Streaming Music, Streaming Capital

ERIC DROTT

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For Marianne,
as always

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Introduction

Since 2010 or so, a significant change has taken place in recorded music's commercial circulation. Following music's move online in the late 1990s, the spread of file sharing epitomized by Napster, and the development of a commercial market for digital downloads spurred by Apple's introduction of the iTunes store in 2003, the period since 2010 has witnessed a shift away from the downloadable audio file as the primary object of musical commerce. The digital download, which still treats music as a discrete entity to be bought, sold, and possessed, has been displaced by something more fluid, seemingly more in line with music's status as a paradigmatically temporal art form. This something is the *stream*. An indication of the dominant position cloud-based streaming has attained can be seen in the market share for recorded music it now commands. After several years of steady growth, streaming passed an important threshold in 2015, with the global revenue generated by services such as Spotify, Deezer, and Apple Music for the first time exceeding sales of either digital downloads or physical recordings. By 2019, the total number of streams had passed the one trillion mark per annum; and while some industry observers have expressed concern that the market is approaching saturation ("peak streaming"), far more likely is that slowing growth in the United States and Europe will be offset by expanding markets in Latin America, Africa, and south Asia.[1] The growth of streaming has in turn reinvigorated a moribund recording industry: after years of declining revenue, which finally bottomed out in 2014, global recorded music revenues began to rebound in 2015.[2] By 2021 the maturation of the streaming sector had finally pushed global recording industry revenue past the highwater mark last set in the late 1990s.[3] As one major label executive put it, "thanks to [streaming]—especially Spotify, I would say—we were taken out of the dark times."[4]

The significance of streaming's impact cannot be measured solely in terms of market share or corporate balance sheets, however. If the advent of sound recording in the late nineteenth century enabled musical sound to be objectified, facilitating its subsequent commodification at an ever-expanding scale, the rise of streaming promises to be no less far-reaching in its effects. In certain respects, streaming's impact may prove even more consequential than that of the much-ballyhooed MP3. Whereas the latter still adheres to a logic of possession inherited from the universe of physical goods, streaming operates according to a very different logic, one based on temporary and conditional access. For listeners, music becomes something rented rather than owned. What they get in ceding the rights and privileges that come with the purchase of a physical recording is access to a virtual musical archive of unimaginably vast proportions. "No. More. Limits." Such was the promise made to potential users by one advertisement for Spotify, the latest iteration of the "ideology of plenitude" that music companies have long used to attract customers.[5] For major record labels, the promise of streaming was the promise to transcend limits of a different kind. After more than a decade of declining revenue, conveniently blamed on the alleged piracy "epidemic" that Napster and other file-sharing sites set in motion, the new business model of renting access to music offered rights holders a source of income that was both stable and predictable. Just as important, it provided them with a means of reimposing control over their intellectual property, and did so in a way that made it appear as if it was something other than a form of control.

If major labels and a handful of superstar artists have fared well under this new dispensation, for many working musicians the balance of streaming's benefits to costs has been less clear-cut. On the positive side of the ledger, streaming has helped lower barriers to entry considerably. In contrast to terrestrial radio stations and brick-and-mortar record stores, music platforms impose few restrictions on the amount or kind of material that can be posted to their services. Lowering barriers further are digital distributors such as CD Baby and DistroKid, which make it easy for artists to bypass labels and self-release their music on streaming platforms. In addition, the fact that services such as Spotify, Apple Music, and SoundCloud operate across national markets brings the possibility of reaching a truly global audience closer to reality for many musicians than had been the case in the past. Yet it is at this point that streaming's benefits become difficult to distinguish from its costs. For the possibility of reaching a global audience has as its corollary the fact that the competition musicians face is equally global in scale. As studies of superstar economies over the years have underlined, the larger the market in which cultural producers are compelled to compete, the more likely that winner-take-all tendencies will concentrate wealth—symbolic as well as economic—in the hands of a few top earners.[6]

This is not the only upside that becomes hard to distinguish from a downside. Consider the shift from an ownership model to an access model of music distribution that streaming inaugurates. For independent and major label artists alike, this new model holds out the possibility of recovering a fraction of the income that might have hypothetically been lost to file sharing, had streaming not displaced MP3 downloads as the primary medium of music's commercial circulation. And yet the guaranteed minimums written into the licensing agreements that major labels have signed with most major platforms mean that they will receive an outsize share of streaming revenue no matter what, shoring up their dominant position in the market for recorded music (in 2021, for instance, streaming platforms generated $16.9 billion for the record industry worldwide, $12.8 billion of which went to major labels).[7] If agreements like these leave a smaller slice of the pie to be split among a vast number of independent musicians, it isn't as if artists signed to major labels necessarily fare much better. Far from being relegated to the analog past, the dubious accounting practices that have long been synonymous with the record industry have been updated for the streaming era. This includes counting streams as sales rather than as licensed performances (which in many record contracts results in artists receiving a less favorable royalty split)[8] and continuing to deduct from artist payments expenses that have little relevance for digital music (such as breakage, a holdover from the days of physical distribution).[9] Viewed from this angle, streaming isn't simply a technology of music distribution; it is also and more significantly a technology of wealth redistribution, allowing value to be rerouted away from musicians to tech monopolists on the one hand and copyright monopolists on the other.

