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# Music and the Internet

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Historical accounts will differ, but for most people the first and most obvious connection between music and the Internet was made by Napster in 1999. Inevitably for Napster, its fortunes rose and fell quickly, and it carries little sentimental weight. Revered and reviled, it stands as a symbol of a past Internet era, although it seems unlikely to be thought of nostalgically, unlike the Sony Walkman, transistor radio, or phonograph. Ostensibly both brand and software, Napster, like the MP3s that were shared through it, was not a physical object that could be displayed as one might display an album cover or vintage radio. But without the object, to what extent is nostalgia possible?

It may be too soon for nostalgia, since the history of digital music is still unfolding. Several very good historical accounts of online music have already been published (Alderman, 2001; Duckworth, 2005; Ayers, 2006; Burkart, 2006) and so will not be recounted in detail here. While this chapter will mention past developments regarding music and the Internet, the intent is to provide context illustrating the consequences of this turbulent intersection of art and technology particularly in Western popular music. When music met the Internet the repercussions were both deep and wide, for the music industry, musicians, and music fans, the three foci of this chapter.

## Music and the Internet: The Music Industry

From the perspective of the music industry, the story of music and the Internet is a tale of loss. The newspaper headline might read, "Lost Sales, Revenue, Devastate Music Industry." Beginning with sales of physical recordings, CDs in particular, the recording industry is indeed suffering (IFPI, 2010; RIAA, 2010). There is, however, another side to the story. For instance, other revenue streams have become available to record companies. Sales of digital downloads, while not profiting major

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record labels to the same degree as in years past, are now a significant income element. Royalties from digital performances of copyrighted music are now flowing to rights holders. Sales of ringtones also generate additional income.

But to look at sales figures or performance royalties is only to see the tip of the iceberg that seems ready to sink the music industry. While the music industry has blamed Internet-using music fans who have illegally uploaded and downloaded music since Napster's advent, such activity is only partly responsible for any slump in the music business. The Internet changed sales and consumption patterns in additional ways, and it did so quite early in its ascendance during the 1990s as a new medium of communication (Holland, 1998).

One important change was the rise of online-only retail outlets. Without having to maintain brick-and-mortar facilities online retailers could be more flexible on pricing and promotions than traditional record stores. The 1990s and 2000s saw the shrinking and outright demise of several established retail chains, such as Tower Records, Sam Goody, and Virgin Megastore. In virtually all of those cases the major reason cited for closing stores or going out of business was the difficulty of competing with online retailers (though competition from "big box" retailers like Best Buy and Borders in the US must have been a contributing factor). The Internet also provided a large market for used recordings, one much larger than had been available to most music fans, particularly those outside urban areas. The greater availability of used records had consequences for the music retail chains, but it also had dire consequences for smaller, independently owned record stores, many of which relied on the used-record trade to stay in business.

The music industry was unprepared for uploading and downloading of digital music, whether illegal or legal. Rather than developing alternatives to illegal file-sharing tools like Napster and LimeWire, and sites like BearShare and RapidShare, the music industry focused most of its efforts on finding and shutting down file-sharing sites, and prosecuting those who illegally shared files. The Recording Industry Association of America (RIAA), a trade group representing major US record labels, was instrumental in suing people it believed were illegally sharing files (Electronic Frontier Foundation, 2008). In the meantime, mp3.com began operation in 1997, Apple introduced the iPod in 2001 and the iTunes music store in 2003, numerous streaming music sites sprang up, and in 2007 even Amazon launched an online music store. In short, the music industry failed to enter the digital retail space on its own terms, just as brick-and-mortar retail spaces were crumbling. One consequence of that failure was the ascendance of Apple's iTunes music store as the top US music seller in 2009, accounting for 26.7 percent of music sales in the US that year (Christman, 2010).

By the late 2000s streaming music services such as Last.fm, Pandora, and Lala began offering alternatives to downloading and to radio. Whereas before the Internet, music was marketed and promoted to an audience in a closed loop primarily between record companies and radio stations, by the 2000s there was clearly no longer any such loop. Listeners became aware of new music via multiple channels:

streaming music sites, friends, file sharing, websites, music blogs, Internet radio stations, and so on. Numerous means of discovering and attending to music were now competing with the traditional ways the industry reached audiences.

