Music Platforms and the Optimization of Culture

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Abstract
Drawing on Mark Katz’s notion of phonographic effects—where musicians, during the advent of early recording technology, altered their style of play to be better captured by microphones—this article explores some of the “platform effects” that arise in the shift to platformization and how cultural goods and user practices are re-formatted in the process. In particular, I examine the case of the music streaming service Spotify to think through the variety of means, sonic, and otherwise, that artists, labels, and other platform stakeholders use to “optimize” music to respond to the pressures platformization creates. I develop a typology of strategies—sonic optimization, data optimization, and infrastructural optimization—to consider the creative and logistical challenges optimization poses for platforms, artists, and users alike. From creating playlist friendly songs to musical spam to artificial play counts, I use the blurry lines these cases create to explore the tensions between the competing needs of platform providers, content producers, and users. I argue that music, as data, adds pressure on musicians and producers to think and act like software developers and coders, treating their music not just as songs that need to reach listeners, but as an intermingling of sonic content and coded metadata that needs to be prepared and readied for discovery. This optimization of culture, and the pressures it creates, affects not just musicians, but content producers of all kinds (e.g., video, podcasts, apps, books, etc.) who are forced to negotiate their relationships digital culture and the platforms through which it circulates.

Keywords
music, optimization, streaming services, platformization

“As it turns out, you’re doing it wrong if you want to make money in music by being a musician.”—(Peter Filimore qtd. in Pauli, 2013)

“Spotify-core.” “Streambait.” Two neologisms, recently written into existence by music critics trying to grapple with the effects of streaming services on musical culture (Caramanica, 2018; Pelly, 2018), raise interesting questions about the role of platforms in the distribution of digital cultural goods. Like “hardcore techno” or “mumblecore” films, “Spotify-core” suggests a stylistic or genre relationship between the songs that pervade today’s most dominant music streaming service. Similarly, streambait draws a comparison to click-bait headlines; music that seems designed almost to manipulate users into streaming it. Both terms are, using Liz Pelly’s (2018) words, “shorthand for music that sounds tailored to streaming,” but they are also loaded, not-so-subtle critiques of a broad swath of (pop) music that sounds similar enough to have been crafted by algorithms for “data-driven systems of mood-enhancing background music.” At a time, when there is more music than ever vying for listeners’ ears, the terms underscore the increasing pressures for artists and producers to make a “Spotify song” (Pelly, 2018): music that seems sonically optimized for Spotify’s platform and for the various listening occasions and environments for which users turn to Spotify for sonic accompaniment.

Most discussions around Spotify-core or streambait try somewhat fruitlessly to define them musically:

[it] has this soft, emo-y, cutey thing to it, [. . .] really minimal and based around just a few simple elements in verses. Often a snap in the verses. And then the choruses sometimes employ vocal samples. (Music Producer, qtd. in Pelly, 2018)

A playlist on Spotify called “Spotifycore: Songs for and by Algorithms” contains songs ranging so widely in style,
sound, and popularity it is hard to see any coherence. Rather than getting caught up in definitional idiosyncracies though, this article uses the ideas of songs and sounds being tailored for a platform to investigate the variety of means, sonic, and otherwise, that artists, labels, and other platform stakeholders use to “optimize” music to respond to the pressures platformization creates.

In particular, this article questions how some musicians and songs get seen, heard, and amplified by the discovery mechanisms on platforms while others get buried in a sea of content. Drawing on recent literature on platformization and on examples of “optimization,” I explore cases of “platform effects” and how they reformat cultural goods as a result. Using the case of Spotify and the ways artists, producers, and marketers optimize their music for the platform—through sonic optimization, data optimization, and infrastructural optimization—this article enumerates a typology of techniques and considers when these tactics are perceived as legitimate or illegitimate uses of the platform either by users or the platform provider. Treating optimization as an evolution of historical dynamics of media production, I consider the creative and logistical challenges optimization poses for platforms, artists, and users alike. From creating playlist-friendly songs to musical spam or artificial play counts, I use the blurry lines these cases create to explore the competing needs of platform providers, content producers, and users. I argue that music, as data, adds pressure on musicians and producers to think and act like software developers, treating their music not just as songs that need to reach listeners, but as an intermingling of sonic content and coded metadata that needs to be prepared and readied for discovery.

Ultimately, these practices are bigger than just music. Crafting sounds that conform to some elusive genre label like “Spotify-core” is, I argue, just one of many related tactics and strategies aimed at optimizing culture across a number of platforms. The examples I draw on, while extreme, are templates for the ways content producers of all kinds (e.g., video, podcasts, apps, books, etc.) are forced to negotiate their relationships with digital culture and the platforms through which it circulates. Through sonic, data and infrastructural optimization, the case of music offers an initial sketch of how cultural goods are being optimized for platforms, of the tensions and pressures this introduces for users, artists, and platform providers, as well as of the effects on the very form and experience of the cultural commodities being circulated.

