Are Playlists and Algorithms Reliable Curators?:

Digitalization, Archivism, and Curation in Music Streaming Services

by

Youngju Chang

Bachelor of Arts in Sociology

Vassar College

Thesis Advisor:

Leonard Nevarez

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Introduction

1. 1980s Music Revives on 2020s Playlists?

It was early spring in 2017 when I first randomly encountered Mariya Takeuchi's "Plastic Love" on YouTube, a Japanese soft rock-jazz-funk song released in 1984. I had been familiar with similar artists such as Taeko Ohnuki, Yamashita Tatsuro, and Tomoko Aran whose mellow and groovy songs were popular in the late 1970s and 1980s. However, I was mesmerized by the YouTube algorithm leading me to numerous videos that ripped full albums of Japanese vintage pop. Also, fan-made playlists featuring colorful and nostalgic Japanese cell animations were explosively shared through the platform. This genre, after 30 years of deep sleep, is now enjoying global fame online and has gained a new title called "City Pop."

"Plastic Love" is an exceptional song because no one expected the old music out of nowhere would bring a huge craze and provoke the City Pop phenomenon. Even Plastic Lover, an anonymous account that re-uploaded the original song on YouTube, did not anticipate this situation. "It was relatively unpopular for two days, and then it had like 1,000 views. Then the next day, it had 20,000 views, then 100k the day after that. I wasn't expecting it to grow so rapidly" (Zhang, 2021). The anonym also discovered the song through the YouTube algorithm. "I was listening to this song by Fazerdaze called "Lucky Girl." And I kept seeing this one black-and-white video, "Mariya Takeuchi 竹内 まりや Plastic Love."… At first I wasn't really interested in it, but it kept haunting me in my recommendations" (Zhang, 2021). In May 2021, the video reached 63 million views and countless fan arts,

memes, mashups, covers, and remixes are floating around the platform.

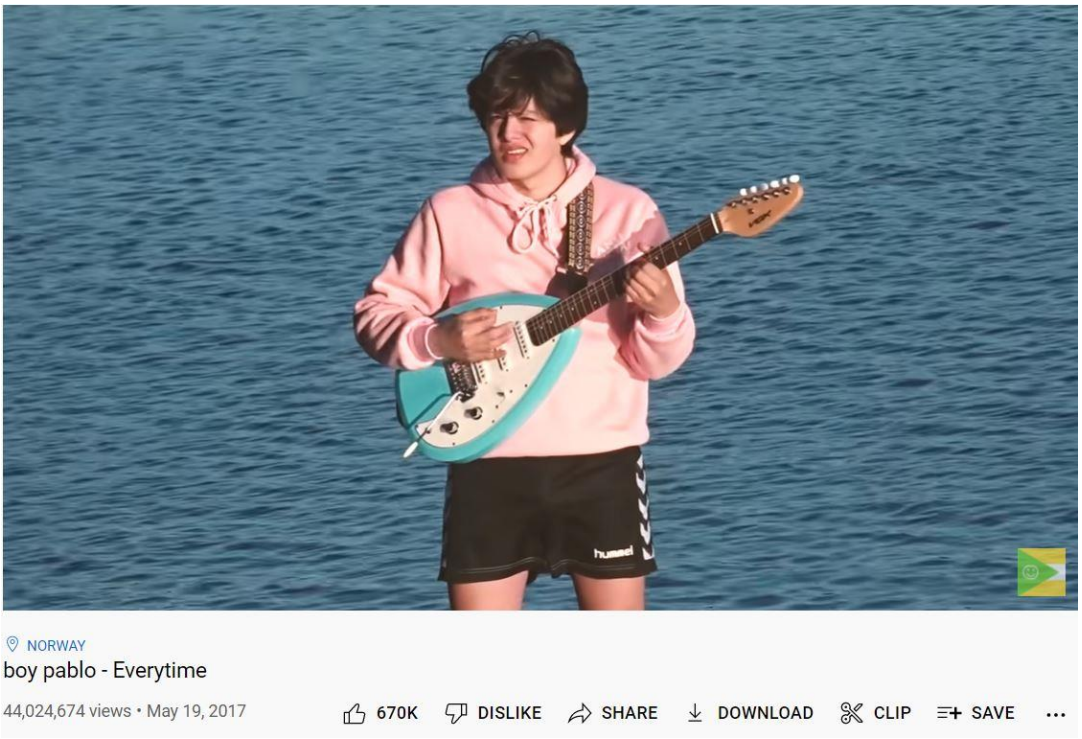
“Mariya Takeuchi 竹内 まりや Plastic Love” re-uploaded on YouTube by user Gun.

“NIGHT CITY CityPop **シティポップ** 80s Japanese Mix” uploaded on YouTube by user Ganymede Cafe.

“Plastic Love” represents three distinctive characteristics of the contemporary music scene. First, people explore and discover new songs from a massive online library called music streaming services. Also, unlike physical formats such as LPs, cassettes, and CDs, streaming platforms allow the public to access music as a continuous stream of data. Although advertisements intermittently disrupt the play, users on Spotify, YouTube, and Apple Music can search, listen to, and share songs at any time and place for free.

Second, “Plastic Love” is not a brand new song by a rising pop star. It is an archived track from the 1980s which has been resurrected nowadays. As the digitalization of music becomes prevalent, more songs have been piled up and created a massive online archive. This swell of past materials has been increasingly impacting contemporary music, which leads to retrospective trends. For example, top hit songs including “Break My Heart” by Dua Lipa, “Blinding Lights” by The Weeknd, “Say So” by Doja Cat, “Dynamite” by BTS, and “Watermelon Sugar” by Harry Styles all adopt sounds and visuals from the late 20th century.

Third, playlists and algorithms are a new power in the music industry. “Plastic Love” was not the only beneficiary of playlists and algorithms. Indie rock musicians such as Men I Trust, Boy Pablo, Rex Orange County, and Sunset Rollercoaster also gained a spotlight through the same route. Their music and videos have hovered on Spotify playlists and YouTube recommendations for several years. Interestingly, those bands share similar aesthetics: cheesy vintage synths, slow groovy tempos, bedroom-recording sound quality, VHS camcorder videos, warm pastel colors, and dreamlike ambiances (Zeger, 2020). This commonality shows that playlists and algorithms not only influence the music industry but also shape online cultures and aesthetics.



“boy pablo - Everytime” uploaded on YouTube by user 777tv.

This paper delves into those three aspects of the contemporary music scene. The primary questions are:

- How have music streaming services changed our listening behavior and the distribution of music?
- How has the digitalization of archives influenced our relationship with memory and information?
- How does the digitalization of music and archive impact contemporary music?
- Why do playlists and algorithms thrive these days?
- Should we believe in recommendations made by playlists and algorithms?

Focusing on specific genres such as City Pop or indie rock is not a purpose of this thesis. Instead, it will sketch an overall history and social phenomena related to digitalization, archivism, and curation in music streaming services.

2. Preliminary Literary Review

Although an ample body of literature on music streaming services, digital archives, playlists and algorithms already exists, there is not enough research about their interrelationships. To begin with, several analyses of music streaming services have been performed since the rise of streaming platforms. For instance, Eriksson et al. (2020) delve into Spotify and investigate its inner workings of streaming and policy implications. Scrutinizing music-uploading processes, playlist content, and algorithmic advertising systems, they reveal how Spotify has converted music into quantitative commodities. Scherzinger (2016) also illustrates changes in our listening behavior caused by cloud-based music streaming services. As a majority of people listen to songs through applications on smartphones, music has gained high accessibility and mobility. However, it has also become decentralized and dematerialized. Both studies give us a meaningful insight to rethink about music streaming services which dominate a huge part of our daily lives. Nevertheless, they do not include the “archive fever” which is another unique phenomenon in the contemporary music scene.

Secondly, there are numerous studies about memories and society. For example, Huyssen (2000) argues that people’s obsession with the past is one of the most distinctive characteristics of contemporary society. He describes how archivism resides not only in

museums or libraries but also in all areas of our daily lives. For example, retro fashions, memoir writings, self-video recordings, and nostalgic advertisements have sharply increased these days. Observing these trends, Huyssen worries that the weight of the past could endanger the vitality of the present. Reynolds (2011) also agrees with Huyssen and illustrates how the digitalization of music has catalyzed archivism and retrospective trends. Along with the development of recording and web searching technologies, remnants of old music have been indiscriminately accumulated and formed gigantic online archives. The surfeit of past music, as a result, started to affect contemporary music more and more. Retrospective sounds, postproduction, album re-releases, and music documentaries are notable examples. These studies deliver useful information about the consumption and reproduction of memories in contemporary society. However, they were published almost ten years ago when music streaming services, playlists, and algorithms were at an early stage. Therefore, their arguments need to be updated.

Finally, a number of researchers have examined playlists and algorithms in music streaming services. Bonini and Gandini (2019) reveal that digital music curation consists of partly human-editorial and partly algorithmic logic. In addition, Prey (2020) argues that playlists are shaped by pressures and tensions between music streaming service companies and record labels. Both agree that playlists and algorithms have served as a main source of revenue for music streaming services. They also notice that the power dynamics are occurring under playlists and algorithms. However, they do not cover issues of archivism and the excess of music.

The researches on music streaming services, archivism, playlists and algorithms overlap at various points. Nevertheless, I have not found a work embracing and interweaving

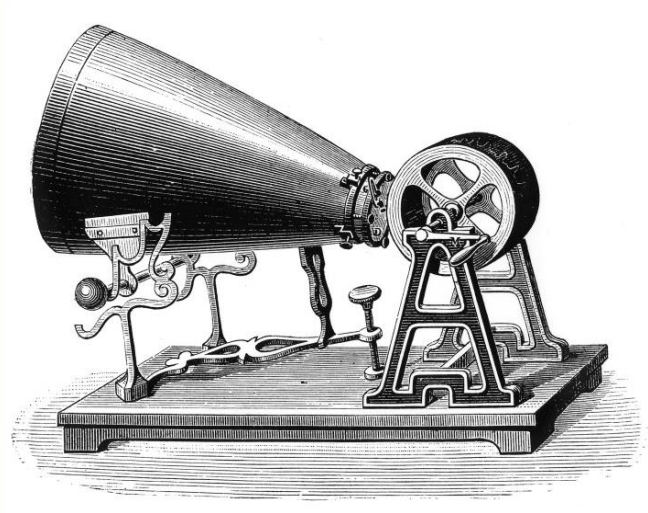
all the subjects cohesively. Therefore, this paper aims at assembling related materials and creating a seamless collage about these issues.

I. Digitalization of Music

Philosopher Langdon Winner (2003) once wrote that technological artifacts "embody specific forms of power and authority" (p. 19). They are not only influenced by scientific developments but also attached to social demands and power dynamics. Music, an art form recorded and distributed through "technological artifacts," is no exception. From physical devices to digital formats, music technology has evolved over time to meet the social needs and changes of each different era.

1. A Brief History of the LP, Cassette, and CD

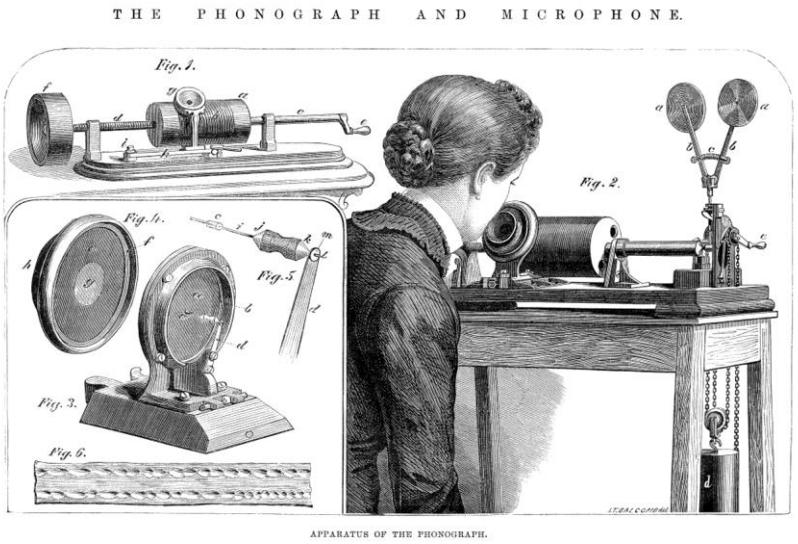
The earliest attempt to record sound was conducted by French inventor Eduard-Leon Scott de Martinville. In 1857, he introduced a "phonautograph," which traced and draw the shape of sound waves. When sound was funneled through its horn, a stylus attached to a membrane oscillated and engraved trails into a hand-cranked cylinder. With this device, Scott recorded a snippet of the French folk song "Au Clair de la Lune" in 1860, which became the first recorded sound in human history. However, the phonautograph had a fundamental limitation; it could not play back recorded sound. Nevertheless, it set the basic principles of sound recording that were adopted and developed in later generations (Fabry, 2018).