Another consequence of this proliferation was the lack of a secure system for payments for performances. Traditionally, performance royalties from broadcasting and other uses of music (in advertising, or in concert) were collected by performance rights organizations such as Broadcast Music, Inc. (BMI), the American Society of Composers and Publishers (ASCAP), and similar organizations with which composers and publishers of music could affiliate. (Analogous organizations performed such services in other countries.) Initially, none of those organizations had a mechanism for tracking streaming music or other online performances and collecting royalties, nor were those who played music online legally required to pay royalties. In 1995 the US Congress passed the Digital Performance in Sound Recordings Act. Three years later Congress passed the Digital Millennium Copyright Act. Those two laws created a legal requirement that those who transmit digital music via the Internet pay royalties. A non-profit organization, SoundExchange, was designated by the Librarian of Congress to collect and distribute those royalties to copyright owners. As of April 1, 2010, SoundExchange paid out over $360 million to rights holders (SoundExchange, 2010).

In sum, throughout the rise in popularity of the Internet, the music industry has generally been reactive rather than proactive in its approach to the new medium. There is little evidence that it will act differently in the near future. Meanwhile, the audience for music marches to its own beat.

## Music and the Internet: The Audience

In contrast to the music industry, the music consumer has been largely proactive in taking advantage of new media for music. Almost as soon as software for downloading music became widely available, millions of US Internet users were downloading music. A 2000 report by the Pew Internet & American Life Project (Rainie, Fox, & Lenhart, 2000) estimated that 38 percent of all US Internet users had used the Internet to listen to or download music, and 14 percent had downloaded music for free that they did not already own in some other format (LP, CD, or cassette). Notably, the report was based on a survey of adult Internet users (18 years and older) and likely greatly underestimates the number of Internet users downloading music.

But perhaps most important about that data is that it was gathered a mere couple of years after the popularization of the MP3 format. While the format was patented in 1989, the first portable MP3 player was commercially available in the US beginning in 1997, and WinAMP, a free and widely used software for playing MP3 files on the Windows operating system, became available only in 1998. The very popular Rio series of portable MP3 players by Diamond Multimedia was also released in 1998, followed by the Creative Nomad players, introduced in 2000.

Also that year, Apple purchased the company that made SoundJam software, which allowed Macintosh computers to manage MP3 files on portable players, and renamed the software iTunes. The ascendance of the MP3 format as a means of storage, playback, and transfer of music files was swift and sure. Even though Apple's iPod was introduced only in late 2001, it was considered a latecomer to the field of portable MP3 players. Yet as of this writing (mid-2010) it continues to dominate the market.

Indeed, the word "iPod" has become synonymous with any MP3 player, just as "Kleenex" has become synonymous with "tissue." Words like MP3, iTunes, streaming, downloading, file sharing, and others, have become part of the lexicon surrounding popular music in the Internet age. While the focus of debates about digital music has largely centered on software, file-sharing sites, and portable devices, the habits and discourse of music fans have changed as much as or more than the technologies so frequently covered by the press. Discussions among music fans today are more likely to be about an artist's website, Twitter posts, or YouTube videos.

The portability of music is not very much in question. Like many who grew up in the 1960s and 1970s in the US, my lifelong impression of popular music has been that it is portable. In my childhood it came on records and on transistor radios, and soon thereafter it came on cassette tapes. My memory tells me that it was almost always something that could be copied, since by the early 1970s cassette tapes and recorders became available and relatively inexpensive.

But I never considered music to be free, nor did most other music fans. Even though one could swap cassette tapes or listen to the radio, the music one wanted to have on hand, at home, to own, came at a cost. The radio was fickle – it rarely played what you wanted – and the quality of dubbed and traded cassettes was so-so, at best. Thus we bought records, tapes, and, later, CDs. While music technology, the music business, and the state of computing and networking were far different in the 1960s, 1970s, and 1980s than now, most issues with which musicians, record companies, and fans struggled were ultimately not very different. It is primarily the scale of things and the relationships between listeners, fans, media, the music industry, and musicians that the Internet's development altered.