Also important is the way streaming restructures the manner in which artists are paid. No longer are recordings unbundled into just a collection of individual audio files, a transformation Apple's iTunes music store instigated when it began selling individual MP3s for $0.99 apiece. With streaming, tracks undergo an even more radical disaggregation, being unbundled into a series of transient streams. This renders the payment that artists receive equally piecemeal: royalties that would have been earned up front from the sale of an album or an MP3 file are now dispersed across the longer span of time it takes to accrue the equivalent, as calculated in the number of individual streams. While a number of factors determine the exact amount a given artist will earn from streaming—which streaming service is being considered, the overall size and distribution of the revenue pool out of which an individual service pays royalties, whether an artist is signed to a label or self-releasing, if the advance one has received from a record company has been recouped or not, and so on—on average the typical royalty earned per stream ranges somewhere between $0.004 and $0.01. To be sure, such micropayments can add up over time. Particularly for older, established artists, or those in possession of large music catalogs (two variables that often go hand in hand), streaming payments can amount to meaningful income. By the same token, however, those in possession of the largest catalogs—namely, major labels and publishers—will be the biggest beneficiaries of the streaming model. For younger, less established musicians, or those working on the margins of the mainstream music industry, the situation couldn't be more different. A representative survey of UK musicians conducted in December 2020 indicates that 80 percent of music creators earn less than £200 ($264) per annum from streaming.[10] And even if over the long run a recording might end up earning the same amount from streaming as from physical sales, for many musicians this prospect is cold comfort. "People don't eat in the long run," Harry Hopkins famously remarked. "They eat every day."[11]

Furthermore, the same technical infrastructure that makes streaming viable as a method of music distribution (music's digitization, the expansion of wireless connectivity, the proliferation of mobile devices) also allows for the accumulation of vast quantities of data: data about music, data about music use, and data about its users. The information gathered can then be exploited in a variety of ways. As a source of competitive advantage among platforms, this information functions as the raw material that fuels the various services platforms offer potential customers, notably those involving the customization of the listening experience (music recommendations, personalized radio stations, exercise playlists that sync to users' gait, and so on). But these data constitute a valuable asset in their own right, one that can be used to attract advertisers or monetized via partnerships with data brokers and other third parties. In either case, the exploitation of data for commercial purposes also alters how music is ordered and listeners are interpellated. With the increased customization of music recommendations and the growth in playlists organized as much by mood or activity as by musical genre, categories and modes of address characteristic of broadcast media (such as radio) or the sale of mass-produced recordings lose some of their rhetorical force. Or perhaps it would be more accurate to say that such modes of address are disavowed, even as they continue to operate in the background. The same may be said for broad classes of music, such as genres and radio formats. These too appear to have been disaggregated into a mass of individual tracks and data points, just as the broad publics convened by mass media and mass-produced commodities have dissolved into a collection of users and user attributes. But the seeming individuation of music on one side and listeners on the other may be more of an ideological effect than anything else. Streaming generalizes music as an aggregation of particulars, at the same time as it hails the public as a series of atomized individuals.[12]

Streaming Music, Streaming Capital seeks to shed light on some of the transformations music has undergone thanks to streaming's ascendancy from the late 2000s to the present. These are changes that have profoundly reordered music's social, technical, aesthetic, and economic bases. Yet simply considering streaming's effects on music would be insufficient without at the same time taking into account music's effects on streaming—in particular, how certain legal forms, social relations, and cultural values embedded in music's governing institutions have shaped the possibilities and limits of this new socioeconomic regime. This dialectic is perhaps most pronounced in chapter 3, which examines how entrenched understandings of music's privileged relation to psychic interiority have informed its use as a means of tracking users' shifting moods, affects, and states of mind. If music is believed to plumb the depths of our souls, then what better resource is there for surveillance capitalists to exploit in their drive to know everything they can about us, both inside and out? Nor is music's use as a technology of surveillance the only instance in which the imprint of musical discourses, practices, and traditions may be discerned. Other examples include practices of playlisting inherited from radio and other broadcast media; the persistence of classed and racialized categories in the organization of music's circulation, however disguised or submerged these might be; the bifurcated ontology that has long enacted music as both process and object, service and good; skeuomorphic callbacks to older formats and playback technologies within the design of platform interfaces; the fluid and shifting boundary between what constitutes attentive and distracted modes of listening; conventions surrounding cover songs and the economic logics governing them; the quotidian use of music for therapeutic purposes; and the obduracy of musical time—both the time of its creation and the time of its reception—in the face of social acceleration. These are but a few of the conventions, practices, and discourses that have shaped streaming, even as these have been transvalued in turn by this new model of musical distribution.

A New Political Economy of Music

What streaming *does to* music, then, is shaped by what music *does for* streaming. That music mediates streaming as much as streaming mediates music is a premise that guides this book. But as important as this mutual mediation may be, as both a real process and methodological principle, attention to the interplay of streaming and music should not lead us to ignore the ground on which it unfolds. This is the ground constituted by capitalism in its current stage of development. Important in this respect is the way in which the ascendancy of digital platforms (and the tech sector more generally) represents a response to the crises that have afflicted the capitalist world-system since the 1970s and that have intensified since the financial crisis of 2008: a long-run tendency toward stagnation; declining rates of productivity and profitability; and a drying-up of attractive sites of private investment. While digital technologies and recourse to so-called multisided markets may abet platform capitalists in their efforts to break out of this economic impasse, what is critical is the broader strategy of accumulation that these technologies and models advance. Following Brett Christophers, one might describe it as an approach that prioritizes "making money by having" over "making money by doing."[13] The platform, by this account, is both a symptom of and force for the consolidation of monopoly power in recent years, which has enabled the extraction of monopoly rents to flourish in its wake.[14] In standard models of capitalist development, promulgated by economists on the right as well as the left, rent and rentiers are typically regarded as residual holdovers from a precapitalist, feudal past. Capitalism, we are told, displaced the source of value from land productivity to labor productivity. As this new mode of production developed, the manufacture of goods and services became the principal site for the accumulation of capital, with the surplus generated by labor captured by those who own the means of production, that is, the capitalist class. Such narratives overlook a key fact: while it may have been in the interest of capitalism as a system to promote market competition, it has always been in the interest of individual capitalists to minimize competition as much as possible, to dominate markets rather than compete in them. As Immanuel Wallerstein puts it: "Capitalists do not want competition, but monopoly. They seek to accumulate capital not via profit but via rent. They want not to be bourgeois but to be aristocrats."[15] This drive is all the more pronounced in an era such as ours. With growth sluggish and opportunities for profitable investment diminishing, accumulation through production (of goods, services, value) looks less and less attractive compared to accumulation by other means—above all through the redistribution of wealth that control over scarce resources affords.

