

Playing It By Ear: Improvised Music Livestreaming During COVID-19

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Abstract

The beginning of the COVID-19 pandemic in March 2020 was marked by widespread improvisatory practice, be those teachers and students improvising to accommodate online learning or individuals improvising safety tactics to avoid catching the virus. Within mere weeks of the pandemic rendering in-person concerts untenable, music communities adopted livestreaming on Twitch as an alternate mode of throwing events. This thesis studies a time of mass improvisation by examining how communities built around improvised music — which themselves are often supported by improvisatory DIY event organizing practices — adapted from in-person livestreamed events. Focusing on a period ranging roughly from the beginning of the COVID-19 lockdowns to the advent of the racial justice uprisings following George Floyd’s murder by the hands of police, this study shows how musicians, organizers, and audiences congregating in jazz, experimental music, and DJ scenes created a widespread, dispersed livestreaming infrastructure that became, at once, an artistic outlet, a community gathering place, and a formidable fundraising mechanism. Such infrastructure was synthesized from three unique components: extent technology and livestreaming practices, social formations that spring from improvised music and improvisatory DIY organizing, and community bonds that were unique to these music scenes.

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shaped the intellectual underpinnings of this project, but how music exists as part of my life overall.

Most importantly, I want to thank the participants in this study, who were remarkably generous, offering their time, their experience, and their feelings. Not only did their insight make this study what it is, but those conversations were some of the first interactions I had with strangers after spending the early months of the pandemic isolated. I never expected that the interactions I was afforded during this research would be a lifeline during such a confusing, lonely time, and I feel all the more indebted to the participants in this study because of it. My biggest hope with this work is that this research proves as valuable to the people who participated in it and the communities that I studied as those people and communities proved to me during this weird, dark time.

Introduction

Our ticket is to get ourselves together as a body. They got the thing set up in a certain way, but they can't control us, because we have the music, and this is what they're after. Now, if that's not a good reason for organizing, I don't know what is.

— Muhal Richard Abrams, 1965¹

Muhal Richard Abrams said this on May 29th, 1965, at an early meeting of what would become the Association for the Advancement of Creative Musicians. The quote comes from George E. Lewis's book *A Power Stronger Than Itself*, the definitive history of the long-running, internationally influential free jazz organization, AACM. The context here is economic collapse: black people on the South Side were bearing the brunt of deindustrialization and the city government disinvesting in their communities, leaving Black communities to crumble. Jazz clubs there were vanishing in the mid-1960s, and the ones that still operated were interested in outmoded versions of the genre. In this thesis, like Abrams, I will be talking about music, about control, about the disenfranchisement of some people because of their bodies, about what happens when people organize in a body. And, much like Abrams, I will be talking about improvising in crisis. His are from words over 50 years ago but might not sound out place were a musician to say them today.

I am lucky that this thesis will be submitted just a few days after I have received my second dose of the Pfizer vaccine for COVID-19, a disease that defined the past 14 months, changing our lives and our world. Little did I know at the outset of my master's program that about two-thirds of it would be conducted remotely from my off-campus apartment just over a 10-minute walk from campus. Little did I know either that live in-person music would evaporate overnight,

¹ George Lewis, *A Power Stronger Than Itself: The AACM and American Experimental Music* (Chicago: University of Chicago Press, 2008), 114.

which for me was one of the most essential parts of my life. It has given me inspiration, dear friends, and a different way of seeing the world, one where cooperative heterogenous kinship provides a reprieve from so many of the challenges, responsibilities, and hulking structures that can make contemporary life feel so relentlessly demanding.

When the coronavirus was escalating to pandemic levels in March of 2020, it violently shook so many of the rickety structures in our society and lives, and the ensuing collapse was frightening. Before the sluggish implementation of a social safety net by way of eviction moratoria, expanded unemployment benefits, and stimulus checks, and with precious little medical knowledge guiding public safety protocols, we were left to our own devices. We barely left the house, and tried to stay far away from others on the sidewalk when we did. The supermarket was a site of macabre projection where it was easy to imagine every person you encountered was infected and they were transmitting the disease; you could only watch in horror as someone maskless took their time squeezing avocados to find the perfectly ripe ones. Supply chains buckled under panicked hoarding, schools shut down, workers who could work online did while those that could not were furloughed. Public spending plummeted through a combination of lost wages and fear of going just about anywhere, and businesses and institutions quickly felt the financial strain, in some cases shutting down nearly immediately.

Among all of this, the music stopped. Concerts were made impossible, as gathering in any kind of group whatsoever was out of the question. Musicians cancelled tours and gigs that they relied on for pay and local scenes suddenly had no social gathering place. I had so many conversations with friends over text in those early days when we talked about the last show we attended, how people there probably had COVID and we had no idea that it was already spreading, how it really looked like it would be a while before we could go to shows again. My

last concerts were a multi-room dance party in Dorchester where I remember sitting on the floor in the ambient room having a wonderful conversation with Ben Silverman, a grad student in my program the year above me, and then a Destroyer concert at The Sinclair in Harvard Square with tickets that I bought my girlfriend for her birthday. All I could really think of when reflecting on those shows in the early weeks of the pandemic was the particle fog in those rooms. I could do little but hope there was nothing sinister incubating in my system.

Yet, strikingly early in this pandemic, there were music livestreams. People were playing solo sets or collaborating with roommates. There were DJs setting up intimate camera angles of their hands bathed in purple light. I found my friends in the chats of Twitch streams, and we had an opportunity to connect as a group and start to make sense of the chaos together. It became clear that this was a response of sorts. The initial idea for this thesis was to study how things crumbled; I thought that if I could learn how live music collapsed, it would tell me something about the cracks in the foundation of our capitalist society at large. In some sense, that is the thesis that I wrote, but I am so glad that I did not spend the past year of research simply cataloging destruction.

What became clear watching those early livestreams was that music communities were finding new ways of life on the fly, and it became hard not to see this happening everywhere else around me. Schools were rapidly adopting internet technologies to conduct class. Families were rearranging work lives to become full-time caretakers of children. Mutual aid fundraising networks and community fridges were springing up all around America to help people make it during a time when work and pay had evaporated. Healthy people were shopping for the immunocompromised. Crafty people with sewing machines started making and distributing cloth masks. We were improvising at a baffling pace and a humbling scale.