Exploring the sudden rise in popularity of the MP3 format and its centrality to contemporary upheavals in popular music would require a book unto itself. The brief outlines, though, are possible to sketch. First it is necessary to delve into the history of popular music in the US (and the Western world generally). The context for file sharing and music online is formed from the shared countercultural underpinnings of the popular music audience and the development of online communities and personal computing (Jones, 2002). Popular music contributed much common ground for shared community among US youth, both prior to World War II, and even more significantly after the war. To mainstream media, however, popular music was not a central concern, nor an important source of content. While a great deal of media attention focused on popular music from the late 1950s onward, it was generally regarded as a symptom of youth malaise

(at best) or a sign of Communist infiltration (at worst). Broadcast media, particularly radio, increasingly began programming popular music from the 1950s but largely did so within commercial structures. Alternatives did not exist: the cost of entry for radio and TV was so high that it prohibited the formation of strong alternative media. By the late 1960s FM radio, and soon thereafter college radio stations, became an alternative to mainstream radio (and most, if not all, now have an online presence).

In the meantime, as access to computers on college campuses became more common by the 1960s, the earliest online communities emerged (most notably on the PLATO system and on the WELL, with the latter directly linked to the countercultural ethos via ties to the *Whole Earth Catalog*). Music discussions thrived on those systems, and also led to the creation of many newsgroups on Usenet, and, later, numerous World Wide Web sites.

Indeed, the real revolution in popular music in regard to the Internet is to be found in the availability of news, information, and discussion about music and musicians facilitated by Internet media. The formations of online communities oriented around particular types of music or particular musicians and bands offered people ways to discover new music and indulge tastes they would have had difficulty indulging via old media, alongside others with similar interests. Online communities, whether built by fans or commercial interests such as radio stations, record labels, or magazines, provided an alternative means of connecting both with music and music fans. They also became a means of connecting with musicians themselves, via social networking services like MySpace, Facebook, and Twitter (Baym, 2007; see also Baym, chapter 18, this volume).

This evolution is much lengthier and more complicated than what I have written here. The consequences for music fans are equally, if not more, complicated and lengthy. There are several that cannot be overlooked, but the one that deserves most attention is the notion of "sharing" itself.

Listening to music is an oddly schizophrenic thing. On the one hand, music is deeply personal. We all have our individual interpretations, memories, histories, and tastes that shape and inform our listening. Our preferences may change, but they are our preferences, influenced by others, but personal enough that showing an iPod playlist to someone is for many people too revealing an act (despite perhaps willingly sharing other kinds of personal information on Facebook). On the other hand, music is a communal experience, even when listening to it singly with headphones or earbuds, as it connects people in imagined communities and imagined communions, not only with its musicians but also with other listeners who have heard it, are hearing it, or will hear it. Even when it is not being experienced live, as an audience member, it is understood that there is an audience, an asynchronous one, a community of fans. The underlying message in the medium is that you are not alone. Perhaps nowhere is this combination of the personal and social better expressed than via the phenomenon of the mix tape, particularly well documented in *Cassettes From My Ex*, a collection of short essays by various authors about the mix tapes they once shared with someone else (Bitner, 2009).