**Platform Effects**

The cultural industries continue to experience ongoing aftershocks in the light of digitization. While the early stages of this transition were marked by concerns about the digitization of individual products or cultural commodities, digitization has now extended to all facets of the industries themselves. Not only is music that was once available in physical retail packages like CDs or cassette tapes, digital, but so too are the means of accessing, discovering, acquiring, and using those goods (Anderson, 2014; Burkart & McCourt, 2006). While the transition to digital goods brought fears of an industry potentially decimated by piracy (Knopper, 2009) and excitement about musical meritorieties and healthy long tails of success for independent and mainstream artists alike (Anderson, 2006), the aftermath has shone a more nuanced light on the workings of industrial power and control during a time of technological change (Leyshon, 2014; Morris, 2015a). Music’s new intermediaries (e.g., Spotify, Apple, Google) increasingly operate in the same way music labels or retailers did: as cultural markets where a relatively few artists achieve widespread exposure, while artists in the supposed long-tail compete for what little listener attention and royalty payments remain (Hvid et al., 2018; Negus, 2019).

As with other cultural goods, music now circulates in a “stack”-like environment (Bratton, 2016) that combines production, promotion, circulation, and consumption all in one service, rather than at distinct distribution points (i.e., a product is produced in a factory, sold at retail, used at consumer’s home). A single device, like a phone, now integrates all these previously separate moments. The platforms that have emerged to mediate the circulation of cultural commodities—Spotify, YouTube, App Stores, and so on—exert significant influence in shaping the content users discover, and how users discover content, through algorithmic recommendations, human-curated or editorial suggestions, or more passive forms of content presentation, like interface organization and navigation (Gillespie, 2010, 2018a; Nieborg & Poell, 2018). In other words, “platform capitalism” (Smreček, 2017) begets the “platformization of cultural production [. . . with] new economic and managerial strategies” (Nieborg & Poell, 2018, p. 4281) where platforms “govern” the production and circulation of cultural goods either through the explicit policies, rules, and guidelines they impose (i.e., no explicit material, no hate speech, etc.) or the more hidden acts of infrastructural and algorithmic politics (Gillespie, 2010, 2018a). Ultimately, this leads to a shift in the infrastructure of cultural production. Platforms and the content that passes through them, like music, adapts to ensure that content is “contingent, modularized, constantly altered, and optimized for platform monetization” (Nieborg & Poell, 2018, pp. 7–8).

In other words, producers of cultural content are dependent on, and their products contingent on, the goals, features, and business models of the platform. Platforms also render commodities contingent since the commodities that appear on these platforms are regularly in need of updating (Nieborg & Poell, 2018, p. 15). Like software developers who must continually release new updates to their apps to maintain a perception of newness and relevance for consumers (Chun, 2016; Simon, 2018), musicians also face similar pressures to continually update their artist pages, to release new tracks, and to maintain an active online presence to stay current and visible with fans (Baym, 2018). As these platforms become
more routine and necessary components of music distribution, musicians, artists, and the companies that share content on these platforms gradually learn a variety of tools, strategies, and tricks for standing out in these crowded environments.

Of course, the physical retail environment has long dictated the ways cultural products appeared in stores; one only has to think of how newspaper publishers designed headline banners to stand out in vendor stands (Cooke, 2005), how movie studios adjusted the aesthetics and story lines of films based on distribution technologies (Benson-Allott, 2013) or of how Walmart’s strong-arm pricing and display strategies shape how product manufacturers approach their businesses. Similarly, musicians and labels have had to consider whether to include offensive content on their albums, since stores like Walmart have, historically, had policies against stocking CDs with Parental Advisory Warning stickers (Fox, 2005). Platforms are a digital evolution of these affordances; one where the display, discovery, search, and consumption of a cultural good all take place through a software search bar and digital database rather than at multiple points in the distribution chain. As a result, new tactics for standing out and new effects on musical cultures are emerging.

We might think of the various responses to these conditions of contingency as “platform effects,” building on Mark Katz’s (2004) idea of phonograph effects. Katz (2004) uses the term to describe the subtle ways technologies of recording influence the production of music, such as the ways musicians during the advent of early recording technology altered their style of play to be better captured by then-new studio microphones (pp. 85–93). Increased use of vibrato by violinists, or different kinds of close-mic singing styles by vocalists created more accurate—or rather, more desired and trendy—reproduction of sounds and music, so musicians internalized these new techniques in their styles of play and performance.