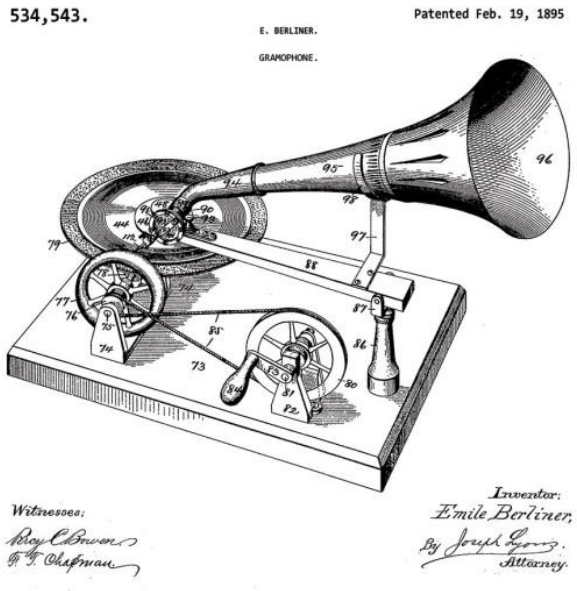
Eduard-Leon Scott de Martinville's Phonautograph.

Twenty years later, American inventor Thomas Edison introduced a "cylinder phonograph" that could record and reproduce sound. Its mechanism was similar to the one of the phonautograph. The sound was directed into a horn whose end was connected to a stylus. Then, responding to the vibration of the air in the horn, the stylus etched a groove into the wax coating of a cylinder. This groove contained variations corresponding to the different frequencies and amplitudes of sound. Playing back was the opposite process of recording. When the stylus tracked along the groove, the variations converted into the vibration of the air inside the horn and eventually turned into sound. The cylinder phonograph provided a revolutionary leap in sound recording and audio reproduction. However, it still held principal deficiencies. First, performers had to group as close to the mouth of the horn as possible to secure the maximum transfer of sound energy. Second, the cylinder phonograph was unable to yield high fidelity because of its limited dynamics. Lastly, due to the sensitivity of the technology, a high degree of skill in the recording engineer was required. The quality of recording varied greatly depending on the equipment used and on the ability of the engineer (Mumma et al., 2003). The cylinder phonograph was eventually replaced by a "gramophone,"

a flat-disc recording device invented by German-American inventor Emile Berliner in 1894. The disc had an immediate commercial advantage over the cylinder because it was much easier to duplicate multiple copies. However, the gramophone also had the same problems with fidelity (Ord-Hume et al., 2001).



Thomas Edison's Phonograph.



Emile Berliner's Gramophone.

Acoustic orchestra recording session.

The musicians had to play instruments as close to the mouth of a horn as possible.

In the early 1920s, with the development of electronic amplification, electrical recording became possible. While previous acoustic recording funneled sound directly into a horn, electrical recording used a transducer (a microphone) to gather sound. The vibrations of the collected sound were then converted into analogously varying electrical signals, which were amplified and applied to a stylus. The signals oscillated the stylus and cut a spiral groove in a waxed or lacquered disc. This new recording technology brought a dramatic improvement in fidelity. Since sound could be conveyed by wires over considerable distances, musicians no longer had to perform unnaturally loudly or congregate closely to a horn (Mumma et al., 2003). In the 1940s, a long-playing record (LP) was developed by Columbia Records. Made of unbreakable plastic "vinyl," the LP was more efficient to produce and durable to store than a disc. Furthermore, vinyl contained a smaller grain structure than "shellac," a material used in a disc. Therefore, it was capable of receiving more refined

auditory impressions. The LP also introduced a new standard “pitch,” or groove spacing, of around 100 grooves to the centimeter, which superseded the previous standard of a disc of fewer than 40. This “microgroove” LP allowed the recording of a broader range of frequencies and dynamics and suffered considerably less from surface noise (Mumma et al., 2003).

Meanwhile, magnetic tape emerged as another dominant device for sound recording and audio reproduction. Found in German radio stations at the end of World War II and brought to the United States to be copied, the magnetic tape evolved into a recording and playback device for the home in 1947. The process of recording on a tape involved the conversion of sound signals, by means of a transducer (a microphone), into electrical impulses which were recorded as variations of magnetic influx along with the tape. The main advantage of a tape was the relative ease of editing at a lower cost. It was also reusable and less fragile than a disc. As a result, by the 1950s, the magnetic tape became a predominant medium for sound recording (Mumma et al., 2003).

After 1950, the recording industry experienced a great expansion due to a combination of factors. First, the LP became more popularized with its improved fidelity and durability. Also, a decrease in the cost of materials, manufacturing, and distribution made the LP more affordable than previous records. At the same time, the demand for the magnetic tape significantly increased as cassette players were installed in automobiles and Sony developed a portable personal stereo in the 1960s. Most of all, the record-buying public was larger, more affluent, and as a result of wartime travel and radio broadcasting, more eclectic in its music taste than it had ever been (Mumma et al., 2003).

The cover image of a magazine *Radio Electronics.*

Until the mid-1970s, most advances in recording technology were refinements or extensions of basic analogue principles established in the era of the phonautograph. However, with the emergence of digital recording, every aspect of sound recording and audio reproduction changed. While the previous recording engraved sound signals into a physical medium, such as a cylinder, disc, and tape, digital recording sampled and assigned each signal a binary number, thus creating multimillion-character streams of numbers. This digital representation of sound was recorded as a sequence of microscopic pits on the surface of a compact disc (CD). During the playback, a semiconductor laser shined on the disc and reflected back into a sensor. By doing so, it reconstructed the full numerical patterns and converted them into sound signals (Mumma et al., 2003). Digital recording and the CD easily surpassed the sound quality of the LP in terms of frequency coverage and dynamic range.

Also, the sound stored in the CD did not have to suffer from surface noise and could be copied multiple times without audible abrasion. As a result, the CD soon dominated the record market over the LP in the 1980s (Ord-Hume et al., 2001).

In conclusion, starting from the phonautograph, music technology underwent various changes in its form and mechanism. Multiple factors – technological, economic, and social – contributed to the advancement, but the basic desire behind the evolution was to capture the best sound quality. In other words, sound recording and audio reproduction technologies were theorized and practiced in terms of their relation to absolute fidelity.

2. The Compression of MP3

The century-long trajectory toward high fidelity, however, was halted by the advent of MP3. People began to prefer this small and convenient medium at the expense of rich sound quality.

MPEG-1 Audio Layer III, or "MP3," is a compressed digital audio file that aims for efficient transportation and accumulation over the computer network. According to Sterne (2006), the purpose of MP3 is "to make audio files smaller through data compression so that they are easier to exchange in a limited bandwidth environment such as the internet, and easier to store in a limited dataspace environment, such as a hard drive" (p. 828).

Sterne explains that an audio file is compressed and made into MP3 by the elimination of inaudible and unnecessary sounds. He notes, "MP3 is designed to figure out what a listener will not hear anyway and to get rid of the data for that portion of the sound" (p.

832). This sonic removal takes three different steps. First, “auditory masking” eliminates similar frequencies, based on the principle that when two sounds of similar frequency are played together and one is significantly quieter, people will only hear the louder sound. Second, “temporal masking” gets rid of concurrent frequencies because, if there are two sounds very close together in time, listeners will only hear the louder one. Finally, “spatialization” erases extremely high and low frequencies that are almost impossible to be detected (p. 835).

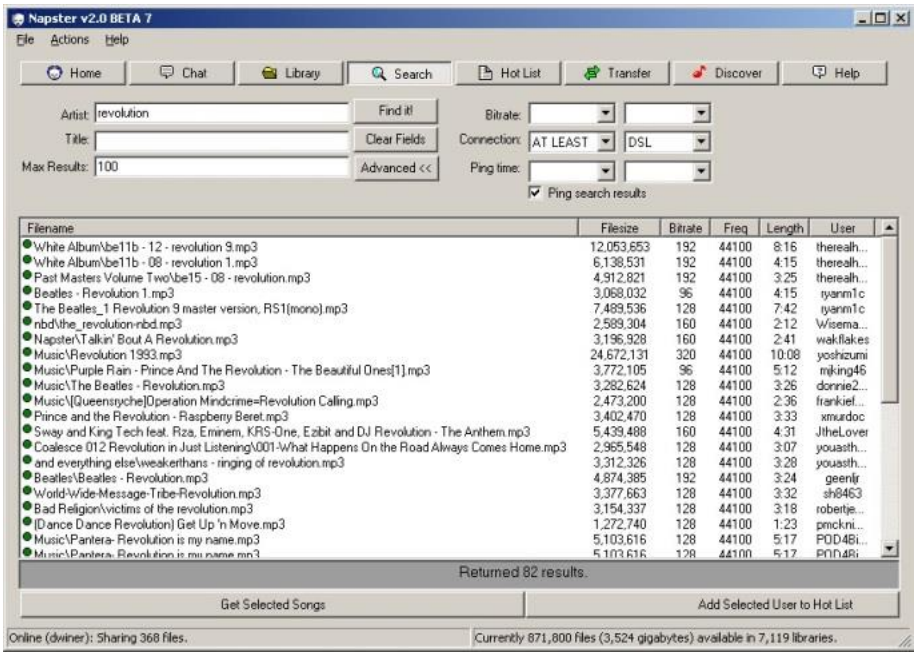
This process, however, requires a great deal of compromise. Because it throws away a lot of delicate sounds in order to reduce the size of a file, the compression inevitably leads to the debasement of fidelity. Nevertheless, Sterne points out that we have moved from ideal listening environments to noisy, multimedia, and distracting circumstances (p. 835). People listen to music through headphones or earphones while they are walking on the street, taking a noisy subway, studying in a crowded cafe, and doing multiple tasks on a computer. In these situations, they may not attend directly to the music, and therefore, they are even less likely to attend to the sound of the music. As a result, attention to high fidelity is no longer a priority in the development of recording technology. Instead, causal listening, massive exchange, and gigantic accumulation of audio files have become the next future goals.

3. The Emergence of Musical Piracy

Because the compression of MP3 significantly reduced the size of an audio file, it became convenient and prevalent to share music through websites, “MP3 blogs,” Internet Relay Chat, email, file-hosting sites, and peer-to-peer (P2P) technologies (Aitken, 2013).

People no longer bought physical mediums to listen to music. Instead, they “ripped” tracks from LPs, cassettes, and CDs as MP3 files and distributed them through internet. All these processes were conducted outside of the market economy and legal regulations. Therefore, this file-sharing practice was called “musical piracy.”

Napster was one of the earliest and biggest P2P programs that provoked the rapid increase in file sharing and musical piracy. At its peak in 2001, there were nearly 1.5 million people around the world simultaneously sharing files through Napster and bypassing the purchase of established distribution mediums (Augustyn, 2019). Napster was eventually sued by the Recording Industry Association of America and shut down due to copyrights infringement. However, it embedded in the consciousness of consumers the idea of downloading, storing, and sharing music through online networks.



Napster software.

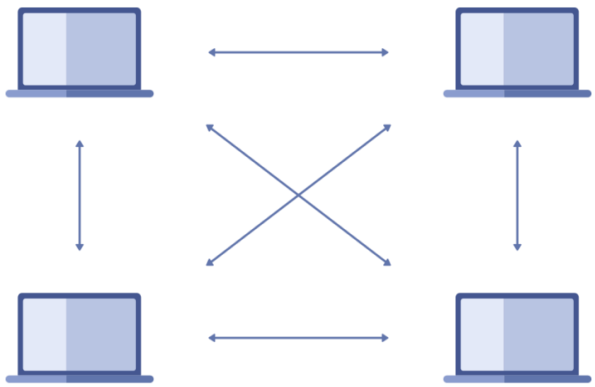
4. The Era of Music Streaming Services

Musical piracy had caused an astronomical financial loss to artists and record companies. Therefore, there was a need for a legal alternative to the unlawful file-sharing practice. In this circumstance, music streaming services appeared as a potential solution (Hagen, 2020, p. 2).

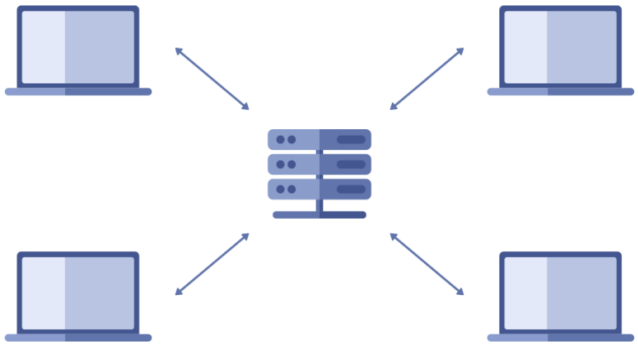
"Streaming" is a method of transmitting a digital file in a continuous stream of data that can be processed by a receiving computer before the entire file has been completely sent. For example, streaming services permit a video clip to start playing on a user's computer as soon as it begins to be downloaded from websites (Gregersen, 2021). Similar to file-sharing programs, such as Napster, streaming services are based on a network internet medium. Its high connectivity allows data, files, and information to flow easily among members of the given network (Hagan, p. 4).