With that as context, neither file sharing nor MySpace nor Twitter nor any other Internet-and-music-related phenomenon should seem strange or new. Research on adolescents from the 1980s and 1990s reveals that the stage was set for a combination of Internet and mobile phone technologies to predominate among young people well before those technologies were readily available. In a study of US teenagers' bedroom culture, Brown and colleagues wrote:

> Although many had television sets in their rooms at home, music systems and telephones were considered most essential to well-being. Emily's comment was fairly typical: "I can't be in here without music. I always have music on. When I'm sad, I listen to sad music, which doesn't exactly help in cheering me up. I listen to it much louder when I'm happy. And when I need to get pumped up, I listen to wild, loud music . . . like before a party." (Brown, Dykers, Steele, & White, 1994)

Emily's comments reveal not only the centrality of music in adolescent life, but two additional elements explaining the centrality of music to Internet use. First, Emily proves that she is not a passive music listener. Instead, she chooses particular music for particular actions and emotions. The ability to choose individual songs and to order them in particular ways is a key component of MP3 players and streaming websites. Emily's efforts at incorporating music into her world echo de Nora's findings that "music is used and works as an ordering material in social life" (de Nora, 2000, p. x). Second, the very mobility of new technologies for music listening such as the iPod and mobile phone mean that the elements "most essential to well-being" of adolescents are now portable, allowing them to maintain a sense of order and identity beyond the confines of the home, including other places while in transit.

Indeed, one of the key characteristics of music is that it is the only medium to which most people can attend while they engage in some other activity. It is the only *meanwhile* medium, one that can be alongside and with a person when they are driving, reading, commuting, studying, playing a game, talking, etc., and one that actively accompanies other activities and media (such as television and film) in ways that actively structure and order those activities. As de Nora (2000) put it:

> Music is active in defining situations because, like all devices or technologies, it is often linked, through convention, to social scenarios, often according to the social uses for which it was initially produced – waltz music for dancing, march music for marching, and so on [p. 11] . . . Building and deploying musical montages is part of a repertory of strategies for coping and for generating pleasure, creating occasion, and affirming self- and group-identity. (p. 16)

With a computer and Internet connection, or with an MP3 player or mobile phone, anyone can engage in defining situations for themselves. It is likely that at least part of the pleasure of setting an iPod to shuffle mode, or using Pandora's recommendations, is to hear the juxtapositions of music, mood, and social situations.

But the situation is more complicated still. While on the one hand such personalization of the experience of music is now commonplace, as online retailers, MP3 players and streaming websites will allow individuals to create custom playlists, such choices are almost never made without connection to a computer system that undertakes additional "personalization" by examining a listener's choices and recommending other music. So while it is more than ever possible to create customized, individual collections of music, many, if not most, such collections and playlists are now based on invisible interactions with machines. Recommendations from friends may still play a role. Even so, as the availability of communities of like-minded listeners has grown, and as the online definition of "friend" may mean something altogether different from its definition offline, it is hard to believe that the process of discovering music has not changed greatly. For that matter, the process of collecting music (Straw, 1997), of creating a "collection" in the sense one might have amassed records not long ago, has greatly changed, too (Shuker, 2004).

Whether this is good or bad is of less importance than that it highlights a new means by which music and affect are brought together by means other than human interaction. Grossberg wrote that what "distinguishes different modes of cultural affect (moods, mattering maps, emotions, desire, the multiplicity of pleasures, etc.) . . . (is) the different ways in which they are organized, which in turn define the different manifestations of their virtual effects" (1997, p. 28). Thus, another way to understand the connection between music and the Internet is through the affective investments that popular music enables and maintains. The means by which the Internet amplifies and focuses those investments through a combination of choice, cost, portability, and, perhaps most importantly, connection to and interaction with friends and fans, as well as machines, and musicians, are therefore of critical importance.

## Music and the Internet: Musicians

Any discussion of music and the Internet is incomplete without considering the consequences of the Internet's popularity for musicians. The consequences are many, too many to be examined in a single book chapter. Yet, strangely, they have been explored very little by scholars and the media.

The most common trajectory of discussion goes along the lines of noting the potential loss of income to established artists from file sharing, and the potential gain in exposure and income to independent artists. The logic of this narrative rests on two assumptions: that those who download MP3 files would have otherwise purchased recordings, and that the Internet gives exposure to independent artists that they would not have had from traditional music media like radio and magazines. But in both cases it reduces music-making to an industrial process related primarily to commercial transactions.