The music livestreams I was participating in were the result of improvisation too. Not only were they organized, promoted, and conducted by vast numbers of people with limited experience on the format within weeks of venues shutting down, but they very often featured improvised music too. I came to realize that if I could study the ways that communities forming around improvised music *themselves* improvised to adapt to the pandemic, I could begin to understand how we all, as a society at large, were improvising. In retrospect, it is remarkable how rapidly we began to adapt when routines disappeared and our structures proved shakier than we realized. What could we learn from those creative communities who build that kind of adaptive response into their artistic practice, as well as the audiences who love that expression and create a vibrant context for it, and the organizers who find ways to bring together those artists and that audience? Communities that gather around improvised music are particularly well disposed to dealing with contingency and thriving amid change. In other words, those communities are not just expert at improvising in music, but demonstrate acuity at improvising in life.

Granted, I was not so clever to notice this link immediately. In fact, I was months deep into data collection before I really understood what I was seeing. On Memorial Day of 2020 in Minneapolis, Minnesota, George Floyd was murdered by the police officer Derek Chauvin, who knelt on Floyd's neck for 8 minutes and 46 minutes. Chauvin and three fellow officers were responding to a 911 call from a convenience store clerk who claimed that Floyd had used a counterfeit 20-dollar bill to make a purchase. Protests broke out in Minneapolis, quickly spurring a nation-wide uprising rooted in the Black Lives Matter movement, calling for police departments across the country to be defunded. Just a few months after American streets went eerily quiet when we largely voluntarily enacted social distancing measures to stop the spread of

the coronavirus, we had decided to take to those stress *en masse* and in masks to demand racial justice for our Black compatriots, with hegemony flagging as the powers that be in the country demonstrated wild indifference to the preciousness of human life in a shocking variety and thoroughness of ways.

What happened in music reflected developments in the country at the time, with attention, money, and effort quickly shifting to the protest movement. Livestreams that were formerly raising funds for gigging musicians and nightlife laborers who found themselves out work transitioned to raising money for bail funds and Black musicians in need. There became an imperative in online event booking to raise up Black voices and put money in the pockets of Black performers directly, which ranged from booking Black people on livestreams to supporting Black artists on Bandcamp to sharing Black musician's Venmo handles directly in the chat of livestreams they were playing. Some livestreams were cancelled in the early days of protest so as not to distract from the struggle for racial justice, while others positioned themselves as directly in support of the Black Lives Matter movement and call for abolition, and still others yet saw ran to give people returning home from a long day of protests a place to unwind and recharge with friends.

This thesis is called "Playing It By Ear" because that's what we were all doing in those early days of the pandemic. It was in this moment, when I saw music communities online and people in cities across the country coordinated in their improvised adaptation to this exploding movement, that I realized what in fact I had been observing in the music community all along. There, I saw a microcosm of the types of improvisatory behaviors and tactics deployed at large. As much as this is a study of improvisation and music, it is one of trauma and resilience, isolation and community, despondence and creativity.

Scope of Thesis

The question that animated this study when I first embarked on it is still the question that seems to get at the heart of the matter now: how did these music livestreams start so quickly after the lockdown, spread so rapidly in a matter of weeks, and mold so quickly to the needs of the communities involved? And how did those livestreams change during the racial justice uprisings spurred by George Floyd's murder?

What I learned is that music communities created a new structure through improvisation, working to adapt existing community and organizing structures. They improvised a new virtual way of doing things they used to do offline. This worked because improvisation needs structure and those communities had old structures from in-person scenes. Yet, the phenomenon at hand also reflects a wider scale *lack of structure*, where communities had to scramble to put together a new way of life and look after their own when the bottom fell out at the beginning of the pandemic. When structure exists, it can foster wild creativity and create safety for bodies who bear the brunt of intolerance and structural violence. Yet, when that structure to support improvisation does not exist, precarity persists, putting vulnerable people in danger. Echoing Muhal Richard Abrams — organization, structure — that's what creates the conditions for the people improvising to thrive.

The period of time I focus on ranges from the beginning of the pandemic lockdowns in March of 2020 through the early weeks of the racial justice uprisings in June 2020. It was a strange period of time when life seemed to be moving glacially indoors — as we were trapped at home with little idea of when we might go outside again — yet moving rapidly in the world, as so much was quickly deteriorating. It is also a natural set of bookends for a formative period in music livestreaming, when communities first adapted offline practices to the online realm, and then adapted that new way of doing things online to the exigencies of *another* emerging crisis.

Music livestreaming has now settled into something of a groove, occurring regularly with weekly or even daily streams attracting a comfortable community with larger events taking the place of festivals; yet this early period I chronicle was one where things were new and odd, when people were trying to make sense of a lot, before codes were set. In some sense, this is an ethnographic study that mirrors William Uricchio's historical studies into time periods when certain media were new and a lot was up for grabs.²

Even though the category of improvised music may sound broad, it refers to a very specific subset of music, yet one that featured centrally in livestreaming. When this study refers to improvised music, it effectively refers to two macro-styles: instrumental music and DJed music. The instrumental music can be defined by a fairly broad range of genre signatures such as jazz (especially avant-garde jazz), noise music, and experimental music. Events often feature more than one of these genres, and they each work well in livestreaming because they are conducive to solo performance or small groups of performers who may live together or have formed a social pod. DJed music falls into the broad category of *dance music*.

Of course, *dance music* is an odd term, as music and dancing go hand in hand for all of human history, and today you will still be hard pressed to find a type of music that *no one* dances to. Yet, in the colloquial American sense that I use the term *dance music*, it refers to the broad swath of rhythmic electronic music that traces its origins to Chicago house music, music that is most often not performed live, but mixed together by a DJ who is choosing records in real time both according what the people dancing seem to desire and how that DJ wants to guide those people dancing. With both instrumental improvised music and DJing, performance often relies

² See William Uricchio, "Television's First Seventy-Five Years: The Interpretive Flexibility of a Medium in Transition," in *The Oxford Handbook of Film and Media Studies*, ed. Robert Phillip Kolker, Oxford Handbooks (New York: Oxford University Press, 2008).

on context. The DJ receives environmental and social cues from the audience and space, and improvises to harmonize these factors with music.

Often during livestream events, both improvised instrumental music and DJing would be programmed side by side. Even though Jazz on the Grill, one of the case studies analyzed in this thesis, largely programmed jazz, experimental music, and noise music, it also often featured DJs. Likewise, many Twitch streams organized for the dance music community often featured improvisational synthesizer music as something of a palette cleanser between DJs sets.