Helping this epochal shift along has been a suite of policies that have been pursued under the banner of neoliberalism: the deregulation of business and financial activity, the weakening of labor protections, the lowering of barriers to trade and the international flow of capital, the relaxation of antitrust enforcement, the strengthening of intellectual property regimes, and monetary policies that have fueled speculative bubbles and asset-price inflation, among others. Despite championing free, competitive markets in theory, in practice neoliberal policy has had the opposite effect. By removing obstacles to competition, both within and across nation-states, neoliberalism has encouraged the concentration of economic and political power at a global scale, ushering in a new era of transnational monopoly capitalism.[16] For illustration of this tendency, one need look no further than the music industry, which has undergone a series of consolidations since the 1990s. In the United States, the loosening of ownership caps occasioned by the Telecommunications Act of 1996 resulted in a wave of acquisitions, with numerous local radio stations coming under the control of conglomerates such as Cumulus and Clear Channel (later rebranded iHeartMedia). Similarly, the Federal Trade Commission's 2010 decision to green-light the merger of Live Nation and Ticketmaster meant that within ten years' time the new company had come to dominate a number of interlinked markets (ticketing, concert promotion, talent management, venue management).[17] Meanwhile, at a global level, mergers and acquisitions within the recording industry led to a further tightening of the oligopoly that has long dominated the sector, with the five major labels in existence in the late 1990s whittled down to just three twenty years on. The same is true of music publishing, whose market by the end of the 2010s was largely divided among four firms (Sony/ATV, Universal, Kobalt, and Warner/Chappell).[18]

The rise of digital platforms is another expression of the broader trend toward monopolization and rent extraction. Perhaps this is putting it too mildly; better would be to say that platformization is not just an expression but the leading edge of this tendency. Tellingly, the principal representatives of platform capitalism—major tech firms such as Amazon, Google, and Facebook, as well as streaming services like Spotify and Netflix—have also become the main representatives of concentrated corporate power in the years since the 2008 financial crisis, with each occupying a dominant position in its respective market. What these companies share in common is ownership over some virtual space where different kinds of social and commercial transactions take place.

Like other monopolists, the exclusive control those companies enjoy over a given asset means that they are in a position to obtain superprofits via the rents they can charge for its access or use. This is evidently the case with tech giants such as Google and Amazon, which rank among the world's most profitable companies. But it is also true of a company such as Spotify, despite the fact it has seldom turned a profit in all the years it has been in operation. Spotify's problem is that its monopoly is built on the back of another, as the rents it charges users for its services are invariably consumed by other rents it is obliged to pay—namely those demanded by rights holders, to license use of the valuable asset that is music. Spotify's saving grace is that it has been kept afloat by still other forms of rent, generated by a different class of assets—namely those held by investment banks, private equity, institutional investors, and other representatives of finance capital.

While recourse to new forms of monopoly power and rent extraction represent one response to the declining growth and stagnation that has characterized the capitalist world-system since the 1970s, it is not the only one. A second response—one that is critical to the arguments traced in this book—involves the increasing expropriation of resources, use values, and forms of work not of capital's making, but that nonetheless prove useful to it. Helpful for understanding this dynamic are the "nonreductive account[s] of capitalist production" that have been developed over the decades by Marxist feminists, ecosocialists, theorists of racial capitalism, and other heterodox thinkers and activists.[19] Critical is their contention that capitalism, despite appearances to the contrary, is marked by incompleteness, inconsistency, and a disavowed dependence on a variety of outsides.[20] Julie Graham and Katherine Gibson, writing jointly under the pseudonym J. K. Gibson-Graham, have observed for instance how the hegemony enjoyed by "capitalocentric" discourses ends up rendering non- or extracapitalist forms of economic activity invisible:

> When we say that most economic discourse is "capitalocentric," we mean that other forms of economy (not to mention noneconomic aspects of social life) are often understood primarily with reference to capitalism: as being fundamentally the same as (or modeled upon) capitalism, or as being deficient or substandard imitations; as being opposite to capitalism; as being the complement of capitalism; as existing in capitalism's space or orbit.[21]

Capitalism may be dominant, but that doesn't mean it is all-encompassing. The capitalist economy is neither coextensive with society as a whole, nor with the "economy," to the extent that this domain can be analytically separated from the various fields of activity with which it is entangled. Existing alongside a number of alternative regimes of exchange, circulation, and valuation, capitalist processes nevertheless outweigh and always threaten to absorb these alternatives.

Significantly, the relation between the capitalist economy and its various noncapitalist others is not one of inert and indifferent coexistence. Rather, the two continually interact and inflect one another, their relation shifting from one historic conjuncture to the next. An increasingly common shape this relation takes is for resources generated *outside* capitalism to furnish the stuff out of which monopoly power *within* it is made. Given declining opportunities for productive investment, an attractive (because cheap) method for establishing a monopoly is to identify some source of work or wealth standing outside the formal economy, lay claim to it (which usually involves getting state power to recognize and enforce this claim), and thereby transform this resource into an asset over which a given corporation has exclusive control. One can see this process play out in the exploitation of natural resources, as state concessions enable extractive industries to turn the "free gifts" of nature into durable sources of rent. It also plays out in connection with creative activity, including music, as intellectual property law enables the copyright industries to turn the "free gifts" of human nature into equally durable sources of rent. Still another place where this extractivist dynamic is at play in streaming is in the data that platforms capture from user interactions, thanks to the terms and conditions to which individuals are obliged to assent to use their services. Once harvested, such data become yet another valuable asset over which platforms enjoy a monopoly, which they can then share, trade, sell, rent, or exploit as they see fit.