However, the fundamental difference between the two systems is a "cloud," a large data center comprised of networked servers (Hagan, p. 4). While users were able to share music through Napster and compile songs on their devices, the program itself neither had nor controlled a hub. It was a decentralized platform that connected numerous flows of data rather than collecting and possessing them in one centralized server. Meanwhile, streaming services depend on a vast amount of information stored in a cloud, and this server center is mostly owned by private proprietors such as Google, Apple, Amazon, Spotify, and so on (Scherzinger, 2016, p. 1). These companies own a legal right to the content registered in their clouds. Therefore, in order to listen to music on streaming services, or, in other words, access the cloud of streaming services, people need to pay for a subscription or a membership. In

short, in P2P systems of file-sharing programs, users act as both service providers and service consumers. However, in the cloud architecture of streaming services, there are designated clients that request services and servers that provide services. The requests are normally made by payment, and therefore, unlike file-sharing programs, streaming services are able to secure their legal and economic positions in the music industry.



P2P systems in file-sharing programs.



Cloud systems in streaming services.

The number of music streaming services users has grown rapidly. According to MIDiA Research's annual report, 523.9 million people were subscribing to music streaming services globally at the end of 2021, which was up by 109.5 million (26.4%) from the previous year. Spotify took the highest market share (31%) while Apple Music placed second (15%). Amazon Music (13%), Tencent Music (13%), and YouTube Music (8%) followed (Mulligan, 2022). These statistics tell us that, even though there are constant demands for LPs, cassettes, and CDs, the act of listening to music has become more like borrowing a book from a library or observing an artwork in a museum; instead of being distributed through physical and independent mediums, music is increasingly enjoyed as continuous streams of data connected to larger networking archives.

Conclusion

For a century, music formats and technologies had evolved with a concentration on high sound quality. From the cylinder phonograph to the CD, the delivery of clear and rich sound was a primary concern. However, when MP3 arose as a dominant medium, the priority changed from quality to efficiency. Even at the expense of better sound, people preferred compressed digital audio files that could be easily transferred among different devices. Then, musical piracy and file-sharing practices proved that music can be freely shared and accumulated through an online network. Music streaming services legalized and monetized this idea. Based on a cloud system, they allow subscribers to access music stored in massive networking archives. Music streaming services also provide various functions such as playlists, recommendations, podcasts, and more. However, before delving into these features,

the next chapters will focus on the archival aspect of music streaming services and a highly digitalized society.

II. Archive and Musealization

Similar to music technology, the archive has developed in accordance with social and historical changes. For example, in our highly digitalized society, music technology and the archive are combined together and serve as the backbone of music streaming services. Just as the previous chapter traced the historical development of music technology, this part will illustrate how the archive has evolved and affected everyday lives throughout history. By doing so, it will provide us with an overall picture of how the two currents have merged in contemporary society, which will be discussed further in Chapter 3.

1. A Brief History of the Archive

The archive was invented almost simultaneously with the human civilization. According to Giannachi (2016), the ancient Egyptians, Assyrians, Medes, Hebrews, Phoenicians, Greeks, and Romans had their own archival repositories (p. 2). Then, in the Middle Ages, archives were established and managed by churches, royal families, and political leaders. The traditional function of the archive was to keep evidence of legal and economic transactions for particular bureaucratic purposes. For example, they often included papers about the laws of the land, evidence of administrative actions, financial and accounting records, and documents about the ruler (Posner, 1971, p. 3-4). Since such archives were used as instruments of management, legitimization, and consolidation of power, they were often associated with the preservation of authority. Therefore, the admittance to the archive bestowed credibility and believability to a document. Furthermore, because of its

involvement with monarchical and aristocratic power, the archive had been inaccessible to the majority of the population. The archive as a public heritage only came out during the French Revolution when, in 1790, the French National Archives was founded and made public for the first time. This event marked the beginning of a process of democratization of the archive (Giannachi, p. 1-5).

Until the 16th century, the archive was still managed by local institutions such as monasteries, royal chanceries, civil and ecclesiastical courts, and municipalities (Duchein, 1992, p. 16). However, during the era of revolution and imperialism, the archive performed as a function of an empire, taking "the form not of a specific institution but of an ideological construction for projecting the epistemological extension of the state" (Richards, 1993, p. 19). For example, the Royal Geographical Society, the Royal Photographic Society, the British Museum, and the Colonial Office were established by and served Imperial Britain. These archives were considered not only as locations or objects but as media and communication strategies to represent the global power of the empire. Therefore, the archive became synonymous with the state's ideology and performed as an instrument for the global production, storage, and circulation of knowledge. This led to a substantial proliferation of archives, which in turn brought to light the importance of the role of the representation and self-documentation of the point of view within the archive (Giannachi, p. 6-9).

The Zoological Gallery in the British Museum in 1841.

2. The Emergence of the Digital Archive

In the late 20th century, just as digitalization changed the overall processes of sound recording and audio reproduction, digital technology altered the fundamental function and paradigm of the archive. Digitization and mechanization of the archive emerged not only because of technological advancement but also because of the need for economical practice to manage the expansion of the archive, in terms of its size, quantity, and hybrid nature (Giannachi, p. 9). Therefore, in the mid-1980s, new information technology featuring digital databases was introduced and adopted widely. This invention provoked a significant change in the role of the archive in which its emphasis shifted from the preservation of information to the facilitation of accessibility (Giannachi, p. 11). Unlike the traditional archive associated with the exclusive and bureaucratic system, the digital archive aimed for fast, easy, and open

access to the public. Furthermore, while the analogue archive was mostly established and managed by the state or institutions, the digital archive could be created by any individual with an online network. For example, people could make their own websites, blogs, and programs to gather information and share it with a close-knit community or the general public. As a result, the archive began to act as a transmitter of subjective knowledge that had different values for different users. The archive was no longer necessarily associated with a physical location, but rather it represented "an amalgam of materials, of differing, often subjective, values, including, as over, also obsolete materials and waste, that was capable of somehow augmenting the user's sense of their own presence" (Giannachi, p. 12).

Then, in the 21st century, the archive embraced another technological development. Users can now play a productive part in generating information in the archive. They can rewrite, replay, reframe, and reload information stored in the database, just as people collectively change and edit content on Wikipedia. Moreover, because the information in the archive can be uploaded and revised at any moment, there is no more delay between the present and the creation of its memory in the archive (Giannachi, p. 23). Social media is a great example; people can immediately post writings, photographs, and videos on their accounts which serve as personal archives for their online activities. In this situation, the continuous current of information, which is "streaming," and the digital archive become increasingly intertwined (Ernst, 2013, p. 98). The archive began to dissolve into the constant flow of data, content, and information circulating in the digital environment we live in. In other words, the archive has become more interactive, immersive, and pervasive. The transformation of the archive into an interactive digital platform has caused our everyday lives to be continuously integrated within the archive as part of what we call the digital

economy. (Giannachi, p. 15-25).

cyberfeminism index			
75	1996	Bodies Incorporated	Victoria Vesna
76	1996	An Interview with Sadie Plant and Linda Dement	Sadie Plant, Linda Dement,
77	1996	Binary Sexes, Binary Codes	Sadie Plant
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80	1996–2000	Open Women Line	
81	1996	Steps to the Moon	Gita Hashemi
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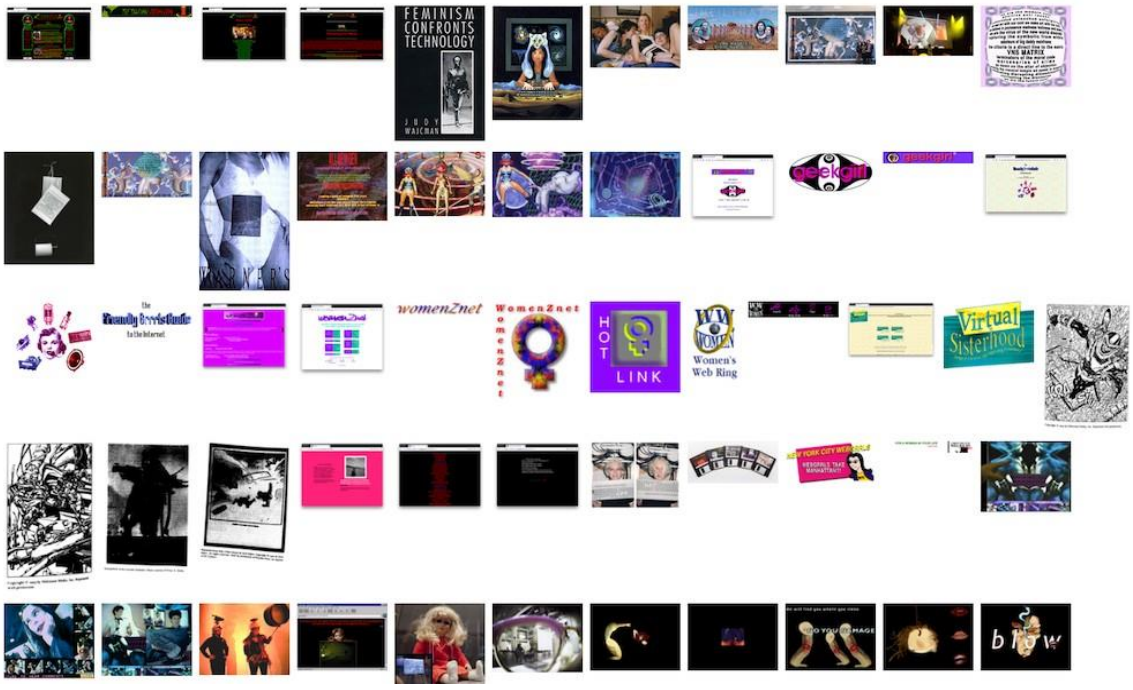
86	1996–2007	Collected Visions	Lorie Novak, Clilly Castiglia, Betsey Kershaw, Kerry O'Neill
87	1997–	Flesh Machine	Critical Art Ensemble

Cyberfeminism Index website. Anyone can edit and compile relevant materials by using the "submit" button.



Cyberfeminism Index also receives and archives relevant images.

3. Musealization

The highly digitalized archive has resulted in two significant changes. First, as the archive is no longer affected by physical limitations, and therefore, as its capacity has increased tremendously, people can now store tons of information including useless, uninspiring, and repetitive ones. For example, YouTube, Facebook, and Tumblr as archival systems are full of unorganized and replicated content. Second, because of its high accessibility, users can easily search and obtain not only current information but also the age-long content such as scanned texts of ancient manuscripts and videos recorded in the early 20th century. The archival materials are no longer detached from us. We can always access them by using Google Search Engine and exploring online archive websites.

Although the digital archive has promoted the high circulation and democratization of knowledge, its integration with our daily lives contains concerning effects. Just as more mass creates a stronger gravity, the archive with a vast amount of information has started to warp our sense of time and memory. Huyssen (2000) explains this phenomenon, pointing out that the public focus has significantly shifted from present futures to present pasts along with the development of the digital archive and database (p. 21). He argues that "musealization" – a term coined by German philosopher Hermann Lübbe – is no longer bound to museums but has infiltrated all areas of our everyday lives (p. 32). Musealization does not only refer to personal archival practices such as self-video recording, memoir writing, and confessional literature. It also includes the retrospective culture promoted by consumer capitalism: retro fashions and furniture, mass marketing of nostalgia, the rise of autobiography and the postmodern historical novel with its uneasy negotiation between fact and fiction, the spread

of memory practices in the visual arts, often centered on photography, and the increase of historical documentaries on television, including a whole channel dedicated entirely to history (p. 24-25).

The problem of musealization is that the growing influence of the past could jeopardize and diminish the present. Huyssen asks in his article, “If all of the past can be made over, aren’t we just creating our illusions of the past while getting stuck in an ever-shrinking present?” (p. 31). Because there are so many materials stored in the archive and it is so easy to access them, it becomes increasingly prevalent to use information from the archive as sources to create something new. Ideas, cultures, and knowledge are being recycled, instead of moving toward the futuristic imagination. This phenomenon has caused an expansive historicism in our contemporary culture that expresses the unprecedented obsession with the past. Huyssen notes, “The ever increasing speed of technological, scientific, and cultural innovation produces ever larger quantities of obsolescence, while objectively shrinking the chronological expanse of what can be considered the (cutting-edge) present at any given time” (p. 32). The more the past prevails over the present and the future, sucking both into an expanding synchronous space, “the weaker is its grip on itself, the less stability or identity it provides for contemporary subjects” (p. 33).