There is a vast amount of livestreamed music that occurred in the period of time. To give a sample of the types of livestreams outlined in my notes, there were paid, ticketed concerts with high-profile acts on the website StageIt; an incredibly popular series on Instagram Live called Verzuz that would feature a battle-of-the-bands style competition between two hip-hop or R&B luminaries each episode; festivals thrown in the videogame Minecraft complete with custom-built performance structures and line-ups ranging from around a dozen performers to around one-hundred; performances staged by stars such as Travis Scott and Diplo in the videogame Fortnite; a days-long party hosted by online music magazine and ticketing vendor Resident Advisor seemingly meant to simulate the experience of clubbing all weekend long, featuring a complex user interface that included a virtual bathroom where attendees could scrawl graffiti on the wall; regular “Dinner and a Movie” streams coordinated by Phish where they invited fans to cook a recipes posted to their blog and watch a free archival broadcast of a past concert; a series hosted by the Brooklyn nightclub Nowadays that a custom-built video livestreaming and chat client on its website; and Principles of Non-Isolation in Audio, an audio-only livestream of experimental improvisers using a special server configuration to hear one-another in real time, without the time delay typical of streamed audio or video.

Granted, most of those events are excluded from the scope of this study. I narrow my focus to Twitch because that is where music livestreaming was most prolific, thanks in large part to the scenes and communities that adopted the platform as a substitute for their in-person events. This study excludes all music that does not fit into the paradigm for improvised music I have outlined, as well as many of the corporatized or commercialized livestreams and anything that did not broadcast on Twitch. My observations and interviews did include two different Minecraft parties, as these are relevant forerunners to the pandemic streams that mainly featured dance music and viewed the Twitch feed showing the Minecraft party as a crucial accessible space for audiences where audiences without a copy of the game could still enjoy the show and socialize around it.

Finally, this thesis focuses on the DIY realm — short for Do It Yourself — which exists offline as an alternative to commercial clubs in the dance music world and institutionalized non-profit spaces in the jazz and experimental music worlds. The DIY scene is less a music community than a pan-genre logic for organizing concerts that typically lacks the profit-generating or canon-making imperatives found in the commercial and institutional spaces, using a set of improvisatory practices to present concerts in unconventional spaces on a shoe-string budget with the explicit content of fostering music scenes as community gathering places. Often, when people talk about “underground music” this is what they are referring to, and such scenes are not just incubators of new sounds and nascent styles, but havens for people who feel excluded from other spaces, be those on account of their aesthetic preferences, their racial or gender identity, or their aversion to the normativity imposed on music by markets and grant fundraising. There is fluidity between the DIY and commercial realms, and these days there are few ideologues in either camp. DIY organizers tend to have an eye for ripe structure, such as an unconventional space that would make host a good party, and this helps explain why Twitch

became a vital site for these DIY enclaves online when they could no longer gather in person. Such utilitarian opportunism helps square the circle when reconciling why a consummately non-commercial set of practices like DIY adapted so quickly to a platform that is owned and operated by Amazon, one of the most ubiquitous and powerful corporations of all.

Methodology

My ethnography entailed several methods that gave me a robust picture of not just the relatively narrow slice of music livestreaming I study, but vital context for it.³ It started as a series of observations while sitting at home in the early days of the pandemic, tuning into every livestream I could find while logging every social media post I encountered that advertised one into the Notes app on my iPhone. From that list, I culled an archive of flyers, or colorful informational images shared on Twitter and Instagram to capture attention and broadcast logistics about the shows, such as line-up, broadcast time, link, and who the funds were being raised for. I also used this Notes app list to snowball my study, returning to those social media accounts over time to see what other livestreams they were advertising or involved with. Observing livestreams entailed taking notes about music, visual presentation in the video, and what was happening in the chat.

I interviewed 11 gracious participants over Zoom who I am grateful to say were candid and deeply thoughtful. They were based in different parts of North America, including the West coast, the coastal South, the Rust Belt, the Midwest, and Canada. These were organizers, performers, and audience members, yet, to my surprise, none of them ever assumed only one role, and most of them assumed all three. Demographically, their ages range from 24 to 41, four

³ For any ethnographic novice reading this, as I was when this study began, I should recommend the book that taught me everything I know about the practice: Boellstorff, Tom, Bonnie Nardi, Celia Pearce, and T.L. Taylor. *Ethnography and Virtual Worlds: A Handbook of Method*. Princeton: Princeton University Press, 2012.

are people of color, five identify as queer in one way or another, including trans and non-binary folk, and there were two married couples who perform together and sat for group interviews. I have obscured all of their identities using initials instead of their names, but preserved their pronouns. These are the only people I pseudonymize in this thesis.

Given the range of gender identities across participants in this study, I have elected to use the gender-neutral pronoun “they” whenever referring to someone whose gender identity I have not been able to ascertain. I have also obscured the names of the events and series they were involved with, choosing pseudonymous titles instead. These events include the instrumental improvised music series *Jazz on the Grill*; the broadcast of archival jazz performances *Hot Fusion*; the Minecraft parties *Grave.Site* and *Club Crosssandwich*; the dance music series *Biosphere III*; and the DJ duo livestream *Cactus Care*. All other events are listed by their real titles.

I chose events and invited participants for this study based on what I felt was their representativeness of certain facets of music livestreaming, ranging from the most ambitious events to the ones that were just a single person streaming themselves. Some were massive endeavors that were core to the music livestreaming landscape. *Jazz on the Grill* was an extremely prominent series that was organized by a national network of venues and curators, running nightly for a period of months and collecting hundreds of thousands of dollars in donations. Similarly, *Grave.Site* and *Club Crosssandwich* operated at huge scales, attracting thousands of audience members each event, and had been successfully running before the pandemic, seeing a significant spike in attendance after the initial lockdowns. Yet, there were a much larger proportion of series and events that were forums for specific smaller communities or friend groups, such as *Hot Fusion* and *Biosphere III*. Such events were much more informal and

their chat dynamic often felt more tailored to a specific social group, so studying these smaller events was helpful for understanding the nuance of the social dynamics behind this music livestreaming boom. Finally, I also elected to interview performers who simply broadcast themselves and consistently attracted robust attendance, such as the Cactus Care series, Sun Tate, and Ursa Viola. These livestreams featuring a single performer tended to have a similar social dynamic to the events series rooted in small social groups, but since they did not demand the kind of planning of a more formal concert with a multi-artist line-up, I was curious to learn how these performers understood their practice as part of a scene.