Yet this is not the only way capitalism and its others relate to one another. Critically, capital doesn't simply colonize its others. Nor does it simply dominate them. Dominant and dominating capital may be; but it is also *dependent*. Thus, while it is important to remain clear-eyed about the central role that capital accumulation plays in ordering social life, it is equally important to situate this overarching imperative vis-à-vis the extraeconomic conditions on which it relies. As Nancy Fraser has argued, the "'economic foreground' of capitalist society requires a 'non-economic background,'" with processes of social reproduction, the work of nonhuman nature, and the infrastructures provided by political institutions figuring prominently among the underlying conditions that make capital accumulation possible in the first place.[22] Without a continuous supply of ecosystem services, institutional supports, and the unpaid work of caring, capital's incessant drive to valorize value would come to a standstill. But because the resources that capital draws from outside itself and puts to work are treated simply as given, there is a tendency for the extracapitalist systems on which it depends to be steadily run down. Fraser summarizes the dynamic: "Capitalism's economy . . . stands in a relation of *denial* vis-à-vis its background conditions. It disavows its dependence on them by treating nature, social reproduction, and public power as 'free gifts,' which are inexhaustible, possess no (monetized) value, and can be appropriated ad infinitum without any concern for replenishment. . . . And that is a built-in source of potential instability, a recipe for periodic crises."[23] To be underlined is that these and other background conditions are not simply given but are themselves made—and, more specifically, made background. If they are external to capitalism, it is because they are externalized by capitalism. By this account, the capitalist law of value is not simply a mechanism of incorporation, which fundamentally alters that on which it acts (via commodification, the transformation of labor processes, the subjection of all sorts of things to the property form, and so on). It is also a mechanism of abjection, which likewise alters that on which it acts (via depreciation, expropriation, dispossession, and so on).

A basic claim I make in this book is that music is not simply transformed into yet another good, service, or asset within modern capitalist economies. While certain of music's material embodiments can be, have been, and will continue to be commodified and assetized, music at the same time functions as yet another "'non-economic' background condition" that the economy relies on, without acknowledging or accounting for this reliance. Music's excorporation from capitalism is as important as its incorporation, its decommodification as important as its commodification. Music's significance for capital, in other words, does not reside wholly in the brute fact that it, too, is something that can be produced for sale on the market or that can be transformed into an asset for which rents may be charged. Rather, music's significance resides as much in its ability to serve as an extraeconomic resource. And one of the main tasks for which music qua resource is enrolled is the necessary yet systemically devalued work of social reproduction. I explore this issue in chapter 5, but for now social reproduction may be provisionally defined as comprising all those activities and processes that, by sustaining life on a daily and intergenerational basis, indirectly help to sustain capitalism, by replenishing the special commodity that is labor power. In music sociology, the aspect of social reproduction that has received the most attention to date consists of the various forms of class and social stratification that music helps inscribe and reinforce.[24] But given that music is nonrepresentational as well as representational, acting just as much on an affective and physiological level as it does at the level of meaning or identity, it may also play a more direct role in the work of care, as a tool for adjusting moods, facilitating social interactions, calibrating sleep cycles, extending or intensifying workouts, and so forth. Like other resources put to work in the reproduction of individuals and communities, music also serves as a resource for their reproduction as a source of labor power. This has long been the case with respect to manual labor, with music not just serving to coordinate and energize physically strenuous activities but also helping people unwind, relax, and replenish themselves at the end of the day. But considering the increasing centrality of affective, communicative, and other forms of so-called immaterial labor in deindustrializing societies, as the economic center of gravity shifts from manufacture to services, there is the additional need for individuals' affective, communicative, and cognitive energies to be continuously replenished—a need that music, with its ability to alter moods, facilitate interaction, and focus the mind, is well-positioned to satisfy.

Like capitalism's other others, music stands in a profoundly ambivalent relation to the economy, being situated at once inside and outside its frontiers, continuously drawn into and expelled from its churning vortex—whence the well-founded perception that music, like other art forms, represents an "economic exception," or possesses its own "exceptional economy."[25] Historically, a number of factors have impeded music's unproblematic subjection to the logic of capital accumulation. For one, the property form isn't straightforwardly applicable to music in the same way it is to other ordinary products, like a bolt of linen or a pound of wheat. For another, it is difficult to reorganize musical labor—or any other form of artistic labor—in line with capitalism's drive to increase productivity (in Marxian terms, artistic labor resists "real subsumption"). From this perspective, the history of music's insertion into processes of capital accumulation is the history of the social, legal, and technical fixes that have been devised to surmount these difficulties, reducing music's economic ambivalence enough to make it compatible with the demands of capital accumulation. Copyright offers one such fix: as a legal apparatus that imposes the property form on music, it makes what might otherwise take the form of a public good behave like a private one instead.[26] Technologies of mechanical reproduction offer another. True, they may fatally undermine the "aura" that shrouds the unique artwork, as Walter Benjamin famously maintained.[27] But these same technologies also make it possible to achieve efficiencies in the industrial process of musical reproduction that are otherwise ruled out in the artisanal processes of musical production. And even if these and other "fixes" to music's economic exceptionality prove only partly successful, the broader social and aesthetic values that are attached to music can nonetheless drive the development of other adjacent sites and activities that are productive of economic value (instrument manufacture, consumer electronics, publishing, the production and sale of ancillary merchandise, and so on).[28]