Conclusion

The archive was historically facilitated by public or private authorities to store legal documents for bureaucratic purposes. However, as it underwent the Age of Enlightenment and the Imperial era, the archive opened itself to the public and began to deliver specific

messages. Then, digitalization allowed the archive to expand its capacity and accessibility boundlessly. Not only creating individual archives, people can also interact and build a collective mass of information on the internet. They are able to add, delete, and revise content circulating in the archive as a flow of data. Through this transformation, the archive has become more interactive, immersive, and pervasive in our daily lives. However, the expansive digital archive has blurred our sense of the past and the present. The growing weight of the archive tempts us to resuscitate old ideas, styles, and cultures rather than inventing something completely new. This phenomenon of musealization can be found most evidently in the music scene, especially in music streaming services.

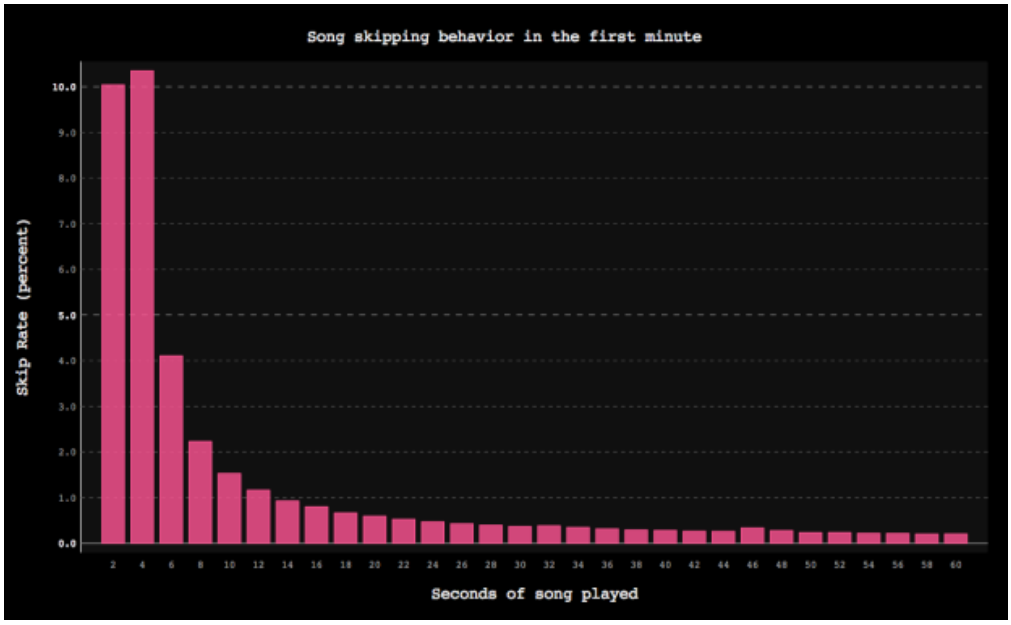
III. Digitalization and Archivism in Music

Digitalization has created a drastic improvement in the distribution and accumulation of music. Even though the sound quality is debased, people prefer the efficiency of digitalized music which flows like a stream of data. Meanwhile, the digitalization of the archive also allowed an unprecedented expansion in storage and accessibility of information. People can now accumulate and search almost an unlimited amount of information in the archive without experiencing physical limitations. These two technological developments have merged together and served as a foundational mechanism for various online services. One of them is music streaming services which operate under the given online network and depend on the cloud system. Therefore, listening habits formed by using music streaming services cannot avoid the influences of these two digitalized changes. Furthermore, the impacts of digital music and archive not only reside within music streaming services but also have permeated into broader music and online cultures.

1. Overabundance and Exhaustion

To begin with, the digitalization of music and archive has allowed people to search, download, and share almost an unlimited number of songs. In November 2020, Spotify, the world's biggest music streaming service company, announced that it had hosted more than 70 million songs in total and more than 60,000 new tracks had been uploaded on its platform every single day. In other words, new music had been published on Spotify every 1.4 seconds

(Ingham, 2021). At first, it seems like, with technological advancements, we have achieved great freedom to explore the vast ocean of music. However, it turns out that the overwhelming number of choices has caused a decrease in the listener's emotional investment in music. Instead of creating a strong bond to particular pieces, people are more likely to skip tracks and pay less attention to music because there are so many other songs to listen to. Lamere (2014) analyzed Spotify data and found out that 24.14% of listeners skip to the next song in the first five seconds; 28.9% in the first ten seconds; 35.05% in the first thirty seconds; 48.6% before the song finishes. About half of the audience would not listen to the song all the way to the end. The graph below also shows that most of the skips happen within the first twenty seconds or so of the song. After twenty seconds, there is a relatively small but steady skip rate.



The percent of skip rate by seconds of a song played on Spotify.

The research conducted by music psychologists at the University of Leicester also

revealed that downloading – and streaming – led to apathy and indifference. Adrian North, the project's leader, said "The accessibility of music has meant that it is taken for granted and does not require a deep emotional commitment once associated with music appreciation" (Reynolds, 2011, p. 121). People nowadays listen to much more music in total than in the past, and to a much wider range, but their listening is not necessarily characterized by deep emotional investment. Reynolds (2011) elaborated this argument by saying that music has become a devalued currency in two senses. He explained, "there was just too much of it (as with hyper-inflation, banks printing too much money), but also because of the way it flowed into people's lives like a current of fluid. This made music start to resemble a utility (like water or electricity) as opposed to an artistic experience whose temporality you subjected yourself to" (p. 122).

When people used LPs, cassettes, and CDs, they generally knew well about what they were listening to because they not only had to spend no small amount of money to purchase the items but also needed to invest physical efforts to prepare the set for playback. Also, by repeating the limited number of songs, people were able to receive enough reinforcement to deeply appreciate music. However, in the era of music streaming services, music has become an ephemeral and disposable commodity that requires less physical, economic, and emotional commitment. Because there are so many songs that can be accessed with a simple click or touch, people no longer need to limit themselves to a few songs but explore the plethora of music by constantly skipping tracks and finding what they exactly want, which leads to a decrease in emotional investment to each song.

2. The Boom in Retro Music

We discussed in the previous chapter that the digitalization of the archive has provoked a phenomenon called "musealization" in which the weight of the past in our current lives has become immeasurably greater. Not only accessing and accumulating an unlimited amount of information, people can also easily extract and recycle old ideas from digital archives – websites, blogs, YouTube, Tumblr, Facebook, Instagram, and so forth – to create something new.

Music is one of the fields that have been "musealized" at a rapid rate. In his book *Retromania*, Reynolds concerns that the greatest danger to the future of our music culture is, in fact, its own past. He argues that the first ten years of the 21st century turned out to be the decade dominated by the 're-' prefix: revivals, remakes, re-enactments, and retrospection. He writes, "Every year brought a fresh spate of anniversaries, with their attendant glut of biographies, memoirs, rockumentaries, biopics, and commemorative issues of magazines. Then there were the band reformations, whether it was groups reuniting for nostalgia tours in order to replenish the members' bank balances or as a prequel to returning to the studio to relaunch their career as recording artists… If only it was just the old music and old musicians coming back, in archived form or as reanimated performers. But the 2000s was also the decade of rampant recycling: bygone genres revived and renovated, vintage sonic material reprocessed and recombined" (p. 12). This obsession with the past had led music ever more crowded with the ideas, sounds, and styles from the past.

Along with Huyssen, Reynolds believes that musealization of music was caused by the advent of massive digital archives. Not only has there never before been a society so

obsessed with the cultural artifacts of its past, but there has never before been a society that is able to access the immediate past so easily and copiously. Therefore, as Reynolds points out, we have become victims of our ever-increasing capacity to store, organize, instantly access, and share vast amounts of cultural data (p. 23).

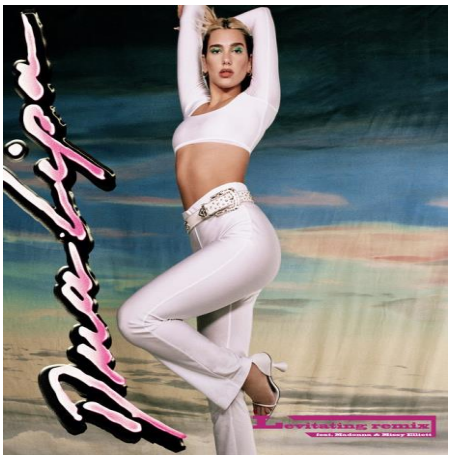
For example, through highly digitalized archives, young musicians can easily explore and discover refreshing sounds from the past. Just like picking and wearing clothes at a vintage store, they can form and develop their musical styles by adopting old sounds that have not been recognized by the public. Reynolds describes the archive as a wardrobe for rising bands. Since the wardrobe is full of usable materials, it is reasonable for young artists to be tempted to mix and match or slightly change the existing styles rather than create a completely original design (p. 205).

Observing these situations, however, Reynolds throws weary questions. “Is nostalgia stopping our culture’s ability to surge forward, or are we nostalgic precisely because our culture has stopped moving forward and so we inevitably look back to more momentous and dynamic times? But what happens when we run out of past? Are we heading towards a sort of cultural-ecological catastrophe, when the seam of pop history is exhausted? And out of all the things that happened this past decade, what could possibly fuel tomorrow’s nostalgia crazes and retro fads?” (p. 15).

The problem of musealization is that recycling and recursion have become structural features of the music scene, replacing instant novelty (difference from what immediately preceded) for genuine innovation. Reynolds echoes this concern, “Because music history is splayed out as an atemporal smorgasbord, with sounds from every different era of history

equally available as current music, the presence of the past in the present is massively increased. But this spatialization of time causes historical depth to drop out; the original context or meaning of the music becomes irrelevant and hard to recover. Music becomes material, to use as you choose, as a listener or as an artist. Losing its remoteness, the past inevitably loses much of its mystery and magic" (p. 401).

Retromania was published in 2011. Then, after a decade, does musealization still remain in our current music scene? The answer is "Yes." Pop music continues to reuse its own past, and this retrospective trend can be easily found by looking at the Billboard's 2021 Year-End Hot 100 Chart. The first ranked song is "Levitating" by English musician Dua Lipa. Its album title, *Future Nostalgia*, already implies retrospective features of the tracks such as "Physical" and "Don't Stop Now." Adopting the 1980s pop and the 1990s club culture, Dua Lipa tunnels deeper into retro-pop revival. The second and third-ranked songs are "Save Your Tears" and "Blinding Lights" by Canadian artist The Weeknd. In both songs, he draws on synth-pop nostalgia to mirror the glitz of the 1980s culture.



(Left) The cover art of the album *Levitating* by Dua Lipa

(Right) The cover art of the album *Blinding Lights* by The Weeknd

Next, “good 4 u” by American singer and actress Olivia Rodrigo follows on the chart, which reinterprets the 2000’s inspired angsty pop-rock style. The song is comparable to music created by artists like Paramore, Avril Lavigne, and Ashlee Simpson in the early 2000s. Also, in the music video, Olivia Rodrigo is depicted as the main character in the early 2000s high-teen movies such as *High School Musical*, *Bring It On,* and *Princess Diary*. The sixth-ranked song, “Kiss Me More” by American rapper Doja Cat featuring SZA, is a track from her third studio album *Planet Her*. With another track “Need to Know,” the album draws the images of space exploration and cyborgs in a retro-futuristic world reminiscent of *The Fifth Element* and *Blade Runner*. The seventh-ranked song, “Leave the Door Open” by Bruno Mars, Anderson .Paak, and Silk Sonic, directly aims at recreating the 1970’s Motown ballads represented by The Delfonics, Switch, Blue Magic, The Dramatics, and Cameo. These songs are just the tip of the iceberg. Including the tracks outside of the chart, it is almost impossible to count the number of music recycling, recreating, and reintroducing its own past.

