

Stages, platforms, streams: the economies and industries of live music after digitalization

Qian Zhang

School of Music and Recording Arts
Communication University of China, Beijing

Keith Negus

Music Department
Goldsmiths, University of London

Final version accepted for publication in *Popular Music and Society* 13 January 2021.

Scheduled to be published in Vol 45 No 1 2022

Abstract

This article contributes to histories of live music since digitalization and provides a corrective to the neglect of liveness in scholarship on streaming and platformization. The study argues that digital corporations and social media platforms are shaping the changing value and experience of live music, introducing new patterns of commodification, as digital technologies are incorporated into a live "experience economy," and live music integrated into a digital "attention economy." The article illustrates how platforms are exerting greater influence within the music industries as streaming extends live music from an activity associated with real place to an experience in real time.

Keywords

live music; social media; platforms; streaming; digital conglomerates; popular music industries;
liveness

The sudden interruptions, restrictions, and lockdowns in response to the Covid-19 pandemic of 2020 caused many of us to appreciate our attendance and participation in live music, whether at large arenas or small bars and clubs, and to recognize how music is experienced "live" via Internet, mobile devices, and social media. This article began some time prior to the pandemic and was completed as the world was still coming to terms with the consequences. We are interested in the industries and economies of live music after digitalization, when the "disruptions" caused by digital technology are as taken for granted as changes wrought by earlier revolutions of electricity, phonographic recording, and telecommunications.

With an emphasis on change, while acknowledging continuities, we argue that the incorporation of digital platforms, streaming, and social media requires us to rethink and to extend our understandings of the economies and industries of popular music, and the changing meanings and interrelations of recorded and live music. In the first section we briefly outline how digital technology was incorporated into live performance during a period when greater commodity (or exchange) value was being accorded to live events within an "experience economy," as the price of concert tickets was rapidly increasing and the cost of recorded sound carrier formats falling. Within these circumstances, in the second section, we highlight a reciprocal process as live music was incorporated into digital platforms and social media, becoming an element of abundant "content" within an "attention economy." We then build upon these discussions, in a third section, by highlighting how the meaning of live music has broadened, from experiences valued largely for their occurrence in real place to an extended sense of liveness in real time. In narrating this process, we illustrate how digital corporations and social media platforms are becoming ever more central to the changing experiences, economies, and industries of popular music.

Our discussion in this study is intended as a contribution to recent histories of live music and their narrative of musicians taking to the stage in ever-larger arena complexes bankrolled with retail, food, and drink outlets, while most others continue to perform in small venues that struggle to cover costs amidst the precarities of fluctuating urban and rural investment (Behr et al.; Frith et al., *History of Live 3*; Johansson and Bell). This enduring pattern features elite stars earning huge sums of money from shows, tours, and festivals - often up to and above 90 percent of revenues (Krueger, *Rockonomics* 131) - while gigging musicians play for fixed sums that have changed little over many years (Krueger, *Rockonomics*), and the majority perform for nothing, supporting themselves with their own finances or that of friends and family (Frith, "Playing"). In these histories, fans have continued to congregate in large numbers at stadiums and outdoor festivals, or in tiny groups in small venues, and experienced degrees of communal connection to musicians and other members of a crowd, along with subjective sensations of immersion and belonging (Baxter-Moore; Frith et al., *History of Live 1*; Frith, "Live Music Matters").

We focus on recent periods of change, when musicians in large concerts have more often been greeted by a sea of phones, instead of a crowd of expectant faces, and when musicians in small intimate venues perform to audiences browsing on screens in a manner similar to how jazz musicians played before diners early in the twentieth century, and rock bands to inattentive people socializing at festivals from the 1960s. People at large or small venues reach for a phone, record images, and connect to social media as a matter of habit. A performance at a large or small venue is recorded, fragmented into small chunks and manipulated, edited, memed, and hashtagged beyond its time and place, generating and contributing to shared topics and discussions. Aware of the use of smartphones by audiences for recording and sharing performances, musicians and their management have begun to sequence shows and design stage

sets with knowledge of how concerts are officially or informally captured and uploaded to social media platforms (A. Wang).

This article is also offered as a corrective to the almost complete neglect of live music in the scholarship on music streaming and platformization, and the overemphasis on recorded tracks (with Spotify singled out for excessive attention). Most of this scholarship has concentrated on corporate structures, the management of playlists, and the monitoring and manipulation of consumers (Arditi; Eriksson et al.; Marshall; Morris, *Selling*; Morris and Powers; Negus; Prey, "Nothing Personal"). Outside of a corporate focus, researchers have investigated how listeners more actively negotiate and use playlists (Hagen), how social media are dynamically used to document and communicate performances at concerts (Bennett, "Patterns"; Bennett, "Fandom"; Keith et al.), and how festivals and gigs encourage further streaming of recordings (Danielsen and Kjus). Yet, the way digital and social media platforms incorporate live performance and musical activity has been neglected. Likewise, late twentieth-century live music has been studied as industries and as event economies (Frith et al., *History of Live 1*; 2; and 3), but little attention has been paid to how live experiences are incorporated into social media and digital platforms.

In this essay we focus on how platformization is reshaping understandings and experiences of live music, and how conceptual assumptions and theoretical ideas about the industries and economies of popular music are challenged and extended by the changes introduced by social media, streaming technologies, and digital platforms. We begin with brief reference to the integration of digital technology into live events as a way of narrating important changes and continuities, highlighting how these have been comprehended within a broader "experience economy," before moving on to interrogate debates about platformization, digital

abundance, and the "attention economy."

Digital Into the Live Music Experience Economy

Our discussion of digital media and live music economies is informed by Paul Théberge's insight that "technology is an environment in which we experience and think about music; it is a set of practices in which we engage in making and listening to musical sounds; and it is an element in the discourses that we use in sharing and evaluating our experiences, defining, in the process, what music is and can be" (3). Digital technology and social media platforms are embedded in the material conditions of life and our cultural environments. They are part of a longer history of interrelations between performance, technologies, music industries, and public encounters with music.

Digital technologies began to be incorporated into popular music during the 1980s with the introduction of MIDI (Music Instrument Digital Interface), digital synthesizers, samplers, and sequencers. These broadened the range of creative possibilities and underlined important enduring links between music making and the musical instrument industries (Théberge). The lone performer with acoustic guitar was augmented and, in some environments, superseded by individuals with laptops and smartphones, adding to the way musicians have incorporated pedals, effects, and loops as solo artists or members of ensembles, and offering opportunities for more varied sonorities and textures (Jones and Bennett; Kjus and Danielsen). Digital technology allowed the design and production of equipment enabling voice manipulation, initially in the studio and then on stage, with the vocoder and autotune used creatively (building on sonorities added by reverb and phasing) and to remove pitch imperfections and to standardize pop voices.

Digital technology also facilitated developments in visual presentation, ranging from the

application of programming to lighting, the use of projections and spectacular effects, and the introduction of holograms that allow blends of the real and imaginary (always arbitrary categories). With newer holographic companies, such as Eyeillusion and Base Hologram, involved in stage design and presentation, audiences were able to experience tours by dead musicians such as Tupac Shakur, Maria Callas, Roy Orbison, Teresa Teng, and Whitney Houston. Digital holography allowed performances by "virtual" pop stars, such as Hatsune Miku and Luo Tianyi, characters produced in Japan and China, respectively, from a blend of voice software, idol industry structures, and feedback from fan creativity (Leavitt, Knight and Yoshiba; Yin; Zaborowski). Such "digitally animated singers" and "virtual performing" are, in turn, part of a history of pop music being mixed with codes from cinema and animation, taking in the characters and narratives of musical acts such as Alvin and the Chipmunks (Conner), and extended into gaming with the "live" performance of Marshmello in Fortnite in 2019. Andrew Ward has argued that holograms are actually modern technological heirs to techniques of illusion that became known as "Pepper's Ghost" when used in theatres and "haunted houses" from the early 1800s, and traceable back to the sixteenth century.