Streaming may likewise be understood as providing a solution to the challenges posed by music's ambivalent economic status, challenges that have been amplified by technologies of digital reproduction and networked communication. It is not just that sales of recorded music plummeted in the first decade of the new millennium, but that this downturn appeared to augur a pair of broader and potentially catastrophic crises: in the property form imposed on music by means of copyright and, by extension, in the continued viability of recorded music's commodity status. To shore up their faltering position during this prolonged downturn, major record labels pursued a number of avenues: claiming a cut of artists' earnings from touring and merchandise as part of "360 deals"; increased sync licensing of music for use in television and film; seeking out new sites of commodification (for example, ringtone sales); and most notoriously, bringing lawsuits against listeners alleged of copyright infringement, in order to disincentivize file sharing.[29] It was in this context that streaming emerged in the late 2000s as a potential response to the industry's purported woes. Streaming presented an answer to a number of unresolved questions plaguing the industry: how to reprivatize audio files that digitization had transformed into quasi-public goods; how to reintroduce into the new, digitally mediated condition of musical abundance a semblance of scarcity; how to turn difficulties in commodifying digital music from a problem into an advantage, by using music to commodify other things instead; and how to transform payment for recorded music from an irregular, unpredictable, and one-off event into something continuous and predictable. Yet streaming's success in overcoming impediments to digital music's reinsertion into the circuit of capital introduced a new set of problems and contradictions. Perhaps the most notable has to do with the infinitesimal royalty payments recording artists, composers, and songwriters receive under this new model, a cause of much public concern and critique. Of course, one might respond to critiques like these by pointing out that the financial situation of most musicians was hardly much better in the prestreaming, predigital music industry. If nothing else, such a response has the merit of being true. But to say that what has changed are the mechanisms by which musicians are underpaid, with the fact of their underpayment remaining a stubborn constant, shouldn't lead us to believe that this state of affairs is inevitable, that the skewed distribution of wealth and economic power that typifies music under capitalism is an eventuality to which we have no choice but to be resigned. Nor is this the only harm that streaming either produces or perpetuates. We might also cite its recourse to rampant consumer surveillance; its disaggregation of listening publics and music communities; its exacerbation of winner-take-all dynamics, with superstars gaining outsize attention and income at the expense of smaller, independent artists; and, not least of all, the negative environmental impacts generated by such a resource- and energy-intensive method of music consumption.[30] The cost of cheap and abundant music, it turns out, is quite high.

Mapping the Streaming Ecosystem

Since music streaming platforms are many different things, this book touches on a wide range of subjects over the course of its pages: soundalikes, metadata errors, interface design, clickwork, network architectures, sleep playlists, streaming fraud, recommendation algorithms, and listening metrics, to name but a few. Given the eclecticism of the topics covered, the materials I draw on are equally eclectic, encompassing marketing and promotional materials put out by streaming companies; coverage of music platforms in the business press, trade journals, and mass media outlets; data gleaned from application programming interfaces (APIs) and other backend sources; comments and discussions on community forums; earnings reports and financial disclosure statements; leaked contracts; patents; information gathered from the various ancillary markets that feed into—and off—digital music services (data aggregation, music distribution, promotion services of varying degrees of legitimacy, and so on); playlist formatting and design; "platformized" musical production (for example, pseudopersonalized tracks or soundalike covers); as well as insights derived from conversations, casual and otherwise, that I've had over the years with former and current employees of streaming services, record industry personnel, musicians, users, data analysts, and activists, among others.

The foregoing should give some sense of the empirical base on which *Streaming Music, Streaming Capital* rests, an archive supplemented by the growing body of secondary literature on streaming that I have drawn on and learned a great deal from in the course of writing this book.[31] But if I range across a wide and variegated assortment of materials and topics in what follows, it isn't in order to revel in eclecticism for its own sake. Rather, an overriding aim of this book is to trace the mediations connecting seemingly disconnected phenomena, in an effort to discern the underlying conditions that make their movements possible. To a certain extent, this impulse follows from my background and training as a music theorist, even if the kind of theorizing I pursue in this book bears little resemblance to music theory as it is commonly understood. It also follows from my commitment to a broadly Marxist understanding of the musical economy, albeit one that draws on a wide and varied mix of traditions (social reproduction theory, Frankfurt School critical theory, value-form theory, autonomist Marxism, ecosocialist thought, as well as more standard forms of Marxist political economy). But most important of all, the expansive approach I take to streaming derives from a decisive feature of the platform economy itself. Namely, as economic power has become ever more concentrated in the hands of an ever-smaller tranche of corporate bodies over the past twenty-odd years—a tendency of which platforms are both a cause and effect—the boundaries that once separated ostensibly distinct spaces and sectors (finance, tech, the music industries, and so on) have perforce eroded. Of course, the more such sectoral differences are blurred, the more it becomes clear that their prior delineation wasn't necessary but contingent, a product of the resistance thrown up by forces strong enough to hold back or even reverse capital's drive toward concentration (government regulation, interfirm competition, inherited custom, but above all labor struggles). But even if capitalism's drive to subsume anything and everything under the sun is hardly new, this makes it all the more necessary for studies of music streaming—or of music and capitalism more generally—to avoid restricting themselves to *just* music, or *just* the music industry, as the latter is conventionally construed. At least, these studies cannot limit themselves in this way if they wish to do justice to the way music is imbricated in socioeconomic processes that extend well beyond its conventional boundaries. Indeed, this is one of the key insights shared by both social reproduction theory and ecosocialist thought: that objects, activities, and forces ostensibly placed beyond the pale of a given socioeconomic system are often necessary to secure this system's ongoing existence, shaping what transpires within its legislated boundaries in profound if indirect ways.

For this reason, any effort to model music's insertion into the streaming ecosystem needs to consider its "material and technological enabling conditions."[32] But such an effort also has to explore the material conditions that music enables in turn. For once it is taken up and mediated by digital platforms, music can have effects in sites far removed from the server farms whence audio files issue, the devices on which these files are played back, or the bodies they touch once they are translated into sound waves. Kyle Devine has identified one such effect, describing the largely disregarded (because largely externalized) environmental impacts for which streaming is responsible (greenhouse gas emissions, destructive forms of resource extraction, and so on). To this distant, dispersed impact others may be added. One concerns how users' seemingly solitary listening activity may indirectly shape what musics others will encounter, which in turn determines how much compensation artists and rights holders are liable to receive. Another concerns how the data collected from platforms about people's listening behaviors may be recycled by third parties and put to use for purposes that seem to have little clear or direct connection to music as such (for example, credit card ratings and insurance pricing). Still another concerns how the use of music as a means of social reproduction may serve as a means of holding in check the costs of sustaining both life and labor power. And yet another concerns how this enactment of music as a form of cheap care hinges in turn on suppressing the cost of music—which is tantamount to suppressing the cost of musical labor. Pertinent in this regard is an arresting observation Martin Daughtry has made in connection to the far-flung environmental effects for which music performance may be responsible. "While all performances begin," Daughtry writes, "no performances truly end; rather, they all taper off, in an asymptotic decrescendo of sorts, as the various bodies that they manipulate and transform and unleash eternally continue to make pathways through—and exert effects within—the aggregate body called 'environment.'"[33] The same may be said of music as streamed, with the difference that the real and virtual bodies it sets in motion make pathways that do not just traverse those ecosystems conventionally categorized as non- or extrahuman but move through all sorts of nominally human ecosystems as well, whether economic, technological, social, infrastructural, or musical.