During this study, I also draw from my own experiences as a musician, participant, and organizer in offline DIY scenes, as well as organizer of a series of livestreams through my website Groove Café. Like so many of the people I talked to for this study, I launched those streams in the early days of the pandemic, flying by the seat of my pants, purely as a way of connecting with musicians and friends who I love and terribly missed. Also like so many, I initially ran these streams as fundraisers for performing artists who lost out on gigs, and transitioned to donating funds to mutual aid and bail funds. I learned a lot about the technical and logistical intricacies of these streams, as well as the unique and invaluable socializing that transpired in the Twitch chat. Such experiences informed my conversations with participants and formed a useful foundation for my data analysis. In some cases, it connected me with participants who I would not have found otherwise, who ultimately ended up providing some of the most illuminating insights and assumption-challenging conversations that I enjoyed during my research.

Livestreaming and Improvisatory Organizing

While this thesis focuses on several improvisatory genres that operate using DIY

practices — jazz, experimental music, dance music, and other styles that do not tidily square with any of those categorizations — it will help to focus on one to clarify how DIY may be constituted both online and offline using just the genre of dance music. To clarify, dance music does not have some sort of primacy in this study — it is just a useful means right now for understanding introducing the larger phenomena of DIY organizing.

Across all conversations with my 11 participants, a specific club event translating well to livestream only came up once, and the event in question was not even a concert. When I spoke with Moritz Neal and Ora Prince, the live-in couple who DJs the Cactus Care series, they were excited about watching online drag shows hosted by The Stud, a long-running cooperatively own gay bar in San Francisco that lost its old space right around the beginning of the pandemic.⁴ The pair told me about how fun it was to watch drag acts performing in their bedrooms, and how the tipping tradition central to drag translated well to the virtual donations. But on the topic of actual music clubs — such as the Virtually Nowadays series hosted by Nowadays in New York — Moritz was blasé. He enjoyed watching high profile acts that typically did not come through his town, but considered those streams on Nowadays’s website little different from impromptu ones on Twitch except for the particular vibrancy of the Nowadays chat.

I followed up with what seemed like the most logical question. If The Stud’s drag night worked particularly well on livestream, while club programming ended up looking like basically any other DJ stream, then how did they as DJs feel their work translated? The Cactus Care stream, they replied, has almost no overlap with the club experience. Instead, they view themselves as occupying a space somewhere between radio DJs and music bloggers. They simply program music that they have fun mixing together, and do not view themselves as

⁴ Cactus Care preceded the pandemic period as a stream broadcast on Twitter’s Periscope platform, but switched to Twitch as the pandemic went on as that platform increasingly proved itself as the standard.

responding to any sort of audience or even really trying to cultivate a vibe in the same way that a DJ at a live party would. As Moritz recounted,

We mostly just started doing them as a way to practice mixing and to basically just listen to music more. Well, Ora actually DJs for money, but I was a radio DJ for a while and we're both huge collectors. We buy all this shit on Bandcamp and [are] digging all the time. It was like, I don't know, just a very pleasant way of, "Oh, we'll just stream on a Sunday and hang out and see if anybody stops by to say what's up."

Their response speaks to the dual history of DJing in the underground dance music context as a staple of both the party and the radio. When techno was developed in Detroit, radio was crucial to its spread. Jeff Mills, one of the genres innovators and most hallowed performers, got his start mixing records under the moniker The Wizard on Detroit's WJLB radio station⁵. Dance music radio programming has been a staple on community and college radio stations in the US since the 1980s, and in Michigan specifically remained a breeding ground for premiere talent. The University of Michigan's WBCN station hosted a weekly show by Carlos Souffront for decades, and was directed for a period of time by Brendan Gillen, who founded one of the most celebrated yearly parties in Detroit, No Way Back, which was also translated to livestream during the pandemic.⁶ In Britain, pirate radio stations proliferated during the rise of raving in the early 1990s, partly as ways to spread music not represented on commercial radio⁷ and became a crucial to the development of country's so-called *hardcore* genres: drum 'n' bass, jungle, grime, dubstep.⁸ One popular pirate radio station, Rinse.FM, went on to become an innovator in web

⁵ Dan Sicko, *Techno Rebels: The Renegades of Electronic Funk*, 2nd ed., rev. updated, A Painted Turtle Book (Detroit, Mich: Wayne State University Press, 2010), 59—60.

⁶ *Ibid*, 126—127.

⁷ As described in Simon Reynolds, *Energy Flash: A Journey through Rave Music and Dance Culture*, Updated ed. (Berkeley, CA: Soft Skull Press, 2012), some pirate radio stations reaching a city's extensive Caribbean community would not just broadcast reggae music, but spoken programming relevant to that community.

⁸ Reynolds, *Energy Flash*, 225.

radio and now enjoys an influential perch in the international dance music community.⁹ Rinse is one within a wide array of dance music-focused online radio stations — including NTS, Data Fruits FM, The Lot Radio, and many more — which is itself a livestreaming practice featuring live audio broadcast and often a real-time chat.

All to say, there is a compelling case to be made that livestreamed music in many ways resembles radio, and it is entirely logical that at least some livestreaming DJs view themselves as working in that specific tradition. Based on verisimilitude alone, radio has a lot more in common with livestreaming than clubs. Britain’s NTS Radio boasts live audio broadcast and a live chat, meaning that livestreaming platforms are mainly different insofar as they broadcast video. While much media historical ink has been spilled about the difference between television and radio, the difference between the televisual and the radio-like in live music online may seem fairly perfunctory to the audience member hanging out in the chat.

Comparatively, the commercial club experience tends to translate to livestream in a more figurative way. This is true of the Resident Advisor event Club Quarantine that stretched from April 24th through April 26th, featuring 24 artists and a virtual bathroom where participants could have side conversations and scrawl graffiti on the walls.¹⁰ Same of the a club night hosted in the video game Second Life called Club Cringe that brought together musicians from the noise genre like Machine Girl and the hyperpop genre like Dorian Electra with members of the furry subculture, with intricate virtual club architecture and attendees dressed up in all sorts of avatars.¹¹ Even in the case of an *actual* commercial club, the Virtually Nowadays series was

⁹ Rinse.fm, “About Us,” *Rinse FM* (blog), accessed December 7, 2020, <https://rinse.fm/about/>.

¹⁰ “Resident Advisor to Stream 42-Hour Virtual Rave, Club Quarantäne,” Resident Advisor, accessed December 7, 2020, <https://www.residentadvisor.net/news/72312>.

¹¹ “Club Cringe (@club_cringe) • Instagram Photos and Videos,” accessed December 7, 2020, https://www.instagram.com/club_cringe/.

explicitly programmed as something different than the type of events one might attend at the actual club Nowadays in Brooklyn. In the club's email mailing list, frequent mention would be made of how the in-person experience was sorely missed, and the online events were a stopgap way to keep community together and the club in action. At least from the organizing and promotion perspective, the idea of the club was a useful construct for entities offering novel online events, but possibly a haunting specter for actual club proprietors trying to make sense of translating a formerly bustling business to the internet.