The integration and use of digital technologies to produce such blends of real and imaginary occurred within a broader event sector offering an increasing array of multimedia spectacles that have further combined and blurred conventional distinctions between art forms and leisure activities, information and entertainment. This encompasses themed parks and attractions like Dolly Parton's Dollywood (in Tennessee) and Edo Wonderland (in Nikkō, Japan), and sporting ceremonies such as the Olympics and Super Bowl. New types of "arena spectacles" were promoted as unique "live" shows whether the post-comic book, post-cinematic *Batman Live* or the spinoff from the BBC TV documentary *Walking with Dinosaurs*

Live (Whitby), and various *Science Live* events. These spectacles drew on multiple media and art forms, science, technologies, and theatricality. Their impact on popular music was evidenced in ever more elaborate shows, such as Taylor Swift's 2018 *Reputation* tour, which featured pyrotechnics, huge inflatable snakes towering above the crowd, and a glittery golden cage that carried the singer over the heads of the audience. In certain respects these shows retain legacies from a much longer history of publicly staged events that can be traced back through various times and places to the arenas, circuses, and theatres of ancient Rome, a period when "popular" music was central, although ignored in most histories (Morgan).

As digital hardware and software were incorporated into staging and performance, popular music began to compete for attention and investment within a broader market for "live" events that blended and blurred the already fuzzy boundaries separating theatre and cinema, amusement parks and educational museums, online games and sports. The growth of live arena spectacles occurred as the relative market value of popular music concert tickets was increasing in comparison to the price people were prepared to pay for a physical or digital recording.

Research by Alan Krueger in the USA showed that the price of concert tickets for the most popular musicians increased by nearly 400 percent between 1981 and 2012 (*Land of Hope* 1), rising by 82 percent in just seven years between 1996 and 2003 (Krueger, "Economics" 1). Between 2001 and 2015 the average cost of a concert ticket in the USA rose from \$40 to \$75 (Connolly and Krueger 15), although averages conceal the top-end prices charged by superstars, which have increased much more steeply (Connolly and Krueger 13). Similar trends can be detected in the UK. In the early 1970s, a recorded album could cost approximately five times the price of a concert ticket for a top rock artist. For example, in 1972 tickets were 60 pence for

David Bowie at Friars, Aylesbury. A few months later his album *The Rise and Fall of Ziggy Stardust and the Spiders From Mars* retailed at approximately £3.¹ By 2020 this ratio could be reversed for a touring band playing modest venues, and multiplied by a factor of 100 and more for superstar legacy acts such as the Rolling Stones and U2 (Westgate 57).

Krueger (*Rockonomics*) provides extensive details of the trend for stars to rationalize touring by applying economies of scale, playing fewer concerts to greater numbers of people in larger venues. He provides evidence of a long-term trend for a greater percentage of total revenues from live popular music to accrue to the bigger acts. Between 1982 and 2003 the share of revenues taken by the top one percent of artists rose from 26 percent to 56 percent, and later to more than 60 percent (*Rockonomics* 19). As Frith et al. (*History of Live 3*) demonstrate, this has been accompanied by a rise in transnational live music conglomerates such as Live Nation, ticketing companies such as Ticketmaster, and sports and entertainment venue conglomerates such as Anschutz Entertainment Group (AEG). This has facilitated a growth of festivals and stadium circuits, enabling more revenues (from tickets, merchandise, and food and drink) to be generated from fewer numbers of larger gatherings. Significantly for our focus in this article, Krueger ("Economics" 1) identified 1997 as the moment when the price of concert tickets began to shoot above recordings, the year when digital technology and Internet began to be much more widely used by publics, industries, and organizations.

The increasing significance and rising cost of entry to various types of live events led to claims about a new type of "experience economy," a term introduced by B. Joseph Pine II and James H. Gilmore when arguing that economic value was shifting progressively from the production and supply of goods, to the delivery of services, and to the staging of experiences. This schema could be adapted to suggest that recording is a product, radio and streaming provide

a service, and a live event stages an experience - although this is not, as far as we are aware, how the phrase "experience economy" has been adopted in discussions of the popular music industries. Rather, the terms have been applied loosely in discussions of a wide range of existing practices such as copyright, branding, licensing, identity, and chart analysis (Tschmuck, Pearce and Campbell).

Pine and Gilmore (99) viewed the Walt Disney Company as pioneers of an experience economy model that was moving beyond the entertainment sector and impacting upon retail design, modes of transport, restaurants, and bars. Given the malleable and inclusive nature of the term (what is *not* an experience?), other authors subsequently stretched the idea to accommodate a plethora of practices (many already quite adequately theorized with concepts of the "creative industries" and "cultural economy"). These included the economies of tourism, food and drink, sport, numerous leisure activities and hobbies, healthcare, beauty products, computing, and personal services (Sundbo and Sørensen; Freire-Gibb). The modest insight provided by Pine and Gilmore became overtheorized as marking a new stage in business and commerce, rather than referring to an aspect of life that was receiving more emphasis as digital reproduction, storage, and communication and social media allowed imagery and representations to appear more abundant.

"Experience" has always been how we understand and appreciate music. Acquiring and listening to a single or album, and tuning in to a radio broadcast, have always entailed an experience. The evidence from research on the music industries and live event sector that we have cited so far, suggests that there is not so much a new type of "experience economy" but changing relationships between different experiences, and shifts in how these are calibrated according to market price and cultural value. Some of this may be explicable in crude supply-

and-demand terms. When it was relatively scarce the recorded album enjoyed a cultural significance in people's lives that has subsequently declined with digital proliferation and abundance - a fall precipitated by the ever-shrinking size of the iconic album artifact and its disappearance into a smartphone. As popular music events became fewer and larger, and more spectacularly staged, their scarcity increased the economic and social value of live shows. Musicians and their managers recognized the increased revenues that could be generated from concerts and touring as the market value of recordings declined.

Live music is now experienced on social media platforms and mobile devices (in addition to that special event in the club, field, or arena). The social value, the economic importance, and the performative possibilities of live music are not only transformed through the integration of digital technologies into events, but through the embedding of live music in the social media that we use to engage with the world and people around us. This process has provoked related debates about abundance and the attention economy.

Live Music Into the Digital Platform Attention Economy

Like the technologies referred to above, social media and smartphones are equally embedded in the environments and material circumstances within which we experience and think about the world and engage with others, rather than being "external" forces exerting effects upon us (Miller et al.). Platforms - and the systems, processes, and relationships the term refers to - have become ever more important in mediating, shaping, and extending understandings and experiences of popular music (Morris, "Music Platforms"; Prey, "Locating").

The term "platform" has been applied to a wide range of online services, from short video portals such as Kuaishou and TikTok, music streaming companies such as Spotify and Tencent

Music, and transport and accommodation intermediaries such as Airbnb, Didi, and Uber, to social media apps that integrate various information and communication options such as WeChat, Weibo, Facebook, Baidu, and Google. The major platforms are owned and controlled by corporations often called Big Tech or digital conglomerates due to their dominant influence and strategic operations within IT, data management, digital hardware production, and software design (Negus; Mosco; "Prospering"). For example, Alphabet Inc. owns YouTube (housed within Google) and Tencent Holdings owns WeChat and Tencent Music. Although concentrated in digital technology, the Internet, and communication, the corporate interests, ownerships, and investments of Big Tech are widely diversified and follow a model long established in multinational corporations (Jia and Winseck).