We can hear echoes of Katz’s concept when we examine the ways contemporary creators design their songs in more modular, remixable ways, or when they encode files based on psychoacoustic models for optimal sound transmission and reduced files sizes (Sterne, 2012), or in arguments about how artists are increasingly creating “sync-friendly” music for television shows, commercials, and video games by writing songs with certain lyrics (e.g., “smile,” “sunshine”) or moods (e.g., happy, upbeat; Meier, 2016, pp. 120–121). When critics posit that today’s music sounds like “Spotify-core” (Pelly, 2018), or that digital platforms like Spotify, which only pays royalties on streams that last for more than 30s, are forcing musicians and producers to create shorter songs with quirkier vocal effects (e.g., auto-tune) and other attention-getting sounds much sooner in the song (Haynes, 2017; Léveillé Gauvin, 2018; Reynolds, 2018), they are essentially describing platform effects.

Platform effects, then, are by no means new. Just as the move from mono to stereo (or quadrophonic) recording afforded new ways to record and mix music, technology has always been intertwined with the content and form of cultural goods. The examples earlier, and those that follow, show that musicians and producers, as they have always done, are adjusting their practices to the platforms and environments in which their music appears, circulates, and plays. As Robert Prey’s (2020) research about how artists orient their music toward inclusion on featured playlists shows, musicians, producers, and other stakeholders are learning the rules of music distribution in an era of digital consumption and trying to optimize their songwriting and song production practices accordingly. While the concept of phonograph effects reminds us that platform effects are not necessarily new, it also points us to a time when it seemed easier to separate music (and musical cultures) from the deluge of data and information we now call content. My argument here, then, is not to create a definitive (and overly deterministic) list of platform effects. Instead, I want to examine how the techniques of standing out are becoming increasingly computational, and rely on an intermingling of code and content in ways that push musicians, labels, and other stakeholders to think more like data curators: experts at optimizing content, code, and metadata in a quest for a platform ready product.

Resetting Optimization

Media researchers are far more used to the language of optimization when we discuss goods that are more obviously computational. We are familiar with search engine optimization (SEO) and the readying of content through keywords, metadata, and code to make it more amenable for discovery (Van Couvering, 2004). Previous media practices like sending press releases to news organizations or crafting easy-to-quote soundbites for journalists are precursors to current day optimization efforts (Gillespie, 2017, p. 64), though there is less of a direct connection between the content and mechanics of the search and discovery process when compared to digital interfaces. Optimization of digital content can seem innocuous and technical—foregrounding certain keywords, tweaking metadata to make sites search-friendly or building links from other websites—but optimization also involves highly curated and engineered efforts to present doctored search results as organic or natural, giving the practice shadowy and duplicitous connotations (Ziewitz, 2017). As Fenwick McKelvey (2019) argues, “the technical connotations of optimization obscure its social and political implications.”

Platform providers do set broad terms for what appears in their search results or recommendation algorithms, but they are not the only ones who determine what appears or not on their platforms. Companies, users, content producers, and so on, each work to design content so that it might attain visibility on any given platform:

Precisely because information algorithms make judgments that can have powerful consequences, those interested in having
their information selected as relevant will tend to orient themselves toward these algorithmic systems, to make themselves algorithmically recognizable, in the hopes of being amplified by them. (Gillespie, 2017, p. 64, emphasis mine)

Taina Bucher (2012) calls this “the pursuit of visibility,” Kelley Cotter (2019) speaks of “playing the visibility game” and Anne Helmond (2015) calls it being “platform ready”; all terms which point to how content creators, marketers, users, and other stakeholders use their acquired knowledge, resources, and myths about how algorithms work to help manipulate their content in such a way that it is rewarded with greater visibility.

There is a fine and blurry line, though, between making oneself or one’s content “algorithmically recognizable” and optimization that goes too far, or that goes against a platform’s policies or the conventions of use of its stakeholders and users. Practices that contravene such conventions are usually seen as threats or unwelcome and often dismissed as spamming, gaming, or faking. They are, as Finn Brunton (2019) so aptly describes spam, “like unexpectedly blowing a vuvuzela in the middle of a conversation” (p. 565). While spam and its ilk can be playful and harmless or designed explicitly to exploit, hurt, or steal information, both trivial and serious cases of spamming, gaming, faking, and so on, are, like acts of optimization, intentionally about turning technological systems inward on themselves.