Despite the expansive range of issues addressed in this book, despite the attempt to trace the often obscure interconnections linking them, *Streaming Music, Streaming Capital* doesn't purport to provide a comprehensive account of the streaming ecosystem. To attempt such a thing would be quixotic, since any totalizing theory of streaming—or of anything else, for that matter—will necessarily come undone under pressure of future developments. In the case of streaming, barring a major, systemic change to the economy, either the industry will adapt in coming years to heightened interfirm competition, government regulation, ecological crisis, inflationary pressures, and intensifying labor activism, or the industry will fail. And assuming it does adapt, this will almost certainly involve the colonization of new spaces and the forging of new interconnections between them, beyond those I identify in the pages of this book. Indeed, as multisided markets, platforms are precisely in the business of forging such interconnections, striving to leverage them to their benefit through the opportunities for arbitrage they open up.

Hence, in light of the fluid and still-unfolding character of my book's subject, the best I can hope to offer readers is a rough and provisional sketch, one that seeks to identify a number of the streaming ecosystem's key interlocking features and that endeavors to make some sense of the logic underpinning their articulation. Some of these features and interconnections include how copyright monopolies at once underwrite streaming (via licensing agreements) and depend on it (for the protection and valorization of their IP); how the ideological construction of the stream, its framing as something necessarily ephemeral, obscures the constitutive role of copyright; how the ideological work performed by the ostensible ephemerality of the stream helps bind users as well as artists to platforms; how the different user groups convened by platforms not only function as assets but are also put to work to produce still other assets, most notably data (about music, about users); how the personalized curation services used to justify extensive data collection are paralleled by the promise made to advertisers of providing equally personalized forms of ad targeting; how the economic imperative to amass data leads platforms to frame music as an accessory for living, a means for self- and social reproduction; how entreaties that seek to get users to treat music as such—as a resource for the ongoing reproduction of life and labor power—are facilitated by the way the platform model effectively transforms music into a privatized public good, as something that can be given away on condition users have first paid an obligatory toll; how this strategic and above all partial decommodification of music has as its corollary the effective decommodification of musical labor; and so on. To these may be added the ramifying interconnections that relate what takes place in and around platforms to broader forces beyond them: how the rentierism that underpins both platforms' and copyright holders' business models is motivated by the declining profitability of the global economy in recent decades; how platforms, through their data collection practices, function as tributaries to a much broader data economy; how the transformation of music into a means of social reproduction is facilitated by the steady rise of the cost of care elsewhere in the economy; and so on.

Each chapter of this book addresses a different piece of this larger puzzle. Chapter 1, "Streaming Music," begins with the question of what streaming makes of music. To explore how platforms transform music to make it fit for streaming, chapter 1 draws on the mediation theory elaborated by Georgina Born and others in order to examine some of the key mediations that platforms put into play. Streaming services enact music as many different things: as data, metadata, intellectual property, and much else besides. Taken together, this constellation of features conspires to make what is ultimately a change in music's political and economic condition appear otherwise, as if it were a change in its being imposed by a novel technological system. Stream versus download, object versus event, music as good versus music as service—such commonplace dichotomies, which undergird popular narratives about the changes wrought by streaming, deflect attention away from a more significant mutation for which music platforms are responsible: the transformation of digital copies from durable to disposable goods, a transformation that exploits digital reproduction's enactment of recorded music as a quasi-public good at one level to paradoxically reinscribe music within the regime of private property at another.

Chapter 2, "Streaming Capital," turns to the specific form of industrial organization that music platforms embody—what the business literature refers to as "multisided markets"—and considers the implications this form has for the value accorded to both music and musical labor. Thanks to the particular way in which platforms orchestrate flows of data, attention, and revenue, music comes to assume a peculiar economic status within the spaces that streaming services manage. As noted earlier, users of streaming platforms never pay directly for music; all they pay for is access to the virtual enclosure where a vast archive of recorded music is housed.[34] Yet the decommodification music undergoes once it is no longer stamped by exchange value appears this way only on one side of the platform, the side that faces end users. For other agents, situated on other sides of streaming's multisided market—record labels, publishers, as well as platforms themselves—music remains thoroughly commodified. The ambivalent status that the architecture of platforms confers on music, being neither wholly commodified nor wholly decommodified, in turn gives rise to a peculiar form of fetishism: not commodity fetishism but what might be called noncommodity fetishism, in which what is misrecognized is not the source of the value that is ascribed to a commodity but the source of the nonvalue that is ascribed to a noncommodity—in this case, music. On streaming platforms, music appears as simply *there*, as something that is free for the taking—provided, of course, that users have paid a fee to access the privatized space where music is now contained.

If the first two chapters provide a broad overview of streaming platforms and their organization, chapters 3 and 4 turn to the individual circuits of production, exchange, and accumulation that they catalyze. Chapter 3, "Music as a Technology of Surveillance," is concerned with the exchanges that take place between platforms and an assortment of advertisers, data brokers, and other third parties. Especially among stand-alone services such as Spotify, Deezer, and Pandora (both before and after its acquisition by Sirius XM), the need to develop alternative means of extracting value from customers has led them to aggressively assetize user attention and data. Marketing campaigns directed not to end consumers but to prospective advertisers and investors are particularly revealing in this regard. What these campaigns highlight are the particular affordances that music alone possesses. Not only is music said to provide privileged insight into listeners' innermost selves, but it also serves as an ideal tracking device. By pervading the everyday lives of listeners, accompanying them across a variety of social and physical spaces, music offers platforms and the third parties with whom they partner a means by which information about listeners' everyday lives may be collected, aggregated, and put to work. Significant in this regard is the growing popularity of playlists organized by mood, activity, or context (for example, music for workouts, for singing to in the shower, for sleep). Playlists of this type provide platforms with a proxy by which they can infer users' moods, activities, and contexts. And even if the accuracy of such inferences is questionable, music's use as a technology of surveillance nevertheless has far-reaching consequences. It is not merely that this affords a microtargeting of advertising that runs parallel to the microtargeting that characterizes music recommendation. In addition, the fact that platforms share such data with various third-party partners, including major data aggregators such as WPP and Acxiom, means that the information that platforms collect not just about users' musical behaviors but by means of their musical behaviors may feed algorithmic systems in far-flung sectors of the economy (credit rating, insurance pricing, risk assessment, and so on).