Although the corporate organization of platforms has developed differently around the world (Steinberg; W. Wang and Lobato), the term "platform" has become a general label for a "digital architecture" that assimilates the circulation of information with education, finance, product sales, healthcare, travel, and a range of private and state services (Helmond). Platform infrastructures include hardware (smart things; data storage facilities; physical computational infrastructures); programmable software, apps, operating systems, and servers; market transactions and trading; the provision of services (education, transport, health, and housing); systems of governance (surveillance, recordkeeping, border controls); multidirectional and dialogic communication; searches and information exchange; and creative interaction and sharing. Such infrastructures facilitate the extraction, analysis, and use of data by nation states and commercial corporations (Kelleher and Tierney).

The platform metaphor suggests something solid, such as a train platform, a public podium, or indeed a stage - an open, accessible space from which people can be addressed and

can respond. Yet, platforms are designed with subterranean functionality that allows the channeling of information, and a propensity to prompt and direct human actions. Platforms intervene by moderating, selecting, gatekeeping, and curating the distribution and circulation of what has come to be generically called "content" (Gillespie, "Platforms"; Schwarz; Negus). As platformization integrates previously discrete activities, "the boundaries between platforms and public infrastructures have become increasingly porous, platforms are more and more a part of our everyday lives" (de Kloet et al. 251).

Cultural production is ever more "platform dependent" (Nieborg and Poell, 4277), and music is accessed as another service, part of a social media app, a bit within a bundle of media and information. From a time when fans would engage with musicians through a range of discrete items (vinyl, cassette or CD records, radio programs, magazine and news articles and reviews, visits to a venue) followers may now access this interrelated "content" through social media platforms on smart devices.

The platform model presupposes that digital abundance increases the number of users and the time spent on a platform. This generates pressure for ever more content and provides opportunities for any creator to upload greater quantities of material. However, as the quantity of content increases, the public is faced with the dilemma of how to navigate such an abundance of stuff that ranges through music tracks, games, short video clips, a plethora of chat shows, photos, blogs, jokes, and constant streams of messages from friends, family, and work colleagues.

Digital abundance has provoked claims that individual "attention span" has declined, and related suggestions that musicians, and their representatives, should strategically develop commercial relationships and artistic strategies to negotiate an "attention economy" or "distraction economy" (Chamorro-Premuzic; Gauvin; Morrow; Pareles). The concept of an

attention economy is usually traced back to Herbert Simon's argument, first made in 1971, about a growing "scarcity of attention" (40) as people deal with increasing amounts of information. Whether or not there has been a decline in individual attention within "information rich" (40) worlds, listeners have developed habits of tactically skipping through music tracks (Lamere), as well as skimming across the sites of industries selling products, government information campaigns, movie clips, and work emails.

The attention "problem" is addressed by the recorded music industry through playlists and curating, selectively attempting to direct the listening habits of music fans (Morris and Powers; Prey, "Musica Analytica"; Prey, "Nothing Personal"). The vast majority of playlists are defined by mood and activity and not by musical style, genre, or artist. This is true for playlists created by listeners or professional editors and those collated by bots. People compile playlists to be used while engaging in other activities (Eriksson et al.; Joven). So, while the playlist focuses attention on a specific selection of tracks, its use suggests that people are not giving music their undivided attention but are creating a sonic soundtrack to accompany other activities. Yet, this has been so since the introduction of phonograph records. From portable gramophone players in the 1920s to transistor radios in the 1950s, cassette players and beatboxes in the 1970s, and on to personal stereos and iPods, recorded music has often provided an ambiance for activities in the country, seaside, or urban center, or in an automobile while on the move. Meanwhile, hi-fi systems allowed music to provide various contexts for activities in the home, and recorded music became part of the environment in bars, restaurants, shopping malls, and workplaces.

Just as recorded music has always provided opportunities for the most intense concentrated listening and the option to play music for its ambient qualities while engaging in other activities (Prendergast), there is a longer history of live music providing a context for other

activities. For thousands of years the world's vernacular musics have been embedded in the activities of work and leisure, dancing and devotion, social ritual from birth to death. Whether in blues juke joints or formally organized concerts, from Italian opera to jazz and rock gigs, performing musicians have provided a context for social interaction rather than a focal point; music venues have been a place to meet friends, catch up on gossip, eat food and drink alcohol, hang out at a bar, and be seen (Murray; Tambling).

When attending a performance by Naughty Professor at the Blue Note Shanghai in the Autumn of 2019, we noticed that while the jazz musicians were on stage, members of the entire audience were drinking, often eating and exchanging polite conversation, and without exception continually browsing on phones. Our informal observations suggested that mobile phones and social media were providing opportunities to post videos from the performance, and to receive various forms of content during the band's performance. We mention this anecdote to illustrate our point that the listeners to recorded music streamed via a platform (such as Spotify) may be no more or less distracted or attentive than people in attendance at a physical venue.

Just as they have been reshaping listener engagement with recorded music, so digital platforms and social media have begun to reconfigure the experience of live music. We draw out two distinct changes from the preceding discussion. First, within this broader history of music embedded in other activities, platformization facilitates newer types of distracted engagement, as the performers on stage become an ambiance to the affordances offered by smartphones and social media. Second, as audiences capture performances on smartphones for uploading and sharing (and as musicians and music companies do the same), so live music becomes another "recorded" element of "content" - whether an entire concert, or one song, or a fragment of a performed song. There is a paradoxical tension between an "experience economy," which

typifies the specialness and scarcity of concerts, and the mediation of this by an "attention economy" of copious content. So, for example, the streaming of a live performance - whether a DJ set from a club full of people or an individual's bedroom, or a performance from a small crowded pub or vast arena - might offer access to a unique experience yet simultaneously fight for attention in a sea of diverse content that is accessible at that moment. It may subsequently become a fragment of recorded content, available from the ever-expanding archives of stored musical data that are accessible via the Internet. Within this context, a contrasting notion of live music experience has begun to acquire value and influence - one that is as much about time as it is about place.

Music Streaming Industries, Platform Musicians, and the Real-Time Live

Live streaming refers to audio and visual information that is transmitted over the Internet and received simultaneously. It includes any activity that is accessible, via an online connection, as it is unfolding in "real time." Live streaming has proliferated to encompass the cooking of food, archaeological excavations, urban walks, an individual playing a game or engaging in sport in front of thousands of people, a chat show, a meeting of government representatives, political activism, practical advice on solving a technical problem in the home, a conference speech, or someone's everyday routines in an apartment. In focusing on the live streaming of music we are only referring to one very small activity and aspect of the streaming experiences of people around the world.

The changes introduced by streaming continue to challenge some cherished beliefs about place, physicality, and embodied participation that have been voiced ever since people encountered live broadcast music and judged it lacking the qualities found in a specific location,

and the physical presence of musicians and audiences. Likewise, a streamed live event may be deemed to lose its unique qualities and become another bit of repeatable and ubiquitous content (see Baxter-Moore and Kitts; Jones and Bennett). Such a sense of loss is based on specific experiences, values, and arguments. After all, when listening we are always physically present somewhere; we can respond to music, whether a performance is recorded, mediated, or in front of us; and the physical presence of musicians often *feels* as if it is mediated from screens at a festival or large stadium. During the Covid-19 pandemic in 2020 these paradoxes felt acute as varieties of streaming offered possibilities for distant connection and a new type of "intimacy," yet accentuated the absence of sensual social interaction (Peirson-Hagger). There can be little doubt about the value of musical performances at particular places, whether in local communities and scenes, family gatherings and private rituals, or large open spaces and arenas (Behr, Brennan, and Cloonan). Our aim in this section is not to refute this but to extend discussion by highlighting how streaming affords opportunities to reshape and extend the meanings and experiences of liveness, while allowing platforms to become further integrated into the economies of the music industries and processes of commodification.