It may seem odd, that the "club" is used as a kind of metaphor when throwing a virtual show while, in actuality, internet radio is better analog. Again, it helps to think about livestreaming music as the result of a set of practices, not just technical, but musical and social as well. The reality is that not many practices actually did port from club-based live music to livestreams. Instead, as evidenced by not just the content of interviews with participants in this study but their backgrounds in music, the real precedent for livestreaming came from underground, or DIY, music scenes.

As defined by cultural sociologists Andy Bennett and Paula Guerra in the only academic collected edition on DIY,

Do-it-yourself (DIY) culture describes a form of cultural practice that is often pitched against more mainstream, mass-produced and commodified forms of cultural production. It often finds itself aligned with an anti-hegemonic ideology focused around aesthetic and lifestyle politics. The concept of DIY cultural production gained critical momentum during the late 1970s with the emergence of punk: disillusioned with the mainstream music industry of the mid-1970s, punk rock created an alternative platform for the production and distribution of music through small-scale, independent recording labels. This proved to be a catalyst for the creation of a broader DIY aesthetic that has continued to underpin a succession of punk and post-punk music styles from the late 1970s onwards. Indeed, to talk about DIY music scenes and cultures in a contemporary context is to talk about a phenomenon that is truly global in its reach.¹²

¹² Andy Bennett and Paula Guerra, "Introduction," in *DIY Cultures and Underground Music Scenes* (S.I.: Routledge,

DIY was not siloed to punk music. Its emergence as an anti-hegemonic way of organizing events and music scenes around alternate aesthetics, economies, and lifestyles proved versatile across a variety of scenes, often focused on improvised music. Dance music's history could be understood as a result a tension between mainstream music industry and a kind of DIY culture, with key developments ranging from its inciting moment in the genesis of House music in Chicago's gay black scene to UK Acid House to current-day warehouse raves all being spurred by lacks of acceptance, support, or infrastructure in more traditional, commercial arms of the music industry.¹³

DIY, and its practices, are mutable¹⁴. Sometimes DIY means that organizers will focus on events that draw from a local community of musicians and engage grassroots social and political efforts in the neighborhoods where they operate. Sometimes, though, DIY simply means that all transactions will be handled in cash, liquor will be sold without a license, and organizers will have no recourse when police come in to break up the party. Today, with generally no exceptions, all genres of music get performed in DIY scenes and are programmed at DIY shows. Given this ubiquity, organizers, musicians, and attendees of these shows did not view the shift to livestream as too great of a leap. Early in the lockdown period, a fair number of shows that were supposed to occur in person were replanned as livestreams. One example is the Motherbeat night, an entry in the Hot Mass event series, thrown in the basement of a bath house in Pittsburgh.¹⁵ Motherbeat all-night party programmed with an emphasis on psychedelic experience and as a haven for trans and genderqueer folk.¹⁶ The party was not be able to occur as

2019), 1.

¹³ Reynolds, *Energy Flash*, 15, 61—66.

¹⁴ Christina Dunbar-Hester, *Low Power to the People: Pirates, Protest, and Politics in FM Radio Activism*, Inside Technology (Cambridge, Massachusetts: MIT Press, 2014), 24.

¹⁵ "How America's Standout Party Hot Mass Is Changing Pittsburgh," Telekom Electronic Beats, February 3, 2016, <https://www.electronicbeats.net/hot-mass-pittsburgh/>.

¹⁶ Andrew Ryce, "Eris Drew Announces Motherbeat Series of All-Night Parties in the US," Resident Advisor,

planned in April, so its organizers adapted it to Twitch. In turn, performers from New Hampshire and Chicago no longer needed to travel to Pittsburgh, and the community that forms around Motherbeat was still able to convene.

The way that DIY practices translated from in-person events to Twitch streams is at the heart of this study, as DIY is ultimately rooted in contingency. As I seek to demonstrate in this thesis how improvisatory practice laid the groundwork for the rapid adoption of Twitch as a performance space early on in the pandemic, improvisatory practice in both music performance and music culture must be taken into account. As will be explored in later chapters, improvisation is a set of practices that responds to a moment using a vast repertoire learned through practice and collaborative experience. The DIY scene, I would argue, operates in a fairly similar way. DIY music culture is the site where contingency bred such a repertoire that has, in turn, bolstered a vast network of local music scenes making do with resources available.

If we are to understand how livestreaming music performance on Twitch developed so rapidly and so thoroughly in this early pandemic period, then we must understand the practices and modes of practice in live music community that preceded it.

Chapter Summaries

The study was driven by the question of why music live-streaming was adopted so rapidly and so prolifically at the beginning of the pandemic lockdowns in America. This thesis demonstrates that this was a result of technology and digital infrastructure, established improvisatory practice, and extent community structures. As such, a body chapter is devoted to each of these themes, helping paint a rich picture of not just the internet technology and music media that defines the phenomena, but the crucial music and human components too. Studies of

accessed December 7, 2020, <https://www.residentadvisor.net/news/40687>.

online music technologies, especially those about Napster and Spotify, tend to relegate music as a piece of intellectual property or market commodity and listeners as a category of consumers or users. I believe it is absolutely crucial as a scholar of digital music to value first and foremost what is unique about the music and the people gathering around it online. Early on, this thesis dispenses with the idea that charismatic technologies or corporate products spurred this phenomenon. Instead, it focuses on why Twitch proved an opportune platform for particular kinds of music and particular groups of people, even if it was often a clunky fit for the job.

The first chapter uses a Latourian framework for unpacking how we might understand Twitch as a music venue. It shows how livestreaming stemmed from and translated established organizing practices and social dynamics from in-person music scenes to virtual spaces. Livestreaming here is defined as a set of communications practices that subordinates communication technologies. In the present study, those technologies are bundled in Twitch, but historically, they were not. The improvised music communities I study here were well-equipped to utilize Twitch because of their familiarity with DIY organizing practices which is particularly well-suited to taking advantage of unconventional concert spaces and operating in a different economic paradigm than that of the commercial music industry. As such, they were able to take advantage of Twitch's prominence, live chat tools, and intellectual property vagaries to organize concerts and raise money for mutual aid.

