fair use, I refined my use of samples to be more transformative. It still remains unclear to what extent producers can use samples on SoundCloud. Hopefully one day SoundCloud's terms will allow the use of samples without the threat of copyright infringement.

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