The very concept of "live music" (and the implied unspoken nemesis of dead music) only became necessary with the introduction of recording (Frith et al., *History of Live 1*). When first introduced at the end of the nineteenth century, phonograph technology often provoked anxiety and bewilderment that a lone individual could privately listen to unique social performances that had been "frozen" (Katz; Schafer), before giving way to celebratory views of how recording allowed the "composite construction of an ideal event" created through studio design, multitracking, and mixing technologies (Eisenberg 109). Yet, as Philip Auslander ("Live from Cyberspace"; "Digital Liveness"; *Liveness*) has observed, when recording was first introduced it

was quite obvious what you were doing if you were listening to a phonograph or attending a performance. The terminology was not necessary. The category of "live" music entered the lexicon later, receiving entries in dictionaries during the 1930s because it allowed a distinction to be made between live and recorded sound in radio broadcasting. It was during the transmission and reception of music within the broadcast media, when the source of a sound was ambiguous, that this distinction was required, rather than when listening to music on a record. Auslander shows how the live-recorded dichotomy emerged "discursively as an ethical (and quasi-legal) obligation" of broadcasters to address the source of sonic ambiguity and forms "the basis of our current assumptions about liveness" ("Digital Liveness" 5).

Discussing the later appearance of chatterBots on the Internet, Auslander suggests that "digital technologies have reopened these fundamental questions" and "may lead to a different understanding of liveness" ("Live from Cyberspace" 17). This is particularly pertinent to our discussion here, as is his perception that the increasing use of digital interactive technologies affords the opportunity to retain a sense of liveness as a "performance heard or watched at the time of its occurrence" but "subverts the centrality of the live, organic presence of human beings to the experience of live performance" (21). In the following discussion we extend Auslander's insights about different understandings of liveness, and we follow those writers who have emphasized how beliefs about live music change as recordings and sound technologies are integrated into a performance, whether via DJ sets, turntablism, and sound systems, or lip-syncing, backing tracks, and Auto-Tune (Frith et al., *History of Live 1*), and as performance is embedded in digital virtual media (Gagen and Cook).

In the previous section we discussed how audiences capture events on smartphones and so contribute to the way a live performance can *become* a recording; the unique live show is

transformed into another bit of digitally stored data that enters the archive of content available to be accessed through social media platforms and Internet connections. Live action becomes recorded by the audience in a similar way to the professional "live recording" of a concert by sound engineers. As Auslander notes, the idea that music is both live and recorded seems to undermine the very distinction and is, potentially, an "oxymoron...but...a concept we now accept without question" even though performer and listener are neither temporally co-present nor spatially co-present" ("Digital Liveness" 5). Live streaming, like a "live broadcast" on radio or television, at least affords temporal co-presence in "real time." Yet, it is often not as accepted as the "live recording" and comprehended through more skeptical concepts of "pseudo-real time" and "quasi liveness" (Li 247, 250) or "secondary liveness" (Yasuda 168).

Despite these apparent paradoxes and anxieties, the experience occurring in "real time," rather than the experience of presence in a "real place," has come to be valued, emphasized, and enjoyed in the streaming of music. We focus on four themes to illustrate this process in more detail. First, we emphasize the importance of the technological, industrial, economic, and regulatory infrastructures that support and maintain the platform architectures of music production and circulation that afford streaming. Second, we use the example of *danmaku* ("bullet curtain") to highlight a striking example of the participatory and interactive opportunities afforded by real-time live streaming industries. Third, we focus on streamed talent shows, drawing specifically from developments in China. We do this, partly, because China has been neglected in research on the music industries (with scholars often assuming a North Atlantic model of the music business and careers of popular musicians), and also to emphasize the increasing importance of East Asian companies, platforms, and practices within the global music industries. Fourth, we briefly extend this by introducing the idea of "platform musicians" to

illustrate how platforms are providing a new type of stage from which musicians may launch a career and connect with other performers and audiences.

We researched and completed this article during a period when commentators were reporting that platforms such as Spotify, Amazon, Tencent, and Apple, and various companies owned by Google, were seeking to build, develop, and acquire "tech infrastructures" and systems that would allow them to expand the scope and scale of streaming facilities. Music industry analyst Marc Mulligan presented reports to support his claim that a new type of live music industry is emerging that is combining businesses, practices, economies, and technologies from gaming, live streaming, and concerts.²

Such infrastructures were prefigured, developing earlier and more rapidly in the East Asian economies of Japan, South Korea, and China, with live streaming facilitated by a number of separate but related developments. A detailed discussion is beyond the scope of this article, but would include: strategic government investment in and state support for extensive digital, Internet, and 4G (and evolving 5G) infrastructures (Lee); the early incorporation of AI systems and smart technologies; the use of online-to-offline (O2O) models (by audiovisual platforms such as LeTV) and the growth of over-the-top (OTT) platforms (such as Tencent Video, iQiyi, and Youku) relaying audiovisual content outside of the traditional intermediaries of studios and broadcasting networks (in a way similar to that of Netflix); the adoption of smartphones and social media earlier than in other parts of the world (Choi; Jin); and the structural integration of fan engagement into social media platforms (Q. Zhang and Negus). East Asian platform "ecosystems" developed with extensive structural integrations with other media and services (Lee; Tse). Unlike the situation in Europe and North America, where platforms have tended to focus on discrete services or products, platformization in East Asia has advanced with linked

chains to related content such as karaoke, online literature, television and film, games, and music, while incorporating messaging apps, commercial services for a wide range of industries, the integration of online payment systems, and data services for governments.

Software interfaces designed to exploit the economies of experience and attention have been integral to strategies of platformization. Notable here, and important in the history of live streaming, is the development of *danmaku* in Japan, which translates as "bullet curtain," a participatory system whereby messages, slogans, and comments are overlaid live on the screen rather than featuring in a bulletin board list as in the linear conventions of western text in a newspaper or book. Originating in Japanese video game culture, *danmaku* challenges the hierarchy of content over comments associated with North American and European media. The system was popularized by Japanese company Nico Nico Douga, initially operating through YouTube in 2006 before the company set up its own platform in 2007. The comment system is sometimes referred to as "barrage" and has become a defining aspect of music video reception in East Asia, and a preferred way of watching that allows a viewer's experience to acquire an extended and visible sense of live engagement with other audience members (Chen and Chen).

As *dànmù* the practice took off among fan groups in China during 2008 on the platform Bilibili and was integrated into all platforms and video services. In Japan *danmaku* was influenced by the codes of manga, anime, and gaming in the way variously formatted text can be linked to images and action as it dynamically flows across the screen. In China *dànmù* was adopted in various creative and artistic ways, and sometimes used to make oblique political comments informed by irony, satire, and a knowing intertextuality that draws on subcultural codes that may be incomprehensible to those outside of small micro-communities (Yeqi).

Bullet curtains are an illustration of how comment becomes content in real-time live

streaming. Exchanges and witticisms can be propelled into the audiovisual content, and the imaginative interventions of the *dànmù* may be enjoyed more than a film, drama, or music video (Chen and Chen). The bullet curtains are a vivid articulation of interpretation and judgment occurring in real time; reactions of other viewers and listeners become the reason for watching. This is particularly so with talent shows, which have become an important and central format within the music industries of East Asia.