In chapter 4, "Counterfeiting Attention in the Streaming Economy," the focus shifts to another side of platforms' multisided markets, the side that faces artists. In particular, the chapter examines how the technical infrastructures and economic incentives put in place by streaming platforms have encouraged certain actors to develop strategies to exploit various quirks and loopholes of this new mode of music distribution, leveraging them to their advantage. These include musicians, who, in response to platforms' low payout rates, have been compelled to use whatever means they can to eke out whatever income they can. Three cases in particular are considered. One concerns so-called musical spam, in particular knockoff cover versions of popular hits, which exploit weaknesses in platforms' discovery tools to siphon off a portion of the attention (and royalties) that the originals would otherwise attract. A second concerns so-called click fraud, as rights holders aim to improve the "discoverability" of the music they own and ultimately the share of revenue they are due by resorting to alternative means of procuring streams—in particular, by purchasing them in bulk from gig workers and click farms located in the Global South. Finally, the third case study examines the controversy that erupted in 2017, when it was revealed that Spotify had paid professional music producers, working under pseudonyms, to create tracks for the platform's mood and activity playlists, presumably as a way of reducing the overall share of revenue it was obliged to share with rights holders (above all the three major labels). Together, the different kinds of imposture at play in these three cases shed light on a more fundamental imposture that underpins the entire streaming economy, as platforms pass off quantitative metrics as qualitative judgments, and equate digital signals with the engagement they allegedly index.

Following the examination of different aspects of the platform model in chapters 3 and 4, the last chapter, "Streaming, Cheap Music, and the Crises of Social Reproduction," takes a broader view of streaming and its socioeconomic impacts. Chapter 5 does so by returning to the increasing prominence of mood-, activity-, and context-based playlists on streaming platforms. Much has been written on the effects of such playlists. For some authors they are the agents by which music is transformed into "neo-Muzak"; for others, they are nothing more than an extension of longstanding practices that treat music as a medium for self-regulation and self-care. This chapter offers an alternative perspective on this phenomenon, reading it through the lens of social reproduction theory. Besides being a technology of the self or of surveillance, music on streaming platforms is in addition a technology of social reproduction. It acts, in other words, as a tool or resource by which users can perform some of the tasks necessary to maintain themselves and others—work that is, at one and the same time, necessary to maintain both themselves and others as sources of labor power. Framed in this way, as a device for helping people to get through the day, music also serves as one of the many devices that prepares them to go to work the next. Facilitating this change in music's use value for listeners is the partial decommodification it undergoes on streaming platforms, discussed in chapter 2. As a form of "cheap culture," streaming media are made particularly attractive as a resource for managing the deepening crisis of social reproduction, a crisis brought on by the rising cost of care work on the one hand and the increasing shifting of these costs onto individuals and households as a result of neoliberal austerity politics on the other. Yet the more platforms frame music as a resource for living, the more the living of musicians is threatened. Cheap music, after all, depends on a cheapening of musical labor. The result is a crisis of reproduction specific to the world of music, with many musicians no longer able to support themselves through their music, which more often than not amounts to an inability to reproduce themselves as musicians.

To close, the epilogue to the book picks up where the preceding chapter leaves off, by considering different interventions that have been proposed in response to the difficulties many musicians and music communities confront at present. To this end, I work through a number of proposals, ranging from the more modest to the more far-reaching: increasing the minimum payout rates guaranteed to artists, changing the revenue-sharing model utilized by services, developing platform cooperatives, and transforming platforms into public utilities, to name a few. Which of these is preferable, as well as which is feasible, depends on the broader field of political possibility and the balance of forces within this field—which is simply another way of saying that any meaningful transformation of the music economy cannot occur in isolation but must be tied to broader transformations in the economy as a whole. But which path or paths are to be pursued also depends on what kind of future we want. Is the goal a reformed streaming economy? A poststreaming economy? Or a postprecarity and postscarcity musical economy, a possibility that is hard to imagine without it being a postcapitalist economy at the same time?

Notes

Introduction

1 Will Page, "Peak Streaming: Are We There Yet?," *Billboard*, 23 May 2020, 15–16.

2 Amy X. Wang, "For the First Time in Decades, Music Sales Are Growing Again. Guess Why?," *Quartz*, 12 April 2016, https://qz.com/660141/yes-music-sales-are-growing-again-but-they-are-still-half-of-what-they-were-in-1999/.

3 While streaming revenue was the major contributor to industry revenue, licensing deals with social media platforms like TikTok and Facebook also swelled record company coffers. See Mark Mulligan, "Recorded Music Market Shares 2021—Red Letter Year," Midia Research, 18 March 2022, https://www.midiaresearch.com/blog/recorded-music-market-shares-2021-red-letter-year.

4 Per Sundin, cited in Sam Wolfson, "'We've Got More Money Swirling Around': How Streaming Saved the Music Industry," *Guardian*, 24 April 2018, https://www.theguardian.com/music/2018/apr/24/weve-got-more-money-swirling-around-how-streaming-saved-the-music-industry.

5 On the "ideology of plenitude" in the history of music's commodification, see Taylor, "Commodification of Music," 289–90.

6 Rosen, "Economics of Superstars"; Frank and Cook, *Winner-Take-All Society*; Caves, *Creative Industries*, ch. 4 ("Artists, Starving and Well-Fed").