Screen capture from Olivia Rodrigo’s music video “good 4 u”

Screen capture from Doja Cat's music video "Need to Know"

Screen capture from the music video "Leave the Door Open"

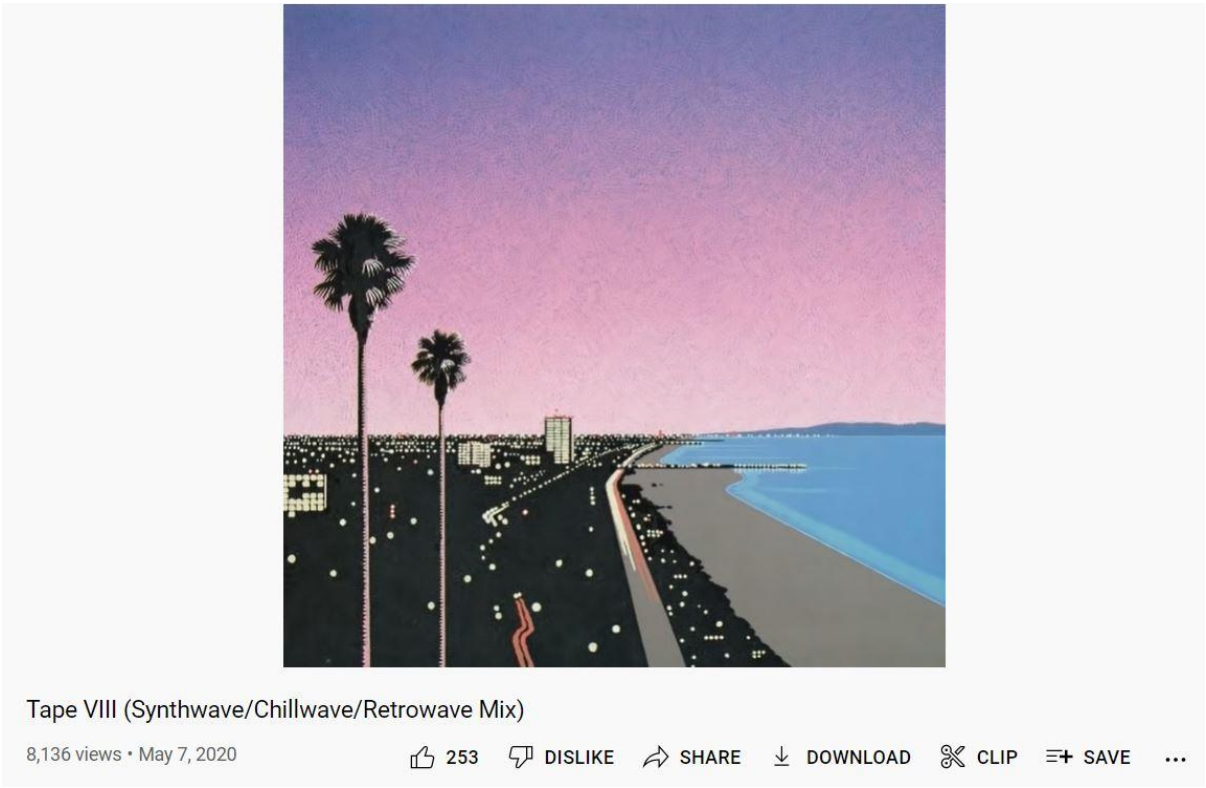
3. Postproduction

Another practice started by the digitalization of music and archive is postproduction – sampling, remix, cover, mashup, and so forth. According to Bourriaud (2006), postproduction is "the set of processes applied to recorded materials: montage, the inclusion of other visual or audio sources, subtitling, voice-overs, and special effects" (p. 1). Since the early 1990s, responding to the proliferating chaos of global culture in the information age, more and more artists have begun to reinterpret, reproduce, re-exhibit, and reuse works made by others. As a result, an ever-increasing number of artworks have been created based on preexisting works. It is no longer a matter of starting with a "blank state" or creating meaning on the basis of raw materials but of working with objects that are already in circulation on the cultural market (p. 5).

The act of postproduction happens most actively in the online environment where countless materials – texts, images, sounds, videos, and more – flow around and can be easily obtained. One of those environments is YouTube where anyone can extract content, both legally and illegally, upload their "post-produced" works, and share them with the general public. Content on YouTube can be reached out to a great number of people in a very short time. Likewise, several music genres based on postproduction have become viral on YouTube and received huge attention. Chillwave, synthwave, vaporwave, and mallsoft are notable examples.

First, chillwave can be regarded as the internet electronic micro-genre that opened the floodgates to other similar styles including lo-fi hip hop, synthwave, and vaporwave. It aligns with broader musical trends of the late 2000s, and early 2010s, such as "an increased

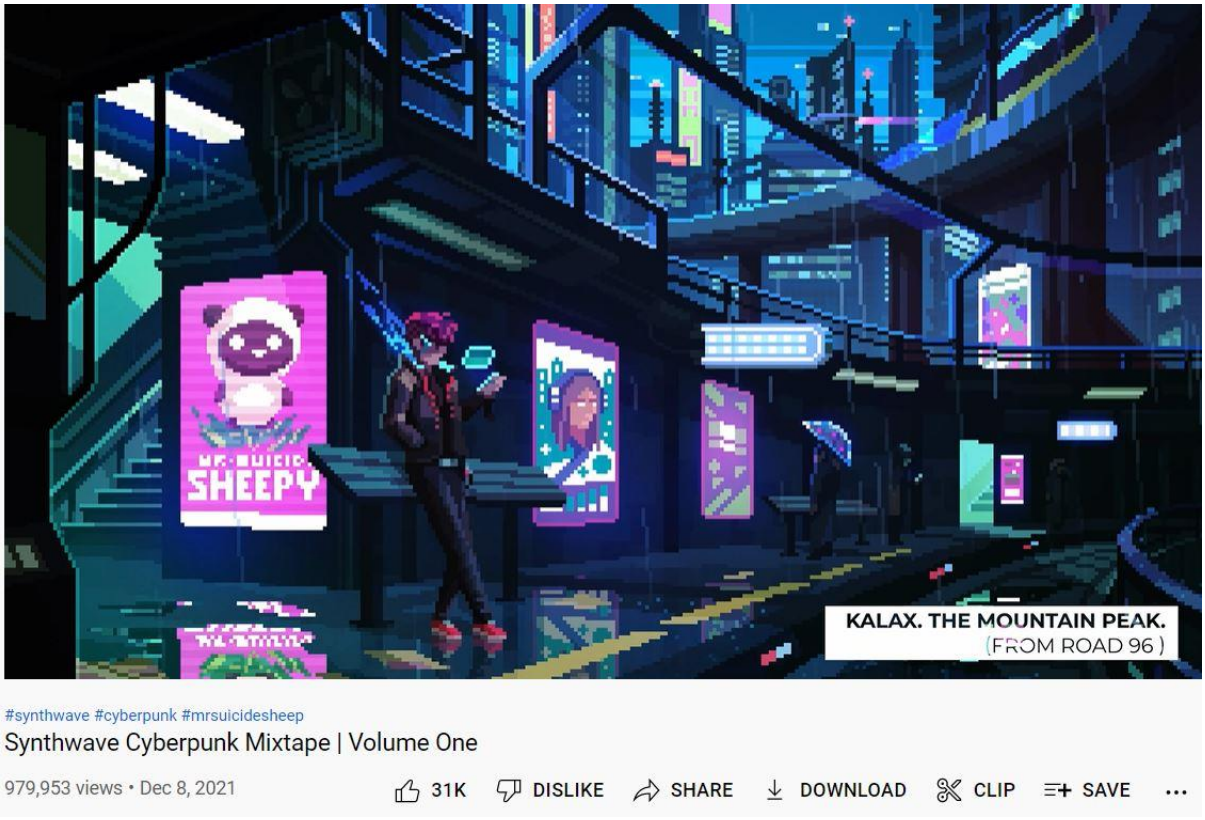
embrace of sampling and electronics, a de-emphasizing of guitars, a sonic approach that favored tactile sensuality rather than the bookish sensibilities that pervaded 2000s alternative music, and an unabashed love all things retro" (Fitzmaurice, 2015). Musically, chillwave can be characterized by "an emphasis on cheesy-sounding old synths, vintage drum machines and an expressively degraded, echo-and-reverb-laden production aesthetic" (Friedlander, 2019). Visually, it adopts a pastiche of analogue imageries such as cassette tapes, washed-out vintage vacation photographs, neon palm trees, and classic sports cars.



"Tape VIII (Synthwave/Chillwave/Retrowave Mix)" uploaded on YouTube by user oilage.

Similar to chillwave, synthwave is based on the mélange of analogue sounds and imageries. However, it focuses more on film scores and electronic music in the 1980s. Likewise, much of the visual inspiration of synthwave imitates the 1980's sci-fi movies and

video games, such as *Blade Runner*, *RoboCop*, *Street Fighter*, and *Out Run* (Ballam-Cross, 2021, p. 75).



"Synthwave Cyberpunk Mixtape | Volume One" uploaded on YouTube by user MrSuicideSheep.

Vaporwave takes one step further than chillwave and synthwave. Not only mirroring the retrospective sounds and visuals, vaporwave "transforms disposable cultural debris such as boardroom muzak, kitschy smooth jazz, and elevator music into sounds memes for a new generation" (Lin, 2020, p. 171). For instance, in vaporwave, samples are often heavily modified by adding a high level of reverb, shifting a pitch, and slowing down a tempo. Also, its visual imagery is more experimental. The cover art of vaporwave releases often juxtaposes surreal imagery drawn from "anachronous, post-ironic imagery of early digital culture, dead symbols of capitalist globalization, and tokenized artifacts from different eras and cultures"

(Lin, p. 171). However, it is also true that the range of the images is somewhat restricted and used in a repetitive manner. Chandler (2016) once summarized the typical vaporwave iconographies that constantly reappear: shopping malls, video games (particularly retro or obsolete systems), Eastern text or imagery (usually Japanese), Neo-classicism/Surrealism, hazy skylines, living spaces, obsolete tech and design, 1990s television, summer and the sea.

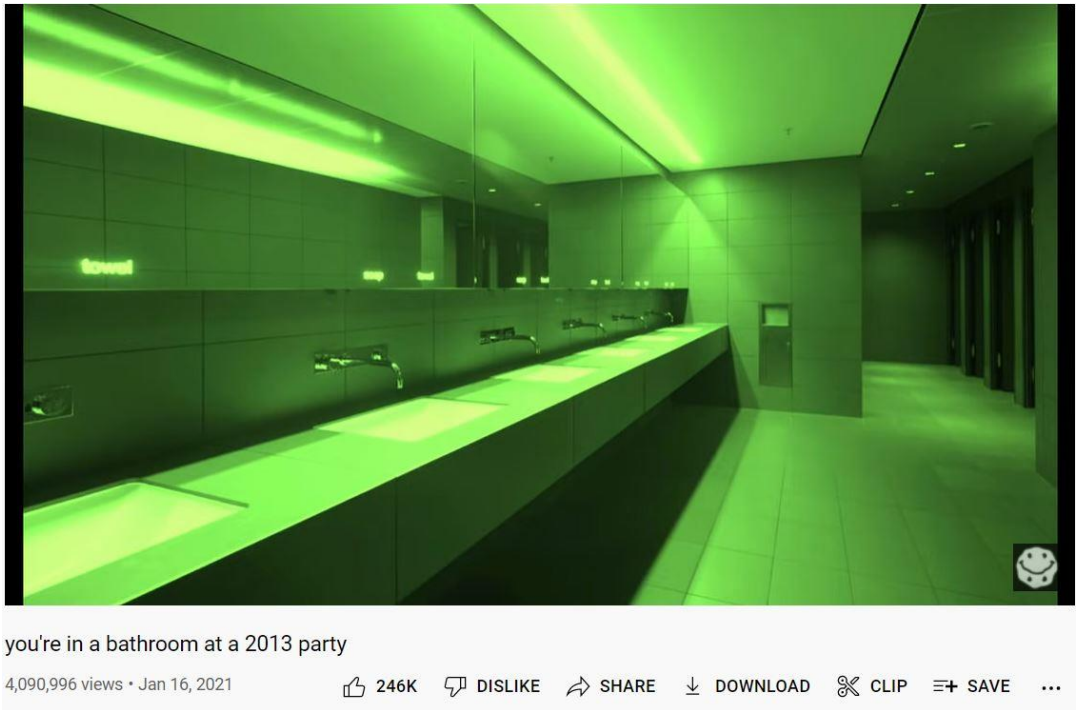
The cover art of the album *New Dreams Ltd.* by Laserdisc Visions

Given these imitable styles of vaporwave, several parodic offshoots have appeared. For instance, the TV program *The Simpsons* has inspired a number of users to create parodies collectively referred to as “Simpsonswave” (Ballam-Cross, p. 81). The animation is edited in accordance with vaporwave aesthetics, which its tone is much darker, bluer, and purpler than the original and the resolution is intentionally degraded. It matches with the hazy, gloomy, and nostalgic sound of vaporwave inserted into the video.

"N O S L E E P" uploaded on YouTube by user the bootleg boy.