The talent show format has many antecedents in different parts of the world. We selectively focus on Chinese shows here as these are important for musicians and music industries within the platform attention economy, attracting huge numbers of viewers. Talent shows depend upon judgment, rivalry, and live comments that unfold in time. Initially associated with the pop idol industries of Japan and South Korea, the format became popular in China as fans of popular culture embraced the Korean wave or *hallyu* (Q. Zhang and Fung). Influential here were the narrative conventions, performing format, and voting procedures of *I Am a Singer* (*Wǒ Shì Gēshǒu*), which was developed in South Korea and then introduced into China in 2013, featuring professional (rather than amateur or upcoming) singers.

The CD was a commercial recorded music format in China for only a brief period of about six to seven years, and the growth of the East Asian talent show was premised upon the idea that "it is not so much CD sales that matter, but rather the manufacturing of pop stardom that smoothly traverses different media platforms, ideally including cinema, television, Internet and live performance" (Q. Wang and de Kloet 293). The talent show brings together the conventions of traditional performance and stagecraft, the music industry rituals of discovery and development, the upward narrative path of fame (from obscurity to stardom), and adjudications of artistic creativity and commercial worth. These are blended with the genre conventions of

reality television in representations of unscripted interaction.

The infrastructures of mobile communications, social media, and digital platforms are more developed than traditional touring and venue circuits, and the talent show has become a significant way that musicians reach fans and attain stardom in China (more so than in Europe and the United States, for example). The format has gradually encompassed a more inclusive range of genres, beyond an initial association with pop idols, and is strategically viewed as an important route for indie, rap, and dance musicians to break through beyond limited opportunities in small venues within local scenes and subcultures. *The Rap of China* (*Zhōngguó yǒu xīhā*) has facilitated the popularity of a type of mainstream, televisual Chinese rap. *Rave Now* (*Jī kèdiànyīn*) was introduced in 2018 as an electronic dance music talent show that allows viewers to see how music is created from turntables, laptops, files, and software, in a way that would not be visible at a club. *Rave Now* draws from reality show conventions when seeking to represent "behind-the-scenes" creative practices. Likewise, *I'm CZR--I'm Singer-Songwriter* (*Wǒ shì chàngzuòrén*) follows the narrative of a contestant from an early demo tape, through studio arrangement and production, to a final professional stage performance.

Similar narratives and realism conventions frame (what is officially translated as) *The Big Band* (*Yùeduìdèxìtiān*), an indie rock show streamed on the iQIY platform owned by Baidu, offering options for immersive viewing, interactive video, and *dànmù*. *The Big Band* has provided a space for young bands to be recognized, often after years of playing small local gigs, and to receive investment and product endorsement deals. The show has helped revive the indie rock scene and has connected some aging bands and performers with newer, younger audiences. For example, New Pants (*Xīnkùzi*) were formed in 1996, released their first album in 1998, yet only gained widespread fame as a "new act" after winning *The Big Band* in 2019. Success on the

talent show facilitated greater international recognition for the band, and New Pants benefited from the way music festivals have been integrated into platforms by Modern Sky, the largest independent music company in China and initiator of varieties of music streaming.

Chinese talent shows occupy a central place amongst a range of practices and formats within which platforms incorporate live streaming and seek to encourage real-time engagement. Talent shows incorporate moral, commercial, and aesthetic judgments (from serious dedicated fan support to a type of ironic detachment), and these become integral to real-time live experience, not only in the additional linked platforms that allow types of voting (and associated messaging) but also in the bullet-screen remarks that unfold as an aspect of the content of the shows (with viewers having the option to close these during a performance).

Talent show formats on streaming platforms bridge and blur the distinction between live and recorded, in a manner similar to the "live recording" and "live broadcast" referred to earlier. The performances on talent shows may be streamed synchronously (as they are taking place) or recorded in advance, along with narrative sections that provide a prelude to the performance. The recorded performances are then streamed to allow voting and live bullet-curtain participation. Voting is always live, and the audience responses integral to the experience, with viewers often taking more pleasure from live *dànmù* than from performances. Talent shows provide live music to those who may not have visited a gig venue (as do live broadcasts) and can give musicians access to a more conventional touring career on stage before audiences.

Talent shows have become part of a music industries infrastructure or ecosystem within which more than 100 streaming platforms provide opportunities for musicians to upload their recordings, and to stream performances and commentary. Musicians using these platforms - particularly short video platforms such as Douyin, TikTok, and Kuaishou - receive income from

the lucrative "virtual gifting" economy structured into online payment systems, which in turn provides high online visibility to those making extravagant gifts (X. Zhang, Xiang, and Hao). In certain respects, gifting is a more elaborate version of systems of voluntary donations and "pay what you want" that is becoming a feature of platforms hosting musicians around the world, and becoming a significant source of income for up-and-coming creative artists (and for platforms that host them and take a cut).

Music-related platforms in China - including short video platforms like TikTok, social media platforms like SinaWeibo, and music streaming platforms like QQ music - have attempted to generate content by initiating various projects to support and encourage musicians onto platforms. For example, in 2017 Tencent Music launched an "incentive project" to encourage indie musicians to upload their music to the corporation's platforms, allowing access to potentially 800 million monthly "active users" and paying out 590 million Yuan (approximately 84 million U.S. dollars) over three years (Stassen). Tencent announced additional projects to support more traditional folk and Chinese dialect music during 2020. However, this trend is not specific to China but is increasing around the world. Platforms allow performers to collaborate with other musicians, reach audiences and intermediaries, and gain recognition and reward, benefiting from gifting, advertising revenue, access charges, or donations. For platforms, musicians provide ever more content, and for musicians the platforms provide an arena for staging their work.

Digital music platforms, audiences, and the performers themselves have contributed to the construction of a new category of what we call "platform musicians" - a label that both challenges and extends the categories and identities of musicians that were previously shaped by the recording business ("recording artist") and events industries ("live performer"). The

emergence of "platform musicians" is perhaps the clearest indication of the impact of platformization on the popular music industry, and illustrates an important shift signaled in the title of this article; the platform becomes a stage, as the stage becomes a platform.

Concluding Comments

In this article we have traced how digital platforms and streaming broaden the meaning and experience of live music, extending the temporal qualities of liveness through media experienced in real time. This has consequences for musicians, for listeners, and for music industries, and may well open up a range of new possibilities that are still developing. We have inevitably offered a brief overview, and a snapshot, at a particular moment and raised a number of issues that we hope will provoke further research and discussion.

The platforms operated by digital conglomerates are expanding the ways that popular music is commodified through access to recordings, live concerts, streamed events or videos, and varieties of comment, while benefiting from integrated online payment systems and linked sales of merchandise, and while continuing to generate revenue through advertising, sponsorship, and data collection. In presenting our argument, we have used illustrations from research on the integration of platforms into the music industries of East Asia (in China particularly), suggesting that these dynamics and developments should be central to research on the changing international music industries since digitalization.

As various authors have shown in studies within North America and Europe (Gillespie, *Custodians*; Prey, "Nothing Personal"; Morris and Powers), the economies of digital platforms are premised on strategies of "personalizing" engagement with music, content, and social media more generally - using surveillance to track and collect data and to shape and direct listening and

viewing. Live streaming (in the broadest sense) and varieties of real-time interaction - exemplified by bullet-screen barrages - join other forms of engagement through which social media companies collect data, personalize recommendations, target adverts, and provide forms of "curated" content. Live concerts become part of recorded content (cut-up, edited, and circulated), and the recording is streamed, with varieties of participatory commentary, and becomes part of a real-time live engagement with music. The platformization of cultural production (Nieborg and Poell) was initially premised on the assumption that ever-more recorded content would keep people connected, and has increasingly incorporated varieties of real-time live engagement to extend and retain people's attention, and to keep us online.