Spamming, gaming, and optimization, then, often exist on the same spectrum. Are there easy distinctions we can make between “simple” SEO and more questionable techniques that platform owners and stakeholders should not tolerate? The line between what is acceptable optimization and what is not is a shadowy boundary that gets drawn and redrawn depending on the case (e.g., targeted advertising, which is acceptable vs. google bombing, which is generally frowned upon but playful, vs. more overt search manipulation, which is purged and penalized). As Gillespie (2017), drawing on Brunton notes, “spam is whatever is defined away as illegitimate by the mechanisms designed to do so” (p. 67). Making these distinctions, then, is ultimately a question of power: a cultural debate about distinguishing acceptable practices from unacceptable ones and about who has the power to decide (Gillespie, 2017). Rather than some objectively measurable characteristic though, the legitimacy of any act of optimization depends on the perspective of those empowered to make and enforce those decisions (Petre et al., 2019). As platform custodians draw their fuzzy lines around what is and is not acceptable, they reveal that “moderation is the essence of platforms” (Gillespie, 2018b, p. 201) and point to the asymmetrical power they wield in the curation and discovery of content.

Platformization, however, is not solely a top-down process where platforms set the terms and conditions for the circulation of culture and all users and stakeholders are left to merely respond (Greenberg, 2010; Pinch, 2002). Platforms bring the conflicting agendas and motivations of platform providers, content creators, retailers, users, and more into the same space and the result is a dynamic and always shifting set of relationships and practices. It is true that platforms have unequal power to set boundaries for cultural products and that there is “a double-standard [that] emerges from this normative boundary work: tactics that are valorized as innovative when practiced by platforms [. . .] are portrayed as unduly manipulative—even corrupt—when deployed by cultural producers” (Petre et al., 2019, p. 9). But the examples I explore in the next section highlight the push and pull of this negotiated relationship: they are small breeches in the boundaries platform providers have established and proof that technical systems can be gamed, and music can be optimized, in ways that provoke responses from users, platform providers, and other platform stakeholders.

The major music labels and rights organizations have historically regulated practices about what were acceptable and unacceptable retail practices, usually through punitive measures against piracy, counterfeit CDs, and other violations of intellectual property (Kernfeld, 2011). While the cases below are not quite counterfeit products or pirated sheet music, the practices for increasing visibility, discoverability, and auditability on Spotify that I explore in the next section fall uncomfortably between definitional gaps of optimization, spam, fakes, clones, and so on. They each focus on different facets of optimization, but they raise similar concerns about how musicians and other platform stakeholders are increasingly facing pressures to act as software developers and visibility engineers, in addition to their roles as musicians and sound creators. Musicians and producers shift, as Negus (2019) notes, from “creator of a product to curator of content.”

Lessons in Optimization From the Fakers, Spammers, and Cloners

Each case below is connected by how they exemplify what I have come to call the optimization of culture: the strategic preparation and readying of cultural goods to orient them toward and ready them circulation, discovery, and use on particular platforms. Whether it is musicians tailoring content to be playlist friendly on streaming services, marketing companies artificially boosting the number of plays an artist they represent receives, software developers building clones of popular programs to capitalize on trending apps, or click-bait headline writers directing traffic toward web content, there is a growing assemblage of organizations and individuals across the cultural industries who find ways to manipulate digital platforms for economic or cultural gains. As these platforms become primary means of distribution, content producers, marketers, users, and platforms themselves all engage in creative (and sometimes unsanctioned) practices to take advantage of platform affordances, whether that be for making content more visible, or realizing greater profits. Building on Helmond, Bucher, Gillespie, and others reviewed
earlier, I argue this optimization is not just a question about being seen or heard on specific platforms; it is also a question about the nature of cultural experiences when there is a deliberate re-configuration of the content and characteristics of cultural goods. By developing an initial typology for how optimization takes place for music—sonically, through metadata, or infrastructurally—I hope to spur similar categorization from researchers investigating other cultural goods. After all, the cases here are but a fraction of the optimization practices that are shaping a much larger swath of cultural production now that so many cultural goods are reducible to (or have been reduced to) data. If optimization is “politics by other means” (McKelvey, 2019), then unpacking the strategies cultural producers and platform stakeholders use in the optimization of culture—as well as the responses of platform providers to the same—has much to tell us about the politics of the platformized circulation of digital culture.