Yet other areas of activity in which musicians engage are just as affected by Internet use. Much has been written about the creative process in popular music,

particularly with regard to the role technology plays in music production (Frith, 1981, 1996; Jones, 1992; Negus, 1992; Théberge, 1997). But not much is known about the role technology plays in the creative process *vis-à-vis* exposure to music and musical knowledge. Record producer Joe Boyd (2006) noted in his autobiography that during his time in England in the early 1960s not many musicians had phonographs:

> The most poverty-stricken folk singer in Cambridge or Greenwich Village had at least a record player and a refrigerator and many drove cars. In England, pilgrimages would be made with a newly purchased LP to the flat of someone with the means to play it. Keith Richards . . . and Mick Jagger had a single blues record between them when they first met. It was one I knew well, a Stateside four-track EP licensed from the Excello label. . . . They played it until it was so worn they could barely hear the music through the scratches. One way of looking at the Stones' sound is as a South-East London adaptation of the Excello style. If they had owned more records, their music might have been less distinctive. (pp. 65–6).

The notion of "influences" on a musician is routinely bandied about among musicians and fans as a means of situating a particular performer or song within an existing framework of histories, options, and genealogies, as well as a means of determining authenticity. There are many anecdotes about musicians learning from one another, hearing songs on the radio, being inspired by recordings, and playing along with records as a means of learning how to play an instrument. Such stories are usually accompanied by tales of how difficult it was to find a particular recording or style of music (or, in some cases, how easy it was to find, e.g. The Beatles had an advantage over musicians in other towns in England as Liverpool was a port city and ships and sailors routinely brought in records from overseas; Cohen, 1991). Furthermore, in an era of rampant digital sampling of music, the sheer variety and availability of countless recordings changes the options for those who create music employing samples. Doubtless the Internet will play a role as a new generation of musicians encounters new forms of music, and a vast array of it without much difficulty.

The matter of musical influences begs for study from the perspective of social networking and network analysis. Books such as *Rock Family Trees* (Frame, 1983) try to show how members of bands intertwined, but imagine if scholars like Christakis and Fowler (2009) or Barabási (2002) undertook a network analysis of the connections between musicians, or songs. Musicians have always relied on networks of people, from other musicians to fans to patrons to businesspeople, in order to get their music heard, and in some cases in order to survive. Little is known about the means the Internet provides musicians to network in such fashion via technology.

Obviously, musicians have always relied on audiences, and the Internet has changed the relationship between musician and audience, and musician and fan, in important ways. Prior to the Internet's popularity, it was rare for most any fan or audience member to have direct contact with a popular musician. Once an artist or band reached a certain level of popularity, a marketing and publicity effort kicked in, one making every effort to present them in a particular way to a particular

audience deemed to be their fan base. Cusic (1996) noted that record companies typically used radio and print media, and to a lesser extent television, to inform consumers about new music, new bands, concerts, and tours.

While the basic trajectory of publicity and marketing efforts has remained the same to this day, the addition of new media not only to reach journalists and radio but also to reach fans directly has very much changed publicity and marketing strategies as well as the relationship between musician and audience. Social networking sites like MySpace and Facebook are now a viable means by which bands can present themselves to fans and grow a fan base. Sites such as Pandora, Last.fm, MOG, Jango, and others, have similarly been a means by which bands and fans can promote music. Many bands employ online "street teams" to promote new releases or concerts. The need for, if not the very existence of, traditional publicity and marketing is being challenged.

This is important to musicians for two reasons. First, whereas it had once been the case that a band's image was created with or for them and then presented to the audience at key moments in a band's career (e.g. when a new album is released or a tour announced) such efforts are now part of a daily routine that might involve posting to a blog, social networking site, or email list. Second, fans now often have direct access to musicians. They might comment on a musician's blog post, or email a question to a list, and get a response.