7 On the role of guaranteed revenue minimums for major labels, see the discussion of the 2011 Sony-Spotify contract in chapter 2. See also the testimony given by major label representatives during the United Kingdom's Digital, Culture, Media and Sport (DCMS) Committee's hearings on the economics of music streaming: Digital, Culture, Media and Sport Committee, House of Commons, "Oral Evidence: Economics of Music Streaming, HC 868," 19 January 2021, https://committees.parliament.uk/oralevidence/1534/pdf/. Figures for worldwide streaming revenue in 2021 are from International Federation of Phonographic Industries, *Global Music Report*, 11. Estimates of major label revenue for streaming for the same year are from Mark Mulligan, "2021 Major Label Revenue Surged, but What Does It Mean," *Hypebot*, 10 January 2022, https://www.hypebot.com/hypebot/2022/01/2021-major-label-revenue-surged-but-what-does-it-mean-mark-mulligan.html.

8 See Cooke, *Dissecting the Digital Dollar*, 84.

9 Major label representatives have denied engaging in this practice, most recently during the United Kingdom's DCMS Committee hearings on the economics of streaming (see note 7). Lacking public access to record companies' books, it is impossible to verify their claims (historical precedent suggests their claims shouldn't be taken at face value).

10 "8 out of 10 Music Creators Earn Less than £200 a Year from Streaming," *News*, Ivors Academy, 7 December 2020, https://ivorsacademy.com/news/8-out-of-10-music-creators-earn-less-than-200-a-year-from-streaming-finds-survey-ahead-of-songwriters-and-artists-giving-evidence-to-a-select-committee-of-mps/.

11 Quoted in Tchernova, *Case for a Job Guarantee*, 51. A caustic footnote to Hopkins's remark is provided by the producer Thinnen in November 2020, in a tweet responding to Spotify's recently unveiled plan that would give artists preferential ranking on the platform's interface in exchange for a reduced royalty rate. You might get "more plays on Spotify," Thinnen (@SoThinn) quipped, "but you can still only afford a medium sized meal deal for your bi-monthly dinner." Twitter, 2 November 2020, 2:02 p.m., https://twitter.com/SoThinn/status/1323339662556102656.

12 On this point, see Drott, "Why the Next Song Matters."

13 Christophers, *Rentier Capitalism*, xvi.

14 Bellamy Foster, McChesney, and Jonna, "Monopoly and Competition."

15 Wallerstein, "The Bourgeois(ie) in Concept and Reality," 103.

16 On this point, see Bellamy Foster, McChesney, and Jonna, "Monopoly and Competition," 26–31. See also Davies, "Economics and the 'Nonsense' of Law."

17 Christine Jurzenski, "Live Nation Stock Can More than Double in Three Years," *Barrons*, 8 April 2020, https://www.barrons.com/articles/live-nation-stock-can-more-than-double-in-three-years-analyst-51586380765.

18 Ed Christman, "Publisher's Quarterly: Sony/ATV Reigns Again as Concord Breaks into Top Ten," *Billboard*, 9 May 2019, https://www.billboard.com/articles/business/8510805/music-publishers-quarterly-q1-sonyatv-hot-100-radio.

19 Dimitrakaki and Lloyd, "Social Reproduction Struggles," 2.

20 See, for instance, Gibson-Graham, *End of Capitalism*; Fraser, "Behind Marx's Hidden Abode"; Fraser and Jaeggi, *Capitalism*; Moore, *Capitalism in the Web of Life*; DeAngelis, *Omnia Communis Sunt*.

21 Gibson-Graham, *End of Capitalism*, 6. See also Gibson-Graham, *Postcapitalist Politics*, 54–59.

22 Fraser, in Fraser and Jaeggi, *Capitalism*, 29.

23 Fraser and Jaeggi, *Capitalism*, 72.

24 The key text is Bourdieu, *Distinction*. See also Green, "Musical Meaning and Social Reproduction."

25 See Beech, *Art and Value*; Abbing, *Why Are Artists Poor?*

26 On this point, see Sinnreich, "Music Cartels."

27 Benjamin, *Work of Art*.

28 For an incisive treatment that relates the development of certain of these industries and concepts of pitch, tone, and note, see Parkhurst and Hammel, "Pitch, Tone, and Note."

29 Stahl and Meier, "Firm Foundation"; Klein, "'New Radio'"; Gopinath, *Ringtone Dialectic*; Sinnreich, *Piracy Crusade*, 126–130.

30 On the environmental impacts of streaming, see Devine, *Decomposed*.

31 This literature is too expansive to be fully cataloged here. Much of it will be cited in due course, but some key texts include Anderson, *Popular Music*; Burkart, "Music in the Cloud"; Morris and Powers, "Control, Curation, and Musical Experience"; Marshall, "'Let's Keep Music Special'"; Morris, *Selling Digital Music*; Prey, "Music Analytica"; Johansson et al., *Streaming Music*; Eriksson et al., *Spotify Teardown*; Negus, "From Creator to Data"; Scherzinger, "Political Economy of Streaming"; Goldschmitt and Seaver, "Shaping the Stream"; Arditi, *ITake-Over*; Durham, "Circulatory Maintenance." Also important are the insightful critiques of the streaming economy advanced by musicians, journalists, and cultural critics working outside academia: in particular Liz Pelly's articles for the *Baffler* and other magazines, David Turner's newsletter *Penny Fractions*, and Cherie Hu's *Water and Music*.

32 Dolan, "Musicology in the Garden," 88.

33 Daughtry, "Did Music Cause?"

34 Fleischer, "If the Song Has No Price," 154.

One. Streaming Music

1 JioSaavn, home page, accessed 30 November 2022, https://www.jiosaavn.com/corporate; Tidal, home page, accessed 16 April 2021, https://tidal.com.

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3 Apple, "Introducing Apple Music—All the Ways You Love Music. All in One Place," 8 June 2015, https://www.apple.com/newsroom/2015/06/08Introducing-Apple-Music-All-The-Ways-You-Love-Music-All-in-One-Place-/.

4 See, for instance, Napster, home page, accessed 17 June 2019, https://us.napster.com/home.html; Idagio, home page, accessed 17 June 2019, https://www.idagio.com/us/; Pandora, home page, accessed 17