The second chapter unpacks how improvisation in music and improvisation in DIY organizing practices prepared such musicians and music communities to navigate contingency. Here I borrow an analytical framework developed by improvising musician and sociologist of music Georgina Born enumerating four ways that music mediates the social. Such a framework helps unpack the how people socialize around music in physical concert spaces, and therefore

what may be similar and different when those concerts are held online. Central to this process is the odd experience musicians reported to me of improvising without any collaborators or listeners in the same room, providing all sorts of cues and feedback. As questions about improvising in specific contexts turn into questions about the context for improvising, it becomes essential to elucidate how the community logic of DIY organizing contests the profit-seeking organizing logic of the commercial music industry. On one hand, this entails borrowing a historical example from George E. Lewis to demonstrate how marginalized improvising musicians have created support structures, and on the other, it means interrogating what happens if such support structures for improvisation do not exist.

As community proves central to my study, the third chapter asks who exactly gets to be part of these communities and what are they owed? It begins by unpacking exactly what we mean by community when we talk about not just music livestreaming, but music scenes as they existed just before the pandemic too. This inquiry takes an inductive approach, investigating the co-constitution of community-centered mutual aid efforts with pandemic livestreaming, analyzing not just the ways that music communities adapted to Twitch, but how those livestreaming practices were repurposed just a few months later when a massive uprising was spurred by the murders of George Floyd and Breonna Taylor. Michael Warner's theory of publics and counter publics proves useful here for understanding these improvising music scenes as elective and limited in scope of address, but I also ask how we might understand this framework when looking at the kinds of discrimination and exclusion that can often define who participates in a music scene. The chapter ends with a look at how ethics are deployed in livestreaming, and how moderation or lack thereof creates conditions for equitable participation.

To hear a sampling of music I observed during this research or that was performed by

participants in this study, visit: <https://archive.org/details/playing-it-by-ear-sugarman-masters-thesis-audio-appendix>.

Chapter 1: Platform

By the time I started interviewing participants in August 2020, people had adjusted to livestreamed concerts, yet were acutely aware of what they missed from the in-person live music experience. When I asked them what they longed for from pre-COVID shows, what did not translate to Twitch, they always mentioned something about the physicality of the show itself, something about the bodily experience. For Ursa Viola, a rust belt DJ and DIY dance party promoter, it was, “The inherent power in rhythm that, to me, you really need a sound system to be feeling.” For Elvin Foster, a midwestern jazz improviser and prolific organizer of in-person concerts and the virtual Jazz on the Grill series, “It's the conversations you have out front. It's the cigarettes people smoke out front. It's the going to the bathroom in a public place. It's the smells. It's the tangible, the feeling of walking into a space.”

The revealing aspect of such responses is that these participants were not saying they missed some the activities we might more readily associate with in-person live music like dancing, doing drugs, or finding hook-ups. Instead, they missed those moments of feeling most embodied, of the atmosphere or milieu or music at a show enchanting and entrancing. They were describing that unique feeling of *encountering* the in-person concert, speaking to an entire genre of experience they felt deprived of while isolating at home. What I hope to do here, starting with the in-person experience, is akin to setting an intention before meditating. I would like to ground what will ultimately be a very technical chapter in the sensory and sensual, as a reminder that just as we viscerally encounter in-person concerts, we viscerally encounter livestreamed music too.

In this chapter, I want to peel back the layers from that initial experience, using this question of encounter to fully unpack three things: how Twitch works as a technology, how livestreaming works as a socio-technical system, and, ultimately, how Twitch becomes a concert

space. In other words, I think the best way to answer this question of how we encounter Twitch is to answer three others. First, how does Twitch work? Second, how do the technologies employed by Twitch work together with the people using the platform for creating phenomenon of music livestreaming? And, last, how did Twitch, as a platform owned by Amazon, one of the most powerful corporations in the world, become such a popular venue space during the pandemic for improvisatory music communities, who so often eschew corporate and commercial structures in the name of building community-focused scenes via DIY organizing practices?

The Many Technologies in Livestreamed Music

So, how does one encounter Twitch when logging on to see a concert? At first, it may be confronting a cluttered interface, with live video tucked between a flurry of icons and a quick-moving live chat. That live video takes up the majority of the space on the screen, yet itself can feel a bit cluttered. Broadcasters often overlay more visual information on top of the video, be it text displaying social media handles or an address for donations; a feed from a second camera; or animated GIFs to add some fun and festivity. And the live chat may feel quite cluttered too, as participants can communicate using either text or emojis. When there are a lot of people participating in the chat at once, a stream of conversation and icons will zip by like reels in a slot machine.

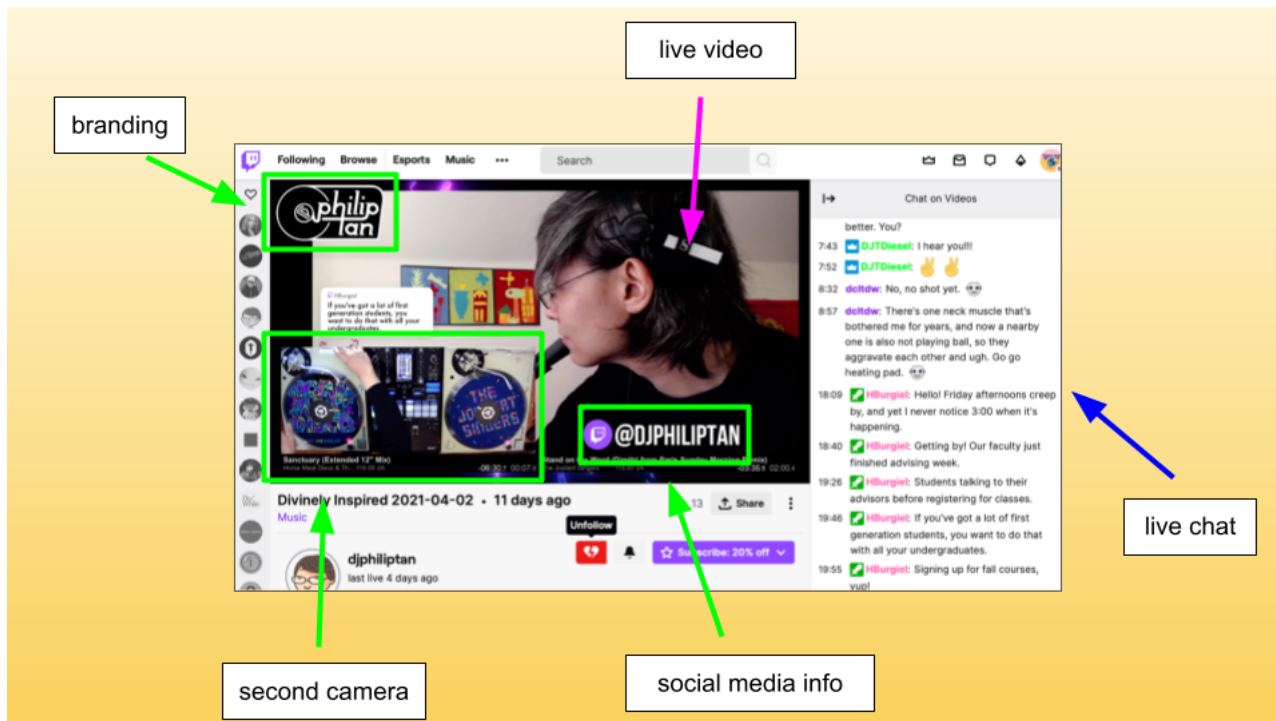


Fig 1. Screenshot from DJ Philip Tan’s livestream on April 02, 2021. His live video features several graphic overlays, and his live chat features a mix of tech and emoji communication by audience members.