Fake Artists and Sonic Optimization

Sonic optimization involves re-tuning the sonic features or a song, album, or playlist to meet the (perceived) affordances of a platform. This tactic was most recently at the heart of a minor controversy, in the summers of 2016 and 2017, when a number of investigative reports surfaced about the presence of “fake” artists on Spotify (Ingham, 2017; Raymond, 2017). These “artists” seemed to have no presence outside Spotify’s ecosystem—no websites, no public profile, no record of performances, no true albums just singles, and so on—and existed solely as musical fodder used to fill out Spotify’s mood-based playlists. Under names like Ana Olgia (23.5 million plays), Charlie Key (23.6 million plays), Lo Mimieux (22.3 million plays), and others, these artists were racking up millions of streams through Spotify-curated playlists like Peaceful Piano, Music for Concentration or Piano and Chill. The reports set off debates about why Spotify would support these “fake” artists on Spotify (Ingham, 2017; Raymond, 2017). Spotify was, the reports argued, commissioning these artists directly and working out special licensing rates with them, thereby saving money on the steep royalty fees Spotify would normally pay the labels. Spotify typically pays royalties based on a percentage of the total revenue that has come in for all artists, so more popular artists receive a larger share than artists who have fewer streams. In this case, “real” artists and record labels complained that the presence of a large number of fake artists earning royalties in any given period meant fewer royalties for other artists on the platform. Spotify, for its part, responded by claiming: “We do not and have never created ‘fake’ artists and put them on Spotify playlists. Categorically untrue, full stop” (Spotify executive, qtd. in Gensler, 2017).

Most of the artists under investigation in the articles turned out to be “real” people; a large number of them were aliases of a handful of actual musicians, or companies that excelled at creating low-key atmospheric music that was perfectly tailored for and optimized to fit on Spotify’s mood-based playlists. They were intentionally designing their own version of “Spotify-core,” crafting songs that would serve as playlist bait. Given that Spotify relies heavily on algorithmic technologies to automate the analysis of musical similarities and group them into playlists (for more, see Eriksson, 2016; Morris, 2015b), these artists were crafting sonic content that would be algorithmically discoverable even though it was sonically unremarkable. These artists understood the platform on which they were distributing their music relied less on traditional genre, artist persona, or the album format as drivers for musical categorization and more on mood, tone, and listening occasion, so they created their music accordingly.

The controversy provoked a number of questions about definitions of “fake” versus “real” artists (Flanagan, 2017; Petridis, 2017; Turner, 2017) but what matters more, I would argue, is that Spotify’s response was to deny involvement and to allow the continued presence of these artists rather than to remove them from the platform. For Spotify, the fact that the dozens of “fake” artists in question were actually a handful of composers and songwriters who built songs purposefully designed for particular playlists did not mean they were subverting the platform’s policies or detracting from the overall ecosystem. Users, labels, and other musicians may have been irked by their strategies, by the quality of their music, or by the possibility that these popular “fake” artists might be eroding the pool of royalty payments to go around, but unless Spotify was actually paying itself by owning the rights of the works of these “fake” artists—a claim which was floated but never proven—then it seemed the artists in question were still playing by the platform’s rules. The optimization, in this case, is taking place at the sonic level and given that sounds are more subjective and less easy to quantify, as the debates over Spotify-core suggest, the optimization is subtle enough that it not only persists on the platform, but thrives through inclusion on playlists and recommendations. As Prey’s (2020) research confirms, artists are increasingly orienting their music making strategies toward sounds they think will succeed on the platform, or toward inclusion on playlists that are seen as influential nodes in musical discovery.

Cloners, Spammers, and (Meta)Data Optimization

(Meta)Data optimization is more similar to traditional forms of SEO, and involves not so much altering sonic content, but discoverability through search and other platform interface features. Looking at artists that have been described as “Spammers, Fakers, and Cloners” (Mandel, 2013), we see instances where Spotify is not as supportive of the “fake” artists who are trying to optimize through (meta)data means. Musical cloners trick algorithms (and sometimes, users) by naming themselves after popular search terms, such as the
name of a popular artist or the title of a trending song (D’onfro, 2014). So, if a user searches for “Be Humble,” looking for Kendrick Lamar’s 2017 hit “HUMBLE.,” they might find King Stitch’s rendition of “Be Humble” instead. A user looking for Carly Rae Jepsen’s hit song “Call Me Maybe” can just as easily find the band Call Me Maybe with one click. Almost any popular contemporary song has a series of clones and copies designed to trick users into playing secondary versions of songs, most of them not properly licensed and thus generating royalties for the cloner and not the cloned. Some clones are not even songs; they are often just 30s of white noise or a commercial (Walsh, 2016).