At the beginning of this article we referred to how the Covid-19 pandemic caused much live music to move online, accentuating awareness of how real-time live experiences allow mediated interaction between listeners and musicians. Digital conglomerates and platforms have benefited financially from the pandemic, unlike many other music sectors, culture industries, and important businesses ("Prospering"). Prospering during difficult times for many of us, these companies continue to collect, package, and pass on the information, traffic, and data generated by our cultural and musical activities. These data are used, directly or indirectly, to sell us products and services, and inform wider state information campaigns across the administered worlds we must negotiate in daily life. In light of this, the social interaction, spontaneity, and sensuality of live music in specific places - whether the basement club, outdoor festival, or concert hall - have never seemed so important for our historical understanding and future engagement with popular music.

Notes

¹ There are no systematic data available on this. The figures here have been derived from ticket stubs that have been made available by collectors on various Internet sites, and from the price of albums reported in the 1978 *British Phonographic Industry Yearbook* (117), along with the memories of musicians who bought the album at the time (thanks to Tom Perchard and Laurence Saywood for discussions and help locating this information).

² See various entries on the MIDiA Research Blog during 2020, particularly "The Future of Live" and "Who Will Own the Virtual Concert Space?".

Works Cited

- Arditi, David. "Music Everywhere: Setting a Digital Music Trap." *Critical Sociology*, vol. 45, nos. 4-5, 2019, pp. 617-630. doi:10.1177/0896920517729192.
- Auslander, Philip. "Digital Liveness: A Historico-Philosophical Perspective." *PAJ Journal of Performance and Art*, vol. 34, no. 3, 2012, pp. 3-11. doi:10.1162/PAJJ_a_00106.
- . "Live from Cyberspace or, I Was Sitting at My Computer This Guy Appeared He Thought I Was a Bot." *PAJ: A Journal of Performance and Art*, vol. 24, no. 1, 2002, pp. 16-21.
- . *Liveness: Performance in a Mediatized Culture*. Routledge, 2008.
- Baxter-Moore, Nick. "'The Ties That Bind': Springsteen Fans Reflect on the Live Concert Experience." *Rock Music Studies*, vol. 3, no. 1, 2016, pp. 80-104. doi:10.1080/19401159.2015.1129831.
- Baxter-Moore, Nick, and Thomas Kitts. "The Live Concert Experience: An Introduction." *Rock Music Studies*, vol. 3 no. 1, 2016, pp. 1-4. doi:10.1080/19401159.2015.1131923.
- Behr, Adam, Matt Brennan, and Martin Cloonan. *The Cultural Value of Live Music, From the Pub to the Stadium*. University of Edinburgh / University of Glasgow / AHRC / Live Music Exchange, 2014.
- Behr, Adam, Matt Brennan, Martin Cloonan, Simon Frith, and Emma Webster. "Live Concert Performance: An Ecological Approach." *Rock Music Studies*, vol. 3, no. 1, 2016, pp. 5-23. doi:10.1080/19401159.2015.1125633.
- Bennett, Lucy. "Fandom, Liveness and Technology at Tori Amos Music Concerts: Examining the Movement of Meaning Within Social Media Use." *Experiencing Liveness in Contemporary Performance*, edited by Matthew Reason and Anja Mølle Lindelof, Routledge, 2016, pp. 48-59.

- . "Patterns of Listening Through Social Media: Online Fan Engagement with the Live Music Experience." *Social Semiotics*, vol. 22, no. 5, 2012, pp. 545-57.
doi:10.1080/10350330.2012.731897.
- BPI (British Phonographic Industry). *BPI Yearbook*. London: BPI, 1978.
- Chamorro-Premuzic, Tomas. "The Distraction Economy: How Technology Downgraded Attention." *The Guardian*, 15 Dec. 2014, <https://www.theguardian.com/media-network/media-network-blog/2014/dec/15/distraction-economy-technology-downgraded-attention-facebook-tinder>. Accessed 23 Apr. 2020.
- Chen, Xinru, and Zhuo Chen. "Between the Marked and the Unmarked: Twin Semiotic Paradoxes of the Barrage in China's Livestreaming Fandom." *Media, Culture and Society*, vol. 22, no. 4, 2019, pp. 727-44. doi:10.1177/0163443719876617.
- Choi, Jaz Hee-jeong. "Approaching the Mobile Culture of East Asia." *M/C: A Journal of Media and Culture*, vol. 10, no. 1, 2007, <http://journal.media-culture.org.au/0703/01-choi.php>. Accessed 4 February 2016 no doi.
- Conner, Thomas. "Hatsune Miku, 2.0Pac, and Beyond: Rewinding and Fast-Forwarding the Virtual Pop Star." *The Oxford Handbook of Music and Virtuality*, edited Sheila Whiteley and Shara Rambarran, Oxford UP, 2016, pp. 129-47.
- Connolly, Marie, and Alan Krueger. *Rockonomics: The Economics of Popular Music*. National Bureau of Economic Research Working Paper no. 11282. Cambridge, MA: National Bureau of Economic Research, 2005. <https://www.nber.org/papers/w11282>. Accessed 24 Aug. 2019.
- Danielsen, Anne, and Yngvar Kjus. "The Mediated Festival: Live Music as Trigger of Streaming and Social Media Engagement." *Convergence*, vol. 25 no. 4, 2019, pp. 714-34.

doi:10.1177/1354856517721808.

de Kloet, Jeroen, Thomas Poell, Zeng Guohua, and Yiu Fai Chow. "The Platformization of Chinese Society: Infrastructure, Governance, and Practice." *Chinese Journal of Communication*, vol. 12, no. 3, 2019, pp. 249-56. doi:10.1080/17544750.2019.1644008.

Eisenberg, Evan. *The Recording Angel*. Picador, 1987.

Eriksson, Maria, Rasmus Fleischer, Anna Johansson, Pelle Snickars, and Patrick Vonderau. *Spotify Teardown: Inside the Black Box of Streaming Music*. MIT P, 2019.

Freire-Gibb, Lucio Carlos. "The Rise and Fall of the Concept of the Experience Economy in the Local Economic Development of Denmark." *European Planning Studies*, vol. 19, no. 10, 2011, pp. 1839-53. doi:10.1080/09654313.2011.614391.

Frith, Simon. "Live Music Matters." *Scottish Music Review*, vol. 1, 2007, pp. 1-17.

---. "Playing for Nothing." *Live Music Exchange Blog*, 13 Feb. 2014, <https://livemusicexchange.org/blog/playing-for-nothing-simon-frith>. Accessed 24 Mar. 2018.

Frith, Simon, Matt Brennan, Martin Cloonan, and Emma Webster. *The History of Live Music in Britain Volume 1: 1950-1967 from Dance Hall to the 100 Club*. Ashgate, 2013.

---. *The History of Live Music in Britain Volume 2: 1968-1984 from Hyde Park to the Hacienda*. Ashgate, 2019.

---. *The History of Live Music in Britain Volume 3: 1985-2015 from Live Aid to Live Nation*. Routledge, 2021.

"The Future of Live." *Music Industry Blog*, 20 May 2020.

<https://musicindustryblog.wordpress.com/2020/05/20/the-future-of-live/>. Accessed 1 Nov. 2020.