If that user interface seems busy, it pales in comparison to the complexity of technologies that undergird it. The livestream, in some sense, is a series of technologies working together in concert — that is both *during* the concert and *in concert* with one another. To understand how those technologies work together in concert, we will need to take a peek backstage.

Let us start with that information-rich video feed. Broadcasters create such a complex visual presentation in that broadcasted video using an application called Open Broadcasting Software (OBS), which acts as a kind of command center for livestreaming. First, in terms of visuals, OBS lets broadcasters layer as many pieces of visual information as they would like, customizing their video to convey whatever information or tone they may please. This may include text telling viewers where to donate money or follow them on social media, but text could also be used to display the line-up for a concert along with set times or shoutouts to

specific people in the chat. Multiple video feeds are often layered. In the case of DJing, the main video feed could show the DJ while a smaller video shows the records that DJ is playing, but just as often the main video feed would show pleasing abstract video art while the smaller video would be used to show the DJ performing. The sheer variety ways to use OBS to create a broadcast display are too vast to enumerate. Depending on the curation of the concert, either the organizers would dictate a uniform visual presentation or performers would create their own, as simple or complex as they may please.

OBS is also a hub in which broadcasters route audio. For musical performance, simply using a laptop's on-board microphone would be undesirable given the limited frequency response it could capture and its propensity to distort audio. Performers would have to configure OBS either with an external audio interface — a device that lets a musician connect a microphone or electronic instrument to a computer via a USB or Thunderbolt connection, and costs anywhere from \$100 to \$2,000 — or another piece of software that could route audio from another program into OBS such as Existential Audio's Blackhole. Once the performer was broadcasting, a poor internet connection would result in a choppy feed, mangling both the audio and the video that the audience received. Later on in the pandemic, some organizers started requesting pre-recorded sets to prevent any technical mishaps during the show that would stymie a good stream, yet the performer would often still likely use OBS to record a set in order to capture both audio and video.

And finally, the performer broadcasts to Twitch using a code unique to the Twitch channel hosting the concert, known as the stream key. This all sounds complicated because it is. During my study, OBS was typically regarded as a Rube Goldberg machine that, with enough elbow grease and perseverance, could be jerry-rigged to work properly.

This is not even *all* of the technology that the organizer or performer has to navigate when livestreaming. For promotion, organizers and artists would rely on visual advertising like posting flyers to social media accounts, a kind of digitization of the bulletin board at a local coffee shop. Organizers recounted to me a hodgepodge of technologies used to contact artists and organize shows — SMS, Facebook messenger, email, and so on — and in some cases described Discord and Facebook groups as alternate forums for audience conversation spilling out of the livestream. Musicians rely on all sorts of gear too: musical instruments, turntables, specialized cables, to name a few.

So, if OBS is a Rube Goldberg machine in and of itself, perhaps it is helpful to think of it as one Rube Goldberg machine within a bigger Rube Goldberg machine. Therefore, it may come as no surprise that when people told me stories about Twitch, these were often stories about an intricate weave of technical processes and technologies going terribly awry. When I interviewed organizers of Jazz on the Grill, an avant-garde jazz series programmed by a national consortium of promoters and clubs that broadcast nightly during the early months of the pandemic, they described to me first trying to broadcast on YouTube Live but having their stream arbitrarily stopped several times during a DJ set due the series' account being flagged. One organizers of the series, Elvin Foster, recounted that the team figured YouTube recognized copyright material, which, “Tipped off the channel or something like that. Could have been that, we never actually figured it out though. It could have been also trolls reporting. You can just click report — a livestream could get shut down just by one report. We don't know.” This spurred the organizers to create a Twitch account mid-concert and direct all audience members to that new stream, only to later have one solo instrumental improviser struggle to figure out how to get her audio to broadcast through OBS.

Yet, while music livestreaming relies on technologies in concert — televisual broadcast, broadband networks, digital signal processing, just to name a few — this is really only half the story. Elvin’s anecdote also touches on one of the messier technologies involved in livestreaming: algorithmic moderation. He suspects that perhaps YouTube made some automated decision about whether or not to allow that first Jazz on the Grill show to continue when bad actors — in this case trolls — played that algorithmic moderation software just the right way.

Algorithmic moderation is crucial to the health of livestreaming, not just on YouTube, but on Twitch as well. Again, if you look at the Twitch chat on a popular stream, the text just flies by. The owner of a channel has moderation tools available to keep the peace in the chat, and can elect other users to be moderators as well, but no matter how good those moderators are, they can only identify harmful speech once it’s been sent. If the channel owner chooses to enable Twitch’s algorithmic moderation tools, Twitch’s software will monitor all messages sent in the chat and censors ones that contain violent, profane, or bigoted language. Depending on how offensive that language is, it will either show up censored in the live chat, or it will never be posted the live chat and shown only to those human moderators. Those same moderation tools give channel owners the option to write a set of rules that new audience members see the first time they enter that channel’s chat.

By inviting this kind of human labor, Twitch shows that even in the case of algorithmic moderation — a construct that may otherwise appear to be some archetypal example of technology circumscribing certain human experiences — it becomes clear that livestreaming is not just *technologies in concert*. As begged by this moderation example most explicitly — although certainly begged by the other descriptions of technology provided so far — we need an understanding how humans and technology *play together* in concert. The live chat will prove an

ideal opportunity to develop such an understanding.

The Social and the Musical in the Online Concert Space

One of the participants in my study who was the most enthusiastic about music livestreaming was Quinn Ramos, who reveled in the unique mode of social engagement he experienced in live chats. Quinn describes himself as an introvert who sometimes finds it too difficult and taxing to attend in-person concerts in the local scene he considers himself part of, but enjoys that fact that he can choose to participate in live chats when he feels like it and step away whenever he needs. For Quinn, Twitch events offer a different mode of sociality than concerts, which in turn means new possibilities for community building.