Cloners join a host of artists who, rather than stealing other people’s ideas and music, create original tunes of their own and use brute force to get their songs heard. Knowing that the limit of songs per albums that Spotify will allow is 100, some artists create huge discographies, each release with close to 100 songs with different titles, despite the fact that many of the songs are sonically identical. One such spammer, Sir Juan Mutant, gave one of their tracks “nine different names, on the same album” (Mandel, 2013) and my examination of Mutant’s discography reveals over 68 albums in a 5-year period from 2005–2010, with over 50 of those released in 2010 alone. At 100 songs per album that is close to 7,000 songs and song titles, each with potential keywords that seem designed to come up in everyday searches. Another notorious musical overproducer is Matt Farley, who has made a name (or rather, multiple names) for himself by releasing over 14,000 short improvised songs under 60 different aliases (D’onfro, 2014; McConnell, 2014). Most of his song titles seem to be the epitome of keyword optimization, stuffed with references to current events and celebrities (e.g., “Everybody Loves Kendall Jenner,” “Andre Young is a Hip Hop Doctor,” and “You, Jake Gyllenhaal, Are a Movie Star Man”). There are also countless “Happy Birthday” artists on Spotify who provide a customized birthday song for your child or friend, whatever their name. Farley, Mutant, and the birthday singers operate at a scale that seems designed for a service that reaches millions but only pays fractions of pennies for individual streams. Farley, for example, estimates his costs for releasing an album hover around US$50, yet in some years his massive catalog brings in hundreds of thousands of dollars (McConnell, 2014). Unlike the cloners earlier, artists like Farley and Mutant do make original creations, even if they subvert the expectations of traditional songs, so Spotify leaves some of their music on its platform. But it is clear that these artists have tried to optimize their discographies for maximum discovery and profit using metadata. Whether through a barrage of keywords, the use of trending song and artist names, or renaming the same songs, each of these tracks has specially, and specifically, crafted metadata to meet the affordances and features of the platform on which they exist.

Gamers and Infrastructural Optimization

Infrastructural optimization refers to the process of exploiting the ways platforms work at their most fundamental level to increase the visibility or value of certain content. This may involve elements of both sonic and/or (meta)data optimization, but in these instances, actors looking to optimize performance of particular songs or artists try to game the platform through its very infrastructure by artificially boosting the play counts of an album, song, or artist, by employing bots or manipulating royalty payouts. Examples of this kind of “click fraud” are rampant, and they range from comical to illegal. I have described the efforts of the band Vulfpeck elsewhere (Morris, 2018), who released an album called Sleepify with 10 songs on it that were each 30 seconds of complete silence (Track 1 is called, Z; Track 2, ZZ; Track 3, ZZZ; etc.), and implored fans to stream the album on repeat for the entire night as they slept. Since royalties on Spotify begin after 30s, this triggered a high number of paid plays over a 5- to 7-hr period. Though Sleepify was largely a public relations (PR) stunt to garner the band some attention (Jonze, 2014), the band received US$20,000 before being removed from the platform (Goldman, 2014). Similarly, in 2013, a security analyst named Peter Filimore released an album of “ear-piercing garbage” made from mash-ups of bad MIDI music and public domain audio to show the flaws in Spotify’s royalty pay out system. He created three bots to “simulate three listeners playing his songs 24hr a day for a month” (Pouli, 2013) and netted himself over US$1000 in the process. More serious cases of “click fraud” have followed in Filimore’s wake: a Bulgarian playlist maker falsely boosted the amount of listeners for several of their playlists, resulting in hundreds of thousands of dollars being paid out (Ingham, 2018), fans of Korean pop group BTS launched a sophisticated international network of dummy accounts to boost the play counts of the band’s debut album (Montgomery, 2018), and the app Streamify promises to boost play counts and playlist placements for its clients, likely through a combination of bots and purchased/commissioned listening (Herstand, 2017; Sanchez, 2017).

A team of media studies researchers in Sweden has similarly been probing the limits of Spotify’s platform (Eriksson et al., 2019). Among other “interventions” in their “Spotify Teardown,” the team created a pseudo record label with a number of album releases, each designed to test various aspects of Spotify’s infrastructure. With guiding questions such as “Who or what decides what counts—or does not count—as music on Spotify?” the team has been peeling back some of the layers masking Spotify’s infrastructure by creating “fake” songs made up of breakfast-time sounds collected in a coffee shop, software plugins like “Songblocker” that gives users a version of Spotify that only plays its ads, and listening bots designed to boost play counts (Eriksson et al., 2019, p. 72). Their reverse engineering underlines how blurry the lines between legitimate user practices and unsanctioned machinic ones are. As they ask, “what happens when—not if—streaming bots approximate human
listener behavior in such a way that it becomes impossible to distinguish between a human and a machine?” (Eriksson et al., 2019, p. 76).

Spotify does react and remove some of the more flagrant violations on its platforms—including sending a cease and desist letter to Eriksson et al.’s research team—but the rationales they provide for doing so often hint at judgment calls that extend far beyond the technical. For example, one artist who was purposefully gaming Spotify’s royalty payout scheme by repeatedly playing his own music received the following notice from the digital distribution service which help placed his music on Spotify:

[Your song was removed] because the song was streamed a massive number of times, but by a tiny number of people. Real people don’t listen to the same exact song thousands of times in a row. So it looks to Spotify like you were trying to trick them in to paying royalties for fake listens. (Distrokid email, qtd. in Walsh, 2016)

Spotify’s invocation of “real people” here is ironic since, in this case, the user in question was, indeed, a real person rather than a bot even if they were listening slightly unrealistically (Walsh, 2016). In its efforts to stamp out frauds and bots, Spotify’s policies then also start to shape what counts as “real” listening or “real” listeners.