- Gagen, Justin, and Nicholas Cook. "Performing Live in Second Life." *The Oxford Handbook of Music and Virtuality*, edited by Sheila Whiteley and Shara Rambarran, Oxford UP, 2016, pp. 191-209.
- Gauvin, Hubert Léveillé. "Drawing Listener Attention in Popular Music: Testing Five Musical Features Arising from the Theory of Attention Economy." *Musicae Scientiae*, vol. 22, no. 3, 2018. pp. 291-304. doi:10.1177/1029864917698010.
- Gillespie, Tarleton. *Custodians of the Internet: Platforms, Content Moderation, and the Hidden Decisions That Shape Social Media*. Yale UP, 2018.
- . "Platforms Intervene." *Social Media + Society*, Apr. 2015, pp. 1-2.
doi:10.1177/2056305115580479.
- Hagen, Anja. "The Playlist Experience: Personal Playlists in Music Streaming Services." *Popular Music and Society*, vol. 38, no. 5, 2015, pp. 625-45.
doi:10.1080/03007766.2015.1021174.
- Helmond, Anne. "The Platformization of the Web: Making Web Data Platform Ready." *Social Media + Society*, July 2015, pp. 1-11. doi:10.1177/2056305115603080.
- Jia, Lianrui, and Dwayne Winseck. "The Political Economy of Chinese Internet Companies: Financialization, Concentration, and Capitalization." *International Communication Gazette*, vol. 80, no. 1, 2018, pp. 30-59. doi:10.1177/1748048517742783.
- Jin, Dal Yong. *Smartland Korea: Mobile Communication, Culture, and Society*. U of Michigan P, 2017.
- Johansson, Ola, and Thomas Bell. "Touring Circuits and the Geography of Rock Music Performance." *Popular Music and Society*, vol. 37, no. 3, 2014, pp. 313-37.
doi:10.1080/03007766.2013.798554.

- Jones, Angela Cresswell, and Rebecca Jane Bennett, editors. *The Digital Evolution of Live Music*. Waltham, MA: Chandos Publishing, 2015.
- Joven, Jason. "Spotify: The Rise of the Contextual Playlist." *Beats & Bytes*, 13 Mar. 2018, <https://blog.chartmetric.com/spotify-the-rise-of-the-contextual-playlist>. Accessed 12 Apr. 2020.
- Katz, Mark. *Capturing Sound: How Technology Has Changed Music*. U of California P, 2004.
- Keith, Sarah, Diane Hughes, Denis Crowdy, Guy Morrow, and Mark Evans. "Offline and Online: Liveness in the Australian Music Industries." *Civilisations*, vol. 13, 2014, pp. 221-41.
- Kelleher, John, and Brendan Tierney. *Data Science*. MIT P, 2018.
- Kjus, Yngvar, and Anne Danielsen. "Live Mediation: Performing Concerts Using Studio Technology." *Popular Music*, vol. 35, no. 3, 2016, pp. 320-37.
doi:10.1017/S0261143016000568.
- Krueger, Alan. "The Economics of Real Superstars: The Market for Rock Concerts in the Material World." *Journal of Labor Economics*, vol. 23, no. 1, 2005, pp. 1-30.
doi:10.1086/425431.
- . "Land of Hope and Dreams: Rock and Roll, Economics, and Rebuilding the Middle Class." *Obama White House Archives*, 12 June 2013, https://obamawhitehouse.archives.gov/sites/default/files/docs/hope_and_dreams_-_final.pdf. Accessed 23 July 2019.
- . *Rockonomics: How the Music Industry Can Explain the Modern Economy*. John Murray, 2019.
- Lamere, Paul. "The Skip." *Music Machinery*, 2 May 2014,

- <https://musicmachinery.com/2014/05/02/the-skip>. Accessed 5 Oct. 2014.
- Leavitt, Alex, Tara Knight, and Alex Yoshiba. "Producing Hatsune Miku: Concerts, Commercialization, and the Politics of Peer Production." *Media Convergence in Japan*, edited by Patrick Galbraith and Jason Karlin, Kinema Club Book, 2016, pp. 200-29.
- Lee, Jung-Yup. "Contesting the Digital Economy and Culture: Digital Technologies and the Transformation of Popular Music in Korea." *Inter-Asia Cultural Studies*, vol. 10, no. 4, 2009, pp. 489-506. doi:10.1080/14649370903166143.
- Li, Jinying. "The Interface Affect of a Contact Zone: Danmaku on Video-Streaming Platforms." *Asiascape: Digital Asia*, vol. 4, 2017, pp. 233-56. doi:10.1163/22142312-12340079.
- Marshall, Lee. "'Let's Keep Music Special--F-Spotify': On-Demand Streaming and the Controversy Over Artist Royalties." *Creative Industries Journal*, vol. 8, no. 2, 2015, pp. 177-89. doi:10.1080/17510694.2015.1096618.
- Miller, Daniel, Elisabetta Costa, Nell Haynes, Tom McDonald, Razvan Nicolescu, Jolynna Sinan, Juliano Spyer, Shiram Venkatraman, and Xinyuan Wang. *How the World Changed Social Media*. U College London P, 2016.
- Morgan, Harry. *Music, Society, and Spectacle in Ancient Rome, 168BC-68AD*. 2018. University of Oxford, PhD dissertation.
- Morris, Jeremy. "Music Platforms and the Optimization of Culture." *Social Media + Society*, July 2020, pp. 1-10. doi:10.1177/2056305120940690.
- . *Selling Digital Music, Formatting Culture*. U of California P, 2015.
- Morris, Jeremy, and Devon Powers. "Control, Curation and Musical Experience in Streaming Services." *Creative Industries Journal*, vol. 8, no. 2, 2015, pp. 106-22. doi:10.1080/17510694.2015.1090222.

Morrow, Guy. "Distributed Agility: Artist Co-Management in the Music Attention Economy."

International Journal of Arts Management, vol. 20, no. 3, 2018, pp. 38-48.

Mosco, Vincent. *To the Cloud: Big Data in a Turbulent World*. Paradigm Publishers, 2014.

Murray, Albert. *Stomping the Blues*. McGraw-Hill, 1976.

Negus, Keith. "From Creator to Data: The Post-Record Music Industry and the Digital

Conglomerates." *Media, Culture and Society*, vol. 41, no. 3, 2019, pp. 367-84.

doi:10.1177/0163443718799395.

Nieborg, David, and Thomas Poell. "The Platformization of Cultural Production: Theorizing the

Contingent Cultural Commodity." *New Media & Society*, vol. 20, no. 11, pp. 4275-92.

doi:10.1177/1461444818769694.

Pareles, Jon. "Pop in the Era of Distraction." *New York Times*, 26 Dec. 2018,

<https://www.nytimes.com/2018/12/26/arts/music/pop-music-social-media-distraction.html>. Accessed 12 Dec. 2019.

Peirson-Hagger, Ellen. "Can Live Streaming Save the Music Industry in Lockdown?" *New*

Statesman, 7 Apr. 2020, [https://www.newstatesman.com/culture/music-](https://www.newstatesman.com/culture/music-theatre/2020/04/can-live-streaming-save-music-industry-lockdown)

[theatre/2020/04/can-live-streaming-save-music-industry-lockdown](https://www.newstatesman.com/culture/music-theatre/2020/04/can-live-streaming-save-music-industry-lockdown). Accessed 8 May 2020.

Pine, B. Joseph, II, and James H. Gilmore. "Welcome to the Experience Economy." *Harvard*

Business Review, vol. 76, no. 4, July-Aug. 1998, pp. 97-105.

Prendergast, Mark. *Ambient Century: From Mahler to Moby*. Bloomsbury Publishing, 2003.

Prey, Robert. "Locating Power in Platformization: Music Streaming Playlists and Curatorial

Power." *Social Media + Society*, Apr. 2020, pp. 1-11. doi:10.1177/2056305120933291.