What makes phenomena such as these, enabled by new media, so critical, is not that they change the industrial processes of publicity and marketing, but that they change the relationships between musicians and fans, and thus change musicians and fans themselves. Fandom and affect are tightly coupled to the ways fans imagine musicians and music, and to the ways musicians imagine an audience and music. Prior to the Internet's diffusion, the most direct source of feedback between musician and audience was at a concert, which, although potentially quite powerful (particularly in large numbers), is rather binary (e.g. cheering or booing), and not usually mutual (beyond, e.g., "Thank you, Cleveland!" if I may exaggerate the point). Another source of feedback was fan letters, but those were likely not often read by musicians, and even less often garnered a response (beyond, perhaps, an $8 \times 10$ glossy photo).

This is stereotyping to an extent, and it is primarily describing musicians and bands signed to major record labels. It also overlooks many musicians and bands in the pre-Internet era who did pay attention to their audience and fans (particularly punk bands, for instance). Nevertheless, fans and musicians are able to connect and maintain a relationship via new media to an unprecedented degree, and it is still to be seen how the formation of such relationships and maintenance of communication will matter to fans and musicians in the long run. It is not as if musicians are necessarily any more adept at using new media than they might be at doing their own marketing and publicity. And, there is the fact that musicians' schedules are not suddenly cleared so that they can find time to write blog posts, answer emails, etc. That they will use new media to communicate with fans is nevertheless expected.

Popular music itself has been changed by new media, too. The individual song is again emphasized, as it was prior to the days of album-oriented rock in the 1960s. Consumers may now choose to purchase individual tracks from Amazon, the iTunes music store, and other digital music sites, and can avoid purchasing entire albums for just the song or songs they wish to own. Audio quality is a concern among many musicians, recording engineers, and producers, since the MP3 file format is a compressed one, well below that of an audio CD, and many MP3 files have obvious sonic artifacts that can distort the sound of a recording. Even the nature of the artwork that has for the last 50-plus years enclosed all manner of physical recordings, from 45s to LPs, 8-track tapes to cassettes and CDs (Jones & Sorger, 1999/2000), is changing, as musicians strive to find meaningful ways to package music that needs no packaging.

Music-making itself is undergoing changes due to the easy means by which musicians can share audio files and collaborate. Where it had once been necessary to either bring musicians together in the same room for a recording, or have them appear in a recording studio and shuttle tapes from one session to another, it is now possible to send and receive high-quality digital audio files online from one studio to another, or even for a musician to work at home or on the road with such files. In some cases musicians are able to collaborate in real time via the Internet. Though issues with network and device latency usually prevent truly synchronous performance or recording, as bandwidth increases the latency issues will be overcome, and even if they may not be able to play together, musicians and producers can still listen, see, and discuss the evolution of a recording via videoconferencing. Even the practice of touring has changed, as bands can now easily maintain contact with record labels while on the road, stream audio and/or video from concerts, and ask audience members to make set list requests online.

But for all the changes the Internet is bringing to the extraordinary and mundane aspects of music-making and of being a musician, it is not yet at all clear that the Internet can or will provide a means by which musicians can create an alternative to the existing music industry. Negus (1992) noted that:

> Ultimately, the recording industry cannot "control" or "determine" what is going to be commercially successful. All entertainment corporations can do is struggle to monopolize access to recording facilities, promotional outlets, manufacturing arrangements and distribution systems, and be in a position to appropriate the profits. (p. 152)

While the Internet may be a technology of disintermediation and help weaken the monopolies enjoyed by the music industry, it will not be a simple matter to replace that which is disintermediated with alternatives that will have the potential to scale. Some recording artists, such as Radiohead, Prince, and Aimee Mann, for example, have already tried alternative approaches but have met with mixed success, at best. The music industry is adapting, too, and may yet find its footing and regain at least some of its commercial dominance.

## Conclusion

The debates about music and the Internet are ultimately about commerce and art, and are thus extraordinarily complicated and, perhaps, irresolvable. However, it is imprudent to focus either on the commercial aspects or the artistic ones alone, or to examine them out of the historical context in which these debates have occurred for decades. While new media, particularly network technologies, have created havoc as well as opportunities for the music industry, fans, and musicians – music, as both art and commerce, has always been changing. While the rate of change is now dizzying, new media are providing means by which music will remain prevalent in everyday life even as debates about art and commerce continue.

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