Lastly, mallsoft contains the common features of chillwave, synthwave, and vaporwave. However, as its name implies, mallsoft sheds light on consumerism and capitalism by constructing a virtual soundscape of visiting the mall (Bellam-Cross, p. 83). There are also related releases that certainly take inspiration from mallsoft. The video made by YouTube user pain hours, "you're in a bathroom at a 2013 party," takes popular party songs from 2013 ("The Nights" by Avicii, "Applause" by Lady Gaga, "Live for the Night" by Krewella, and more) and re-equalizes them so that they sound as if they are being heard in a bathroom near a party scene. The selection and editing of the retro songs in this video are nostalgic enough to remind listeners of their experiences of taking a break from all the fun, fixing hairstyles and make-ups, and chatting with their friends in a bathroom while still hearing the songs played at the party.

“Toto-Africa (playing in an empty shopping centre)” uploaded on YouTube by user Raspberries and Rum



“you’re in a bathroom at a 2013 party” uploaded on YouTube by user pain hours

Conclusion

Due to the digitalization of music and archive, the contemporary music scene has been filled with a surplus of songs. This excessive number of tracks results in a decrease in the listener's concentration on each song and an increase in skip rates. Also, because it is so easy to excavate "old but new" sounds from the archive, musicians tend to adopt and recreate styles from the past for their new releases. Moreover, countless visual and auditory fragments from the past are recombined over and over again through the process of postproduction.

IV. Curation in the World of Excess

The digitalization of music and archive has caused drastic changes in our culture. Not only an overwhelming number of songs disperse our emotional commitment to each track, music has become musealized by retrospective trends and postproduction. The sounds and images from the past – including all the trivial, insignificant, and uninspiring ones – constantly reappear and muddle with contemporary ideas. Witnessing every pop culture scrap, every trend and fashion, and every forgotten-by-most performer and TV program being stored and recycled in the online environment, Reynolds is concerned that the archive could degenerate into "*anarchive*: a barely navigable disorder of data-debris and memory-trash" (p. 57). He notes, "For the archive to maintain any kind of integrity, it must sift and reject, consign some memories to oblivion. History must have a dustbin, or History will *be* a dustbin, a gigantic, sprawling, garbage heap" (p. 57).

This hodgepodge of cultural records does not only blur the line between the past and the present. Its astronomical amount of unorganized information makes people feel confounded and overwhelmed. For example, on Spotify or YouTube, where countless songs float around within the platform, people often find themselves lost in the vast ocean of music and not knowing where to start to search for the exact tune they want to hear. Schwartz (2004) points out this paradox which, as more options are available, it becomes more difficult to make decisions. According to Schwartz, a great number of choices result in three related effects. First, it requires more time and effort to research, compare, and consider each option. Second, as the number of opportunities grows, the possibility of making wrong decisions simultaneously increases. Third, because of the opportunity cost, the psychological

consequence of making mistakes becomes more severe. Therefore, the very wealth of choices may not provide a sense of freedom. Instead, it may force people to feel hesitant and even tempt to avoid making crucial decisions. In other words, it may turn people from “active choosers” to “passive pickers.” (p. 72-75).

This psychological reaction can be applied to explain the skipping habit in music streaming services. Because there are so many songs available on streaming services, it is impossible for listeners to focus on every single track and “actively choose” what they want to hear. Therefore, they “passively pick” a random song that catches their attention and continue to skip related tracks until they find what they are looking for. When they are lucky, they would find a gem in the plethora of music. However, in most cases, audiences soon lose their interest in surfing random and uninspiring tracks and quit discovering new music.

1. Curatorial Economy

In this situation, curation plays a greater role than ever. By limiting the number of options and sorting out necessary information from the miscellany, curation reduces the psychological burden of making decisions and helps people to navigate their choices more efficiently. Similar to musealization, curation is no longer limited to traditional art scenes such as galleries and museums. It has permeated our daily lives in various forms and introduced a new paradigm called “curatorial economy” (Bhaskar, 2017). For example, the display of products in a department store is a result of a curatorial practice of deciding which items would be most appealing to the customer. Editors also curate content on the front page of a newspaper, considering which information is more urgent and relevant nowadays.

Furthermore, OTT service (Over-the-top media service), such as Netflix, Disney+, Hulu, and Amazon Prime Video, introduces a tailored selection of films rather than providing all kinds of random movies.

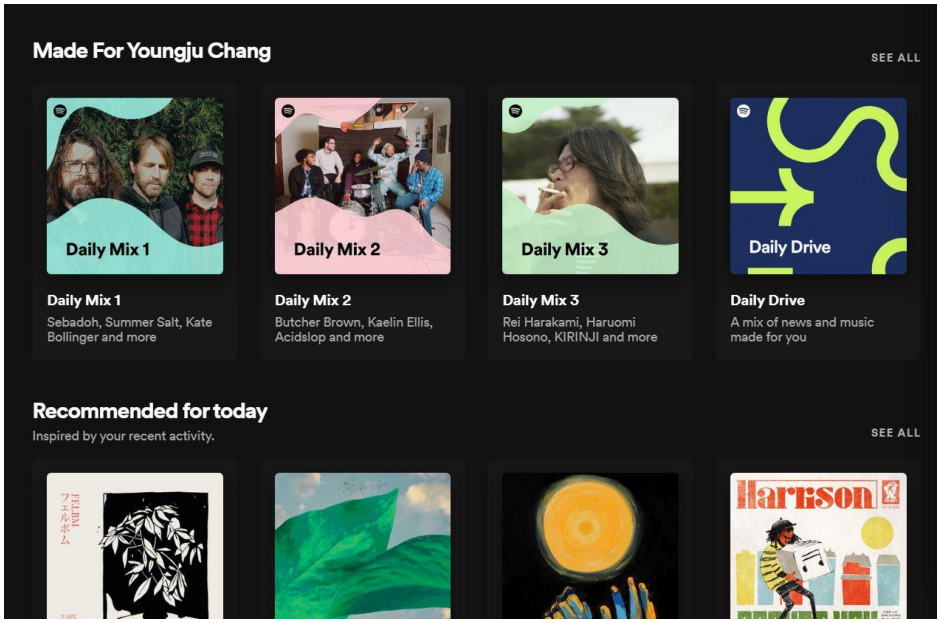
Curation not only distinguishes valuable information from the hodgepodge. It also arranges and adds values to selected content by deciding which one should be exposed to and gain more attention from the public. People are more attracted by curated content than by random materials because it provides the sense of credibility that professionals, semi-connoisseurs, and staff have assessed and acknowledged its quality beforehand. Because it brings more attention from the public, curation has been adopted as a prominent marketing tool for various corporations to introduce, promote, and create premium images of products (Bhaskar, 2017).

2. Playlists and Algorithms in Music Streaming Services

Then, in what forms does a curatorial act take on music streaming services? Arguably, it would be a playlist, which is a list of songs selected to meet specific interests, tastes, genres, moods, situations, and popularity (for example, “The Hot 100”). Creating a playlist used to be perceived as an individual practice. People casually made mixtapes, burned their favorite tracks to CDs, and organized MP3 files on a personal iPod to search and play a group of songs more conveniently. However, as the era of music streaming services arrived and the role of curation became increasingly significant, playlists have turned into public materials which are produced, promoted, and marketed by companies and shared by millions of subscribers. In other words, playlists no longer reside only in the individual domain but serve

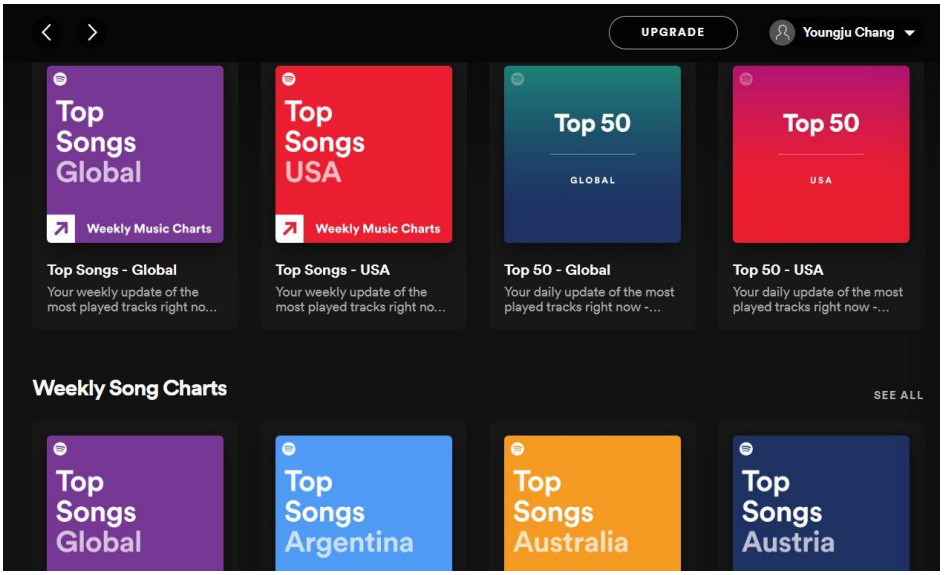
as collective curatorial content.

Almost every music streaming service provides playlists as its major “products.” For example, when users open the Spotify application, they encounter a number of consumptive choices, many of which encourages browsing through playlists instead of browsing through a set library of musical tracks (Epstein, 2016, p. 9).

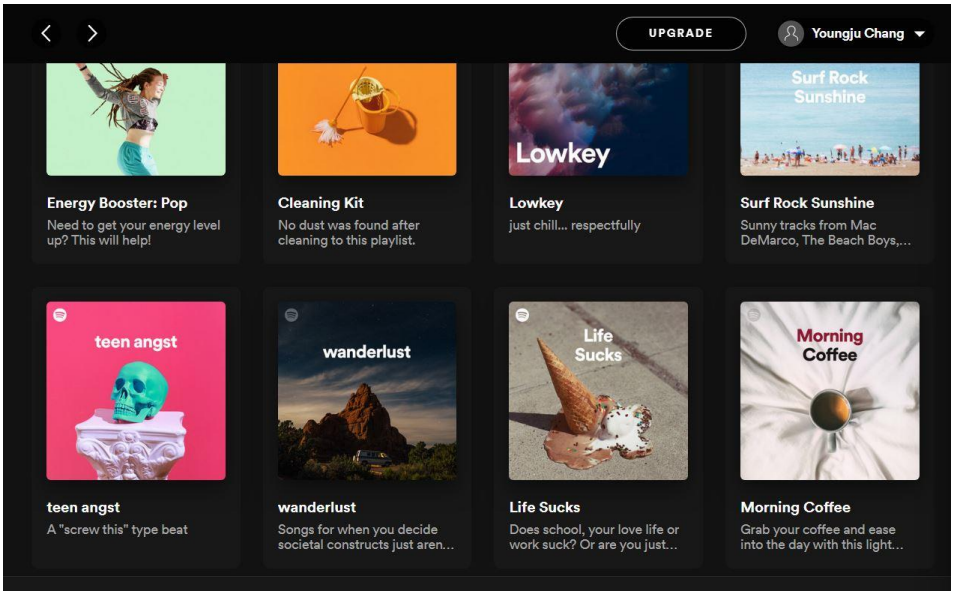


Spotify desktop platform: Home

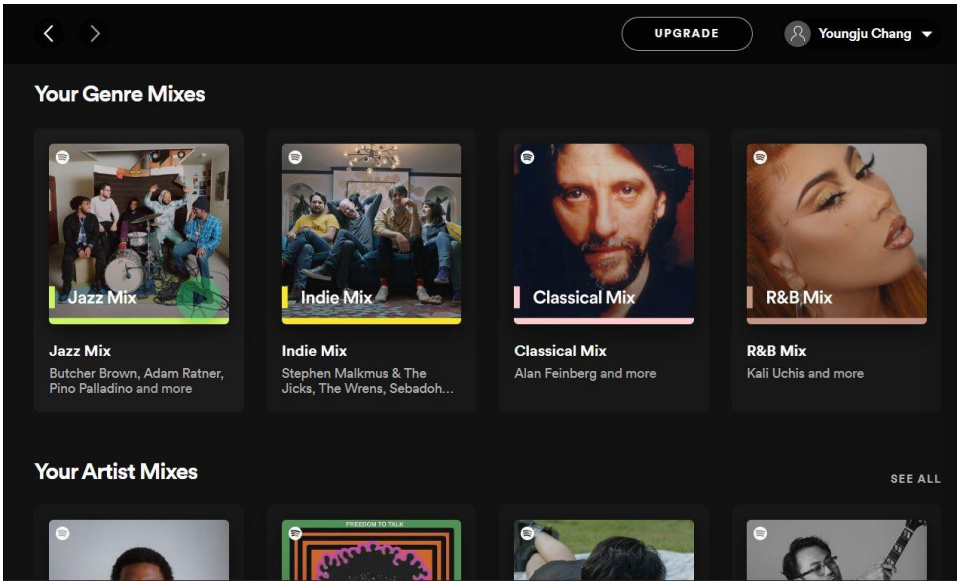
Spotify’s playlists are organized into several different categories including “Charts,” “New Releases” (popular or newly released music), “Hip-Hop,” “Country,” “Latin” (genres), “Chill,” “Summer,” “Romance” (moods), “Workout,” “Sleep,” “In the car” (situations), “Made for You,” “Discover” (personalized recommendations) and so on.