---. "Musica Analytica: The Datafication of Listening." *Networked Music Cultures*, edited by

- Raphaël Nowak and Andrew Whelan, Palgrave, 2016, pp. 31-48.
- . "Nothing Personal: Algorithmic Individuation on Music Streaming Platforms." *Media, Culture and Society*, vol. 40, no. 7, 2018, pp. 1086-1100.
doi:10.1177/0163443717745147.
- "Prospering in the Pandemic: The Top 100 Companies." *Financial Times*, 19 June 2020,
<https://www.ft.com/content/844ed28c-8074-4856-bde0-20f3bf4cd8f0>. Accessed 19 June 2020.
- Schafer, R. Murray. *The Soundscape: Our Sonic Environment and the Tuning of the World*, Destiny Books, 1994.
- Schwarz, Jonas. "Platform Logic: An Interdisciplinary Approach to the Platform-Based Economy." *Policy and Internet*, vol. 9, no. 4, 2017, pp. 374-94. doi:10.1002/poi3.159.
- Simon, Herbert. "Designing Organizations for an Information-Rich World." *Computers, Communications, and the Public Interest*, edited by Martin Greenberger, Johns Hopkins UP, 1971, pp. 38-72.
- Stassen, Murray. "Tencent Music Pays Indie Artists Over \$84m Via 'Incentive Project.'" *Music Business Worldwide*, 27 July 2020. <https://www.musicbusinessworldwide.com/tencent-music-pays-indie-artists-over-84m-via-incentive-project>. Accessed 23 Oct. 2020.
- Steinberg, Marc. *The Platform Economy: How Japan Transformed the Consumer Internet*. U of Minnesota P, 2019.
- Sundbo, Jon, and Flemming Sørensen. "Introduction to the Experience Economy." *Handbook on the Experience Economy*, edited by Jon Sundbo and Flemming Sørensen, Edward Elgar Publishing, 2013, pp.1-20.
- Tambling, Jeremy. "Introduction: Opera in the Distraction Culture." *A Night In at the Opera*,

- edited by Jeremy Tambling, John Libbey, 1994, pp. 1-23.
- Théberge, Paul. *Any Sound You Can Imagine: Making Music / Consuming Technology*. Wesleyan UP, 1997.
- Tschmuck, Peter, Philip Pearce, and Steven Campbell, editors. *Music Business and the Experience Economy: The Australian Case*. Springer-Verlag, 2013.
- Tse, Edward. *China's Disruptors: How Alibaba, Xiaomi, Tencent, and Other Companies Are Changing the Rules of Business*. Penguin, 2015.
- Wang, Amy. "How Instagram Is Deciding the Future of Concerts and Live Music." *Rolling Stone*, 29 Sept. 2018, <https://www.rollingstone.com/music/music-features/instagram-concert-design-social-media-719042>. Accessed 4 Feb. 2020.
- Wang, Qian, and Jeroen de Kloet. "From 'Nothing to My Name' to 'I Am a Singer': Market, Capital, and Politics in the Chinese Music Industry." *Handbook of Cultural and Creative Industries in China*, edited by Michael Keane, Edward Elgar, 2016, pp. 293-310.
- Wang, Wilfrid Yang, and Ramon Lobato. "Chinese Video Streaming Services in the Context of Global Platform Studies." *Chinese Journal of Communication*, vol. 12, no. 3, 2019, pp. 356-71. doi:10.1080/17544750.2019.1584119.
- Ward, Andrew. "The Problem with Pepper's Ghost: Incorporating Pseudo-Holographic and Holophonic Technology Into the Contemporary Music Performance Space." *Proceedings of the Korean Electro-Acoustic Music Society Annual Conference*, Seoul, Korea, 2-3 Oct. 2015.
- Westgate, Christopher Joseph. "Popular Music Fans and the Value of Concert Tickets." *Popular Music & Society*, vol. 43, no. 1, 2020, pp. 57-77. doi:10.1080/03007766.2019.1601152.
- Whitby, Richard. *The Arena Spectacular from Ben Hur Live to Isles of Wonder: Adaptation*,

- Post-Cinema and the Postcivil*. 2016. Birkbeck, University of London, PhD dissertation.
- "Who Will Own the Virtual Concert Space?" *Music Industry Blog*, 28 Aug. 2020, <https://musicindustryblog.wordpress.com/2020/05/20/the-future-of-live/>. Accessed 1 Nov. 2020.
- Yasuda, Masahiro. "Japan." *The International Recording Industries*, edited by Lee Marshall, Routledge, 2013, pp. 153-72.
- Yeqi, Zhu. "Intertextuality, Cybersubculture, and the Creation of an Alternative Public Space: 'Danmu' and Film Viewing on Bilibili.com Website--a Case Study." *European Journal of Media Studies*, vol. 6, no. 2, 2017, pp. 37-54. doi:10.25969/mediarep/3399.
- Yin, Yiyi. "Vocaloid in China: Cosmopolitan Music, Cultural Expression, and Multilayer Identity." *Global Media and China*, vol. 3, no. 1, 2018, pp. 51-66.
- Zaborowski, Rafal. "Hatsune Miku and Japanese Virtual Idols." *The Oxford Handbook of Music and Virtuality*, edited by Sheila Whiteley and Shara Rambarran, Oxford UP, 2016, pp. 111-28.
- Zhang, Qian, and Anthony Fung. "Fan Economy and Consumption: Fandom of Korean Music Bands in China." *The Korean Wave: Evolution, Fandom and Transnationality*, edited by Tae-Jin Yoon and Dal Yong Jin, Lexington Books, 2017, pp. 129-44.
- Zhang, Qian, and Keith Negus. "East Asian Pop Music Idol Production and the Emergence of Data Fandom in China." *International Journal of Cultural Studies*, vol. 23, no. 4, 2020, pp. 493-511. doi:10.1177/1367877920904064.
- Zhang, Xiaoxing, Yu Xiang, and Lei Hao. "Virtual Gifting on China's Live Streaming Platforms: Hijacking the Online Gift Economy." *Chinese Journal of Communication*, vol. 12, no. 3, pp. 340-55. doi:10.1080/17544750.2019.1583260.

Author Information

Zhang Qian, corresponding author.

School of Music and Recording Arts
Communication University of China
No 1 Dingfuzhuang East Street
Chaoyang District
Beijing 100024, PR China
Email: zhangqian_cuc@cuc.edu.cn
Zhang - orcid.org/0000-0003-4429-8833

Keith Negus

Music Department
Goldsmiths, University of London
New Cross
London SE14 6NW
UK
Email: K.Negus@gold.ac.uk
Negus - orcid.org/0000-0003-3408-5551

Qian Zhang is an Associate Professor at the School of Music and Recording Art, Communication University of China (CUC), in Beijing, and was Visiting Scholar at Massachusetts Institute of Technology, 2018-19. She specializes in Chinese popular music and the music industries. Her research includes studies of vernacular musics and heritage in China, yellow and red music during the Cold War, fandom and audiences, music genres and historical change, digitalization and social media, and contemporary soundscapes. She has published extensively in Chinese, along with book chapters and journal articles in English and Korean.

Keith Negus is Professor of Musicology, Goldsmiths, University of London. He is the author of *Producing Pop* (1992), *Music Genres and Corporate Cultures* (1999) and *Bob Dylan* (2008) and co-author of *Creativity, Communication and Cultural Value* (2004). He has collaborated on studies of culture, music and technologies, notably *Doing Cultural Studies: The Story of the Sony Walkman* (1996, 2013) and on 'Digitisation and the Politics of Copying in Popular Music Culture' within the UK Research Council's CREATE programme with John Street and Adam Behr.

No potential conflict of interest is reported by the authors.