Spotify’s stated goal is to decrease the presence of spamming, faking and cloning, and gaming on their platform, ostensibly to allow proper artists their proper compensation and to more quickly and efficiently provide the music users are looking for. Platforms, in other words, engage in their own version of optimization: “Another reason [decreasing spam] matters to us is that our systems are always optimized for real-world music” (Mandel, 2013). Platform providers want to optimize their systems for “real”-world music but, in doing so, they have to make decisions both about what constitutes unreal content (i.e., duplicate songs, songs that spoof other popular artists or song titles, etc.) as well as unreal practices (i.e., repeated plays of a single song or artist, etc.) even if there are “real” people behind that content and those practices. For many of the producers and artists making music in what they might call the “real” world, tactics Spotify deems as inappropriate are simply efforts to optimize content and visibility to succeed on Spotify’s platform. Whether it is sonic, (meta)data, or infrastructural optimization, these are platform effects that come from the increasing pressure to achieve visibility in a service that presents an overwhelming amount of content and offers only algorithms, search indexes, and other software technologies for navigating that content. While they may range in purpose, damage, and intent—fans of Vulfpeck might see their experiment as humorous or subversive, while the playlist hacker is more apt to be seen as a criminal—the examples are all attempts to do the very thing that Spotify was built to do: connect artists with a global audience of listeners in an attempt to monetize a massive network of music listening activities.

The Optimization of Culture

Peter Filimore, the security analyst who gamed Spotify’s royalty payout system, noted “you’re doing it wrong if you want to make money in music by being a musician” (qtd. in Pauli, 2013). Although he and his album of mashed up public domain audio, were both firmly tongue-in-cheek, his observation that making music, or having a good song is only part of the equation is worth reflecting on. While this has arguably been true throughout the history of recorded music if we consider the role promotion and publicity play in the making of popular music, we are now witnessing the platform-specific tactics that emerge in an era where software and platforms govern the discovery of cultural goods and content. As the production and circulation of music takes on the characteristics and features of software through digitization, musicians, and labels become more like software developers, building songs to match particular content needs and trigger particular algorithmic variables. Artists must now think of song titles and lyrics not just as signatures of their creative processes, but as keywords that might direct traffic to their content. Many fans likely now understand their activities not solely as acts of fandom for artists they enjoy, but as part of a larger process of engineering popularity through play counts. Marketers typically now consider bots and other artificial ways of boosting play counts as simply part of the price of taking part in crowded platforms. Just as Katz noted with vibrato techniques, or Meier found with sync-friendly songs and lyrics, knowing what works musically will remain an important skill, but knowing technically how to surface that music, to make it discoverable on digital platforms is equally crucial. Given that digital music is a combination of sound, descriptive metadata about sound, and data that have been extracted from sound, those invested in its circulation have to consider not just melodies, beats, instruments, and key changes make up a song, but also what descriptors, keywords, and sonic data would make a song visible and audible to algorithms, search indexes, and platform interfaces.

Music platforms are often at a loss to react in a timely and consistent manner to the various forms of platform interventions listed earlier. This may be due to a lack of resources (in terms of staff, computing power, etc.) devoted to finding and moderating clones, spam, and fakes, but it may also be because, in many ways, platforms benefit from the additional content and from the plethora of options they provide for users. For music, Spotify, Apple Music, and other such platforms pride themselves on, and regularly compete around, the number of songs they provide in their catalogs. The larger the catalog, the more opportunity there is for services to gather more data and information about their users. When each play of a song or keyword search feeds more valuable data back to the platform provider, there is only an incentive to limit content when the data it returns are actively harmful to the service’s goals and objectives. This is why Spotify reacts more strongly, in the cases examined here, against
instances of infrastructural optimization, when compared to sonic or data optimization. Infrastructural interventions are more serious threats to the platform because they detract from the platform’s overall objectives in ways that threaten the service (usually financially) and in ways that the other forms of optimization do not (or at least not at the same scale). Sonic optimization and data optimization may result in slight user annoyances or think-pieces about how Spotify produces Spotify-core, but the extra songs and artists on the platform provide more data and content for Spotify to deploy, track, and monitor. Platforms, it seems, can fully accommodate (and even encourage) iterations on what is popular, whether those are spammy or derivative iterations or innovative ones, since users are often searching for what is popular, and each search yields new data and interactions around music.