Spotify desktop platform: Charts

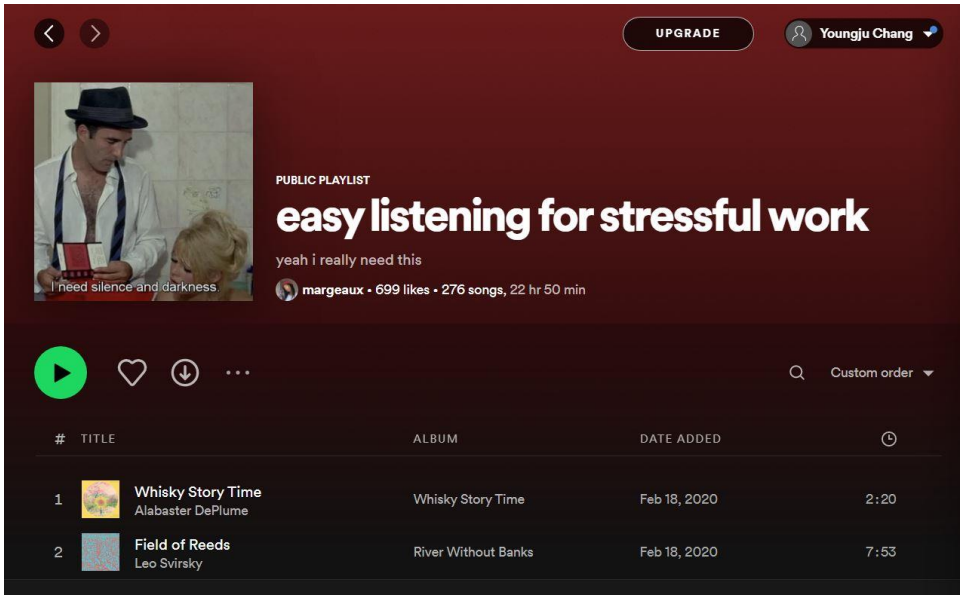


Spotify desktop platform: Mood



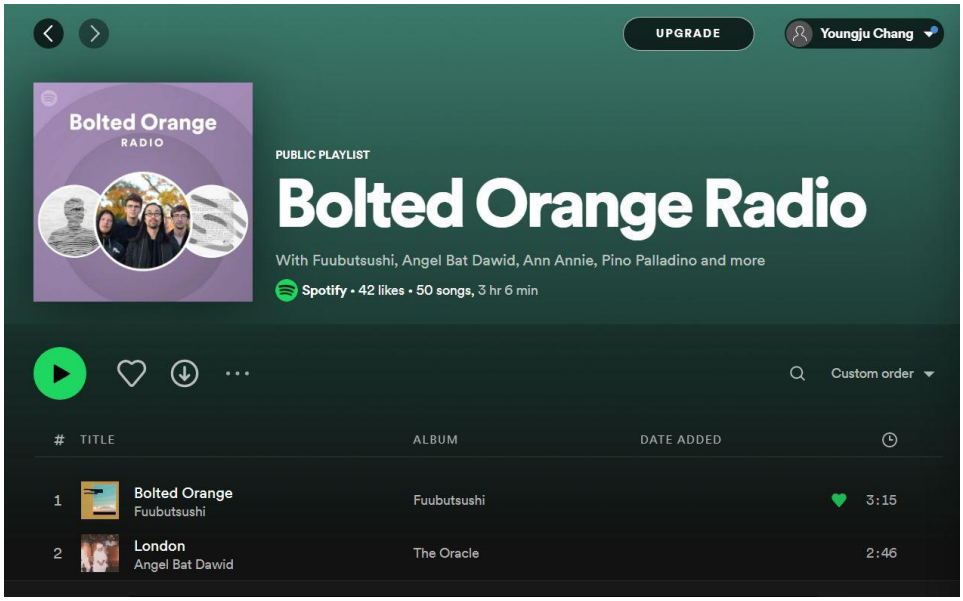
Spotify desktop platform: Made for You

The following information is given for each playlist: the number of subscribers, the creator of the playlist, the number of tracks in the playlist, the length of the playlist, and track information (title, album, and artist).



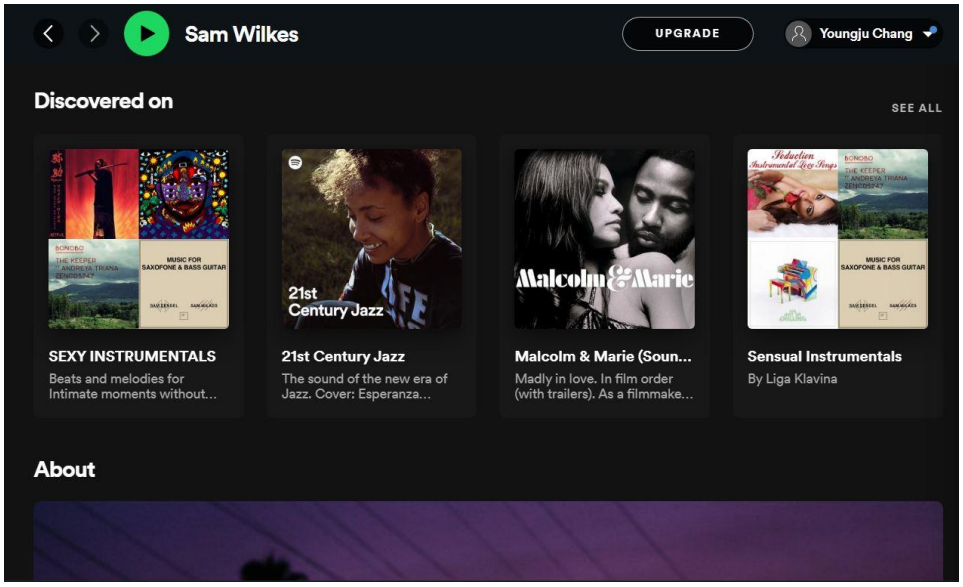
“easy listening for stressful work” playlist details

Additionally, Spotify offers a “song radio,” in which musical content is streamed to the user not in a playlist-style presentation but a set of similar artists and tracks.

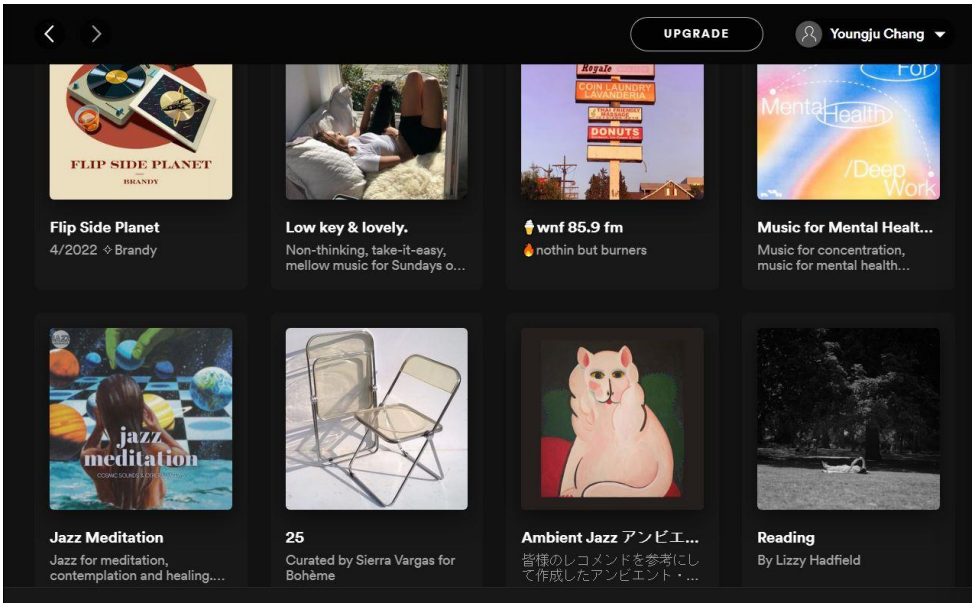


“song radio” of the track “Bolted Orange” by Fuubutsushi

Lastly, when users click “Discovered on” on an artist information page, they can explore various playlists containing tracks by the same artist. These playlists are made by either Spotify or general users. In other words, users can create and share playlists with the public through the platform.



Information page of jazz musician Sam Wilkes



Sam Wilkes' "Discovered on" page

According to Bonini and Gandini (2019), playlists on music streaming services are partly human-made and partly algorithmic. The selection made by editors, curators, and developers is often blended with the automated functioning of algorithmic infrastructures. For

example, the mood/situation/genre-based playlists are edited by humans but they are also strongly supported by data. Meanwhile, personalized playlists such as “Made for You” and “Discover Weekly” are generated by algorithms but are constantly monitored by curators who manage and improve them. Bonini and Gandini point out, “Curation on music streaming platforms in other words is the intermingling process that results from combining human activity “augmented” by algorithms and non-human activity designed, monitored, and edited by humans” (p. 6).

Also, playlists based on moods and situations are increasingly prevalent in all music streaming services. For instance, three of the ten most popular playlists on Spotify have no genre identification in the title (Ugwu, 2016). Instead, they contain brief descriptions of activities and atmospheres that match with selected songs. These playlists provide “easy-to-wear” music that fits a certain mood and situation on each occasion. They intervene in daily moments of listeners’ lives and inject specific emotions and atmospheres (Kim, 2022, p. 22). For example, when someone is in an anxious state, s/he no longer needs to make an effort to search and choose relaxing songs. Instead, s/he can simply click a playlist titled “Positive Songs to Shake Off Your Anxiety” and let oneself fall into a continuous stream of music. It is no longer important to know what songs are included in playlists. Listening to playlists becomes more like choosing a virtual space that defines a certain state or situation (Kim, p. 87).

Because of its efficiency, accessibility, and permeability, playlists are used by an increasing number of people. According to an industry estimate, 1 out of every 5 plays across all streaming services today happens inside of a playlist, and the number is growing steadily (Ugwu, 2016). Furthermore, based on data from research conducted on 1,500 British, French,

and American music listeners, Mark Mulligan claimed that music consumption on music streaming platforms is shifting from albums to playlists. Out of the total sample, 45% said they listen mainly to playlists and 21% said they listen mainly to albums. As for subscribers to music streaming services, 68% said they mainly listen to playlists suggested by platforms (Hogan, 2015). These numbers prove that audiences are significantly attracted to well-curated playlists and algorithms instead of searching and selecting songs by themselves.

Conclusion

Playlists and algorithms now take a greater role not only in music streaming services but also in our general listening practices. Because there are an overabundance of music – not only popular and new releases but also songs from the past, "postproduced" music, unofficial and illegal copies, and all those miscellaneous pieces hovering over the internet – audiences have experienced difficulties in sorting out valuable ones. With playlists, however, they can avoid being lost in the vast ocean of music. Songs are carefully curated in accordance with genres, moods, and situations. Moreover, with the support of algorithms, playlists predict and provide beforehand what the listener would want to hear. Nowadays, people no longer need to go hunting for music. Playlists are already well-prepared in front of them, just like a buffet. The only action they have to take is to click one of the playlists and give themselves to a continuous stream of sounds, moods, and atmospheres.

V. Are Playlists and Algorithms Reliable Curators?

The previous chapter illustrates why an increasing number of people listen to playlists instead of albums. At the same time, music streaming service companies aggressively create and promote playlists so that they can increase the influx of listeners and get more subscribers. There is no doubt that playlists are efficient, accessible, and permeable musical content. However, are playlists also *reliable*? What if they provide us with a biased selection of songs? Is it okay to believe in and completely rely on playlists? In short, are playlists trustworthy curators? Unfortunately, several studies have proven the drawbacks of playlists that could harm their reliability.

1. Corporate Power Struggles

Bonini and Gandini already mentioned that playlists on music streaming services are created by editorial and algorithmic logic. Prey (2020), however, adds a third force that shapes playlists: pressures and tensions between music streaming service companies and record labels. Millions of people are listening to playlists, which means that playlists serve as a perfect place to introduce, advertise, and promote new releases and artists. For example, Spotify-curated playlists exert the greatest reach and influence on the platform. “Today’s Top Hits,” a category-based playlist, has 16.32 million subscribers, while “RapCaviar,” a genre-based playlist, is followed by 1.78 million people. Mood-based playlists “Good Vibes” and “Peaceful Piano” also hold 1.68 million and 2.92 listeners (Flanagan, 2017). Therefore, to

promote artists to these millions of audiences and raise revenues to the full extent, record labels have become increasingly dependent on landing on Spotify-curated playlists (Iqbal, 2019). At the same time, however, record labels do not want Spotify to grow too dominant and menace their positions in the music industry.