The line platform providers must draw is thus both a conceptual and definitional one about what counts as acceptable or not, as well as a self-interested and strategic one about what data are being generated by the presence of certain content on their platforms and how valuable these data are. On Spotify, copycats, endless birthday songs, and other attempts at visibility, like Matt Farley’s extensive catalog, are part of a business model these artists are pursuing to support their efforts to make a sustainable wage given the economics and affordances of music streaming services. They may be a nuisance, but if they generate usable data, they are still valuable. These optimization practices, then, are a symptom of, and solution to, the platformized distribution of cultural content. In an era where platforms need as much content as possible to differentiate themselves from competing platforms, and where cheap and accessible technologies are available for the creation of cultural goods, there is very little downside, for platforms or content producers, for producing fake, clone, or spam songs. At worst, these efforts become trial experiments of what behaviors, practices, and content platforms will allow. In many cases though, they become significant sources of profit for those behind them. While it might seem—aesthetically, morally, or subjectively—that cloners, fakers, and spammers are simply exploiting or manipulating platforms, their actions may also be viewed as rational decisions within and reactions to platform affordances and boundaries. Their actions may raise concerns about eventual impacts on musical cultures, users, other musicians, and even platform governance, but this optimized music also continues to provide platforms with more content and thus more potential for collecting data.

When retail stores were the key “platform” for music distribution and SoundScan was the primary metric for judging success on that platform, labels, and musicians found ways to try and boost their sales numbers by making strategic purchases in certain regions and locations that were known to be important in chart calculations (McCourt & Rothenbuhler, 1997). Since appearing on Billboard’s charts or in the American Top 40 radio broadcast was culturally meaningful, optimizing an artist’s potential to be visible on these charts also mattered (Gillespie, 2016, p. 12). Similarly, appearing in Spotify’s Rap Caviar Playlist, or in its search results lists matters because Spotify presents these lists and placements as mattering, and users employ them in their attempts to search and discover new cultural content. In trying to make music algorithmically recognizable and platform ready, the examples examined here are all cases of various users and entities discovering which elements of a platform matter (search interfaces, playlists, royalty pay out policies, etc.) and then using sonic, metadata, and infrastructural techniques to optimize their content accordingly. Their tactics may be blunt, annoying, unsanctioned, or in some cases, illegal, but they highlight ways in which, whenever systems are distributed, platform stakeholders orient their content toward them. They underscore that because music, like other cultural goods, is increasingly reducible to data, cultural producers face pressures to optimize the products of their labor in ways that ensure both the content (the sounds, the visuals, etc.) and the code (the metadata, keywords, etc.) promote discoverability.

The prevalence of these extreme cases of optimization show how platform effects have already taken hold on the distribution of culture. As media and cultural studies scholars continue to explore how cultural goods (and producers, intermediaries, and users of those goods) respond to platformization, there is further empirical and qualitative research to be done on how prevalent these kinds forms optimization are, on the motivations behind these techniques, and on the impact of the increasing burden on musicians and producers to optimize culture. By examining the impact of sonic, (meta)data, and infrastructural optimization, we can create typologies for the different kinds of platform interventions that exist, and perhaps begin the larger and more important conversations about the impact of these practices on cultural production. The answer is likely not as simple confirming or denying the existence of “Spotify-core.” Rather, it will involve recognizing the variety of levels at which optimization takes place, and that optimization is an unpredictable and uneven process. The optimization of culture, after all, is a constant probing of the breeches, gaps, and holes within a platform that allow for content to be discovered, but it is also a series of questions about what users, producers, and platform providers find to be acceptable or not in the process of sharing and distributing cultural goods.

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Notes
1. The playlist includes pop star Justin Bieber, electronic collaborators The Chainsmokers, the Led Zeppelin-inspired Greta Van Fleet, and the relatively unknown pianist Charlie Key among others. The playlist is actually a meta-playlist by Australian media researcher Ben Morgan, who uses the list to keep a running tally of all the artists who have been accused in the popular press of belonging to Spotify-core. I want to thank him for alerting me to the playlist and for his thoughtful comments on some of these ideas.
2. When radio was the dominant medium for the discovery of new music, choruses, and hooks were placed throughout the song to catch the attention of listeners skipping along the dial, but the shift to on-demand audio has supposedly placed a premium on a song’s beginning much like the cluttered digital news environment has placed a premium on attention-getting “click-bait” headlines.
3. Current tag lines, as of 2018, for the services read “Apple Music: Lose yourself in 50 million songs” “Spotify: Music for everyone. Millions of Songs” “Google Play Music gives you millions of songs and thousands of playlists for any situation.”

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