Meanwhile, just as record labels are dependent on Spotify, so is Spotify dependent on record labels. Because it does not own the rights to its own content, Spotify needs record labels' support to facilitate the expansion of its business (Prey, 2020, p. 4). As a result, music streaming service companies including Spotify have made several attempts to reduce the reliance on record labels. For example, Spotify once offered significant advances to a number of independent artists if they would license their music directly to Spotify. By filling its popular playlists with these unsigned artists, Spotify could squeeze out intermediaries such as record labels and distributors, reduce the amount of royalty payment, and eventually increase its margins (Karp, 2018). However, if record labels, especially major ones (Universal Music Group, Warner Music Group, Sony Music Entertainment) notice this disintermediation and decide to remove their content from Spotify, the platform would be in serious problem because almost 87% of all the music streamed by users is licensed either to one of the majors (United States Securities and Exchange Commission, 2018). Therefore, being situated in the power struggles between music streaming service companies and record labels, playlists are significantly vulnerable to these two gigantic corporate forces.

2. Gender Bias

Another problem with playlists on music streaming services is that they are not free from gender biases. According to the research conducted by Bauer and Ferraro (2021), playlists especially based on an algorithmic system are more likely to pick music by male than female artists. They analyzed around 330,000 users' listening behavior on playlists and found out that only 25% of the artists ever listened to were female. "When we tested the algorithm we found, on average, the first recommended track was by a man, along with the next six. Users had to wait until song seven or eight to hear one by a woman," explained Bauer and Ferraro.

They also conducted another experiment to figure out how to break a feedback loop of algorithmic recommendations. They took the recommendations computed by the basic algorithm and re-ranked them, moving male artists a specified number of positions downwards. In a simulation, with the help of the re-ranked algorithm, users started to change their behavior and listened to more female artists than before. Leaning this behavior change, the algorithm also began to place female artists higher up in the recommendations. Bauer and Ferraro argued that this simple systematic modification can improve the gender biases in playlists which take a larger role in the way people discover new music and artists Nevertheless, it is unknown whether music streaming service companies have accepted and applied their suggestion to playlists and algorithms (Bauer & Ferraro, 2021).

3. Standardization of Music

Being introduced by playlists or algorithms often results in an unexpected rise in

popularity. For instance, when “Firework” by folk musician Canyon City landed on a Spotify playlist in 2016, the number of streams quickly jumped from a few thousand a day to 20,000 after the first playlist, and then grew to around 200,000 over the next year with additional playlist support. Playlists also helped Los Angeles singer Arizona Zervas jump from a half-million streams a month to 10.8 million in roughly a year, while Australian artist Toni Watson, known as Tones and I, has amassed more than 610 million streams in 2019 for her song “Dance Monkey” after it appeared on various international playlists (Danton, 2019).

Because playlists and algorithms attract so many listeners, artists have begun to produce songs that match the style of popular playlists and therefore have more possibilities to be included in the recommendations. For example, Pelly (2018) described American musician Lauv as a “streaming darling.” She wrote, “The song (by Lauv) is just one example of what might be called made-for-playlist Spotify-pop: it opens with an intimate chorus before softly dropping into slow electronic beats, swirls of synths and lots of repeated hooks. It’s a style formulated to prevent skips – a high skip rate can get a track removed from a playlist or prevent it from being algorithmically recommended” (Pelly, 2018). Entering playlists and algorithms could prompt a huge response from the public, but it often happens at the cost of unique styles of artists and therefore leads to the standardization of music.

Furthermore, the growing trend toward playlist-based music releases partly explains the current music industry’s focus on singles rather than full albums. The rationale behind a fragmented long-term distribution of various singles from an album across different playlists is to ensure a maximum amount of audience attention to each release. The chance that the music and the artists will be forgotten goes down, and revenues driven by the audience’s longer span of attention go up (Hagen, 2020, p. 8-9). Another strategy involves the release of

different versions of the same track. One of the managers who participated in an interview with researcher Hagen (2020) said, “If a band has a new song, then we also consider an acoustic version, because then it would fit acoustic playlists. And remixes are sometimes made as well, always to fit other playlists” (p. 9). This means that the same sound, idea, and style with a slight modification continuously reappear to us, narrowing the chance of introducing genuinely innovative sounds.

4. Fake Artists

There is an ongoing controversy that music streaming services have been filling out some of their most popular playlists by artists that do not appear to exist outside of the platform. For example, according to Ingham (2017), Spotify has encouraged and even paid producers to create tracks under untraceable pseudonyms. The songs made by these “fake artists” are deliberately chosen for inclusion on playlists with millions of subscribers. A few of these playlists are “Peaceful Piano,” “Piano In The Background,” “Deep Focus,” “Sleep,” “Ambient Chill,” and “Music For Concentration.” Ingham also calculated the data and found out that tracks by fifty fake artists amount to over 520 million Spotify streams, and by traditional rights-holder payout metrics, that is worth more than three million dollars in royalty payouts. This means that “much was made of the possibility that Spotify could potentially license these songs-by-request at a lower cost than usual, reducing the enormous amount of money it pays out annually for music and diminishing the dependency on the major record labels” (Ingham, 2017). Due to this scandal over fake artists, it has been inevitable for Spotify to experience the debasement of the trustworthiness of its curatorial

content.

Conclusion

Although playlists and algorithms are successfully serving their role as a compass in the vast ocean of music, it is still in question whether they are reliable guides. Playlists and algorithms are not only affected by the competition between music streaming service companies and record labels but also tend to recommend male artists more than female musicians. Furthermore, the obsession with entering playlists and reaching millions of subscribers has resulted in the standardization and obsolescence of musical styles. Finally, the controversy about fake artists has undermined the credibility of playlists and algorithms significantly. These circumstances reveal the suspicious aspects of playlists and algorithms on which we heavily depend nowadays.

Conclusion

Through a number of chapters, we have seen *how we got here* with regard to music listening. It first started with recording technologies that tried to capture the high quality of sound. However, digital technologies changed music into compressed data that could be transferred and accumulated with great efficiency. As streaming services emerged after the file-sharing craze, music has been stored in a gigantic online archive called “cloud” which people can access at any time and place.

The archive also went through a similar transformation. Unlike the traditional archive which was operated by exclusive bureaucratic systems, the digital archive allows open access to anyone with a given network. Also, an unlimited amount of information can be stored, searched, and edited collectively at any moment. These technological improvements changed the paradigm of the archive. It is no longer separated from us as a physical location. Instead, it has permeated our lives as a constant stream of data.

These two digitalized currents have merged at a lake called “music streaming services” which perform as an online archive of digital music. More songs, including miscellaneous ones, are stored in the cloud of music streaming services, while more people use streaming platforms to search for new tracks. However, audiences often feel overwhelmed and experience difficulties in finding what they want to hear from the excessive amount of music. Also, the expansion of the archive provoked a phenomenon called “musealization” in which contemporary culture tends to pursue styles from the past rather than exploring progressive ideas for the future. The boom in retro music and audiovisual

montages composed of fragments from the past are notable examples of musealization in the music scene.

In this muddle of information, curation plays a greater role in selecting and organizing valuable content. As a result, music streaming services started to curate songs and produce playlists as their major products. Playlists and algorithms not only suggest a tailored selection of genre-based songs. They also provide a virtual auditory space where listeners can be absorbed in certain moods, atmospheres, and aesthetics.

Because of their efficiency and accessibility, playlists and algorithms are increasingly used by millions of people. Also, moving beyond streaming platforms, their curatorial power has started to impact artists, record labels, and the general music industry. However, it is still in question whether playlists and algorithms suggest accurate, appropriate, and objective recommendations. Several studies revealed that playlists and algorithms are not free from power struggles between music streaming service companies and record labels, gender biases, standardization of musical styles, and the controversy over fake artists. These issues are detrimental to the credibility of playlists and algorithms.

This comprehensive study about digitalization, archivism, and curation in music streaming services allows us to reflect upon our relationship with music from a fundamental standpoint. Music is one of the most pervasive art forms. Unlike painting or architecture exhibited in specific places, we can play music in any location such as homes, cars, and streets. Unlike theatre or dance, which requires sharing the same moment, we can enjoy music at any time individually. We can even replay a song and skip intervals. Also, unlike literature or cinema, music does not ask for a significant time and concentration to consume.

Most importantly, humans cannot control their auditory senses. We cannot close our ears as we do with our eyes. Therefore, we are innately exposed to music more than any other art form.

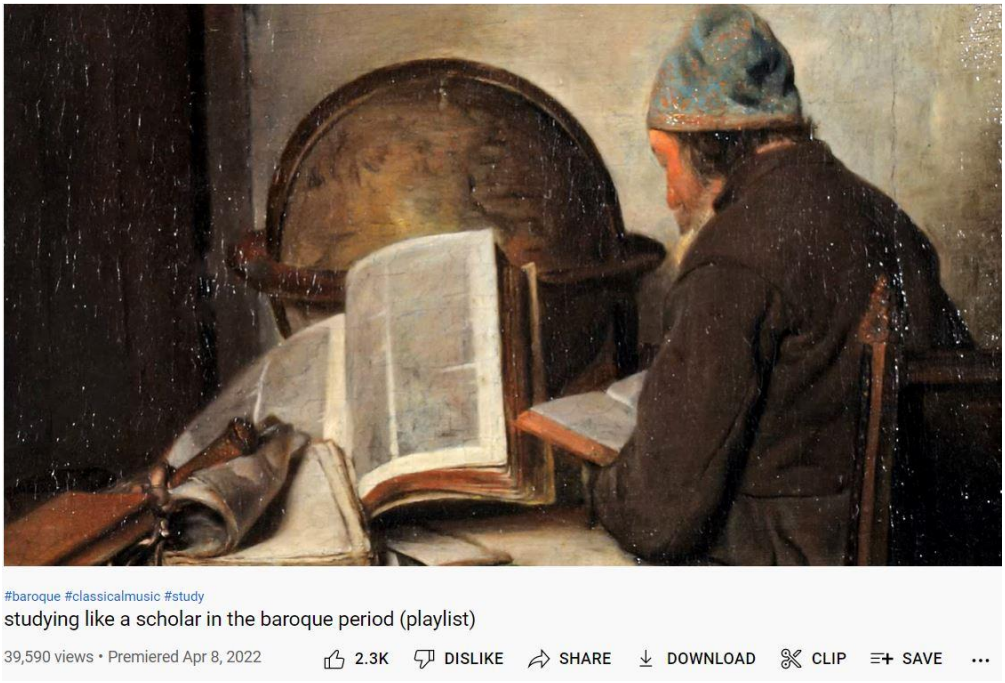
In other words, humans are most vulnerable to music. Since we cannot control the sense of hearing, we are unable to regulate a bodily reaction provoked by music. For example, when we listen to a-ha's "Take On Me," our hearts begin to beat faster and our heads nod with the rhythms regardless of our wills. Noticing this power of music, Quignard (2016) points out that music is the most authoritarian form of art. According to Quignard, music was frequently used in concentration camps during World War II because, with its regular beats, it could make prisoners react and move identically. Uniting prisoners through depersonalized and totalitarian rhythms, music served as a powerful tool to reinforce obedience.

Although Quignard's example is somewhat extreme, it gives an important insight to rethink about music in the present day. The music industry in the 21st century is highly oligarchic. In 2018, Universal Music Group, Warner Music Group, and Sony Music Entertainment took 71.5% of the entire music production (IBIS World Report 51221, 2018). At the same time, Spotify, Apple Music, and Amazon possessed 67% of streaming subscribers around the world in 2020 (Counterpoint Research, 2020). These conglomerates are shaping our tastes, reactions, ideas, and cultures with the most "pervasive" and "authoritarian" form of art.

Moreover, our dependency on these music enterprises is increasingly growing due to the emergence of playlists and algorithms. Surrounded by ready-made curated content, we are not only consuming music passively but also losing our autonomy to search for new songs

and build our own aesthetics.

I believe that it is crucial to reflect upon our position in this Bermuda Triangle – music, corporations, playlists and algorithms – of power. By maintaining an active and critical attitude toward the contemporary music and media scenes, we could take one step further from a role as a consumer and explore ways to restore our autonomy in enjoying music. Moreover, digitalization and platformization have been prevalent in other genres of art, such as films, dramas, cartoons, and literature. Therefore, I hope my research could apply to and give a deeper understanding of broader cultural changes at the current moment.



"studying like a scholar in the baroque period (playlist)" uploaded on YouTube by user nobody.

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