Quinn helps organize the weekly Hot Fusion livestream, broadcasting archival video recordings of jazz, fusion, and improvisational rock concerts from the 1970s through 1990s. Through that stream, he gets to stay in touch with friends who, before it was rendered impossible by the pandemic, he would mainly see when they would all travel around the country to attend Phish concerts. As such, he feels that livestream chats afford the unique ability to cultivate an atmosphere that engenders the mode of conversation and connection that friend group is acclimated to. The livestream gives Quinn the opportunity to create a space tailor made to the needs of that community, who typically forges an enclave in-person by sharing hotels rooms and pre-game in the arena's parking lot.

As Quinn puts it, Twitch,

Allows for better community moderation than you'd get in real life, although that's very bizarre. If you throw the barn doors is wide open and you publicize your event and you say, "Hey, this is happening, everybody come on in," well, you get whoever is in the chat. But if you publicize your streaming event within a group of less than a thousand likeminded people, and you moderate pretty carefully to make sure that the people who are participating are, you know, not screaming assholes, generally you get a really, pretty

good community experience out of it.¹⁷

Quinn's sentiment stands in stark contrast with Ursa Viola's and Elvin Foster's admission of what they missed from in-person shows: the visceral rhythm from the sound system, the smell of bodies and cigarettes, the random encounters. Yet, they share important common ground, positing music as a kind of substrate fostering personal experience and social interaction. In Ursa's case, the sound system gives her an opportunity to transcend the body, and in Elvin's, the concert is a kind of novel sensory environment marked by social spontaneity. In Quinn's experience, the networked social interactions give him the ability to transcend geographic place, rekindling bonds with his good friends from Phish shows while sparking new relationships with strangers sharing a social circle.

Just as Ursa and Elvin ground their experience of music in place, so too does Quinn, even if that is an online space. The common ground here is music, which, in this study, is at the very center of humans negotiating technologies. Livestreamed music is not just technologies in concert; concerts are spaces where music orchestrates people and technologies, and so too with the livestreamed concert. What we see unfolding a phenomenon that hinges around the trifecta of music, technology, and the social. We need to understand the socio-technical system of livestreamed concerts, and that must first be grounded in an understanding of how music fits into and influences said system.

To ground how music plays into this virtual place, Jonathan Sterne's ontological inquiry,

¹⁷ I heard this sentiment a few times, that organizers have a greater opportunity to cultivate a good vibe and safe space in their livestream chats, at least when compared to in-person shows. The rubric here is important: participants likely have visceral memories of a group of people who was too intoxicated or a couple of violent audience members making everyone else at a concert feel uncomfortable or unsafe. Twitch is not immune to rude interventions though. Audiences from gaming livestreams will often invade another livestream's chat in an effort known as a "raid", and such raiders can sometimes be quite aggressive.

“is music a thing?” proves to be a helpful question. Asking if music could be understood as a discrete object, Sterne’s inquiry attempts to locate music within a media history of *formats*: vinyl records, CDs, and, the focus of his study, the MP3 file. His key insight is that often when we try to define what music is, we end up defining something else.

The debate most often wells up in response to the industrial and technological transformations. One tradition considers music as a social practice and process that may produce artifacts but is not itself something that can be objectified as a thing, except as a kind of reduction. Meanwhile, writers who refer to music as a thing may refer to its technologized forms, its status as a commodity, or its essence as a work independent to any particular performance.¹⁸

The insight that we have a tendency to circle around music by focusing on other *things* that we have better language for certainly extends beyond media historical discourse. In those aforementioned interviews, for example, music is addressed as a social substrate or spiritual object.

Sterne concludes, “Against these definitions, I consider music as a bundle of affordances, thus borrowing some of the process language and some of the thing language.”¹⁹ The “bundle of affordances” framework is a useful one when talking about mediatized music or sound-specific technologies, and certainly rings true for the translation of the specific genres from in-person shows to Twitch. For example, while DJing developed on dance floors, that musical performance style is not totally circumscribed by the dance floor, and has affordances that accommodate other settings and formats. It may in fact be even easier to see some of dance music’s affordances at a distance, watching a DJ on a screen than it would be in the club, when, to use Ursa’s terminology “the inherent power of the rhythm” proves not just useful for keeping a packed floor dancing, but

¹⁸ Jonathan Sterne, *MP3: The Meaning of a Format* (Durham: Duke University Press, 2012), 189.

¹⁹ *Ibid*, 21.

also sets a kind of pacing for audience interactions in the chat or provides good background for household chores. That same set of music also has affordances for promoting music by obscure or new artists when audience members ask the DJ to identify a track, and similarly can act as that DJ's own calling card when it lives in archived form on a platform like SoundCloud. Granted, though, talking about music as a bundle of affordances risks a mechanistic framework for music, one that is well suited to a media historical analysis, but not as viscerally intuitive to the dancer as that inherently powerful rhythm.

This is not to paint musicians and music enthusiasts as in any way ignorant of nuance in the way technology mediates music. Ursa expressed concern to me about having to socialize around music and building community connections exclusively through the Internet during the pandemic, where she both finds “beautiful, sincere interactions” with strangers while being nagged by the question “am I being algorithmically suppressed from connecting with anyone who's cool through music?” Stern's bundle of affordances framework does not prove insufficient for describing digitalized music, yet does not quite go far enough when understanding livestreamed music, which is digitalized music and then some.

Here, Bruno Latour's classic 1992 essay, “Where Are the Missing Masses?” comes in handy. In it, Latour outlines how technologies act as non-human actors that are at once designed by humans but also set limits for certain human behaviors. Per Latour,

The nonhumans take over the selective attitude of those who engineered them,” and, in turn, “the behavior imposed back onto human but nonhuman delegates [can be called] prescription. Prescription is the moral and ethical dimension of mechanisms. In spite of the constant weeping of moralists, no human is as relentless moral as a machine especially if it is (she is, he is, they are) as ‘user friendly’ as my Macintosh computer. We have been able to delegate to nonhumans not only force as we have known it for centuries but also values ethics and duties.²⁰

²⁰ Bruno Latour, “Where Are the Missing Masses? The Sociology of a Few Mundane Artifacts,” in *Shaping*

In other words, when Quinn enthuses about how Twitch’s moderation and ability to create a kind of group intimacy in the chat, he is in part describing how the prescriptions imposed by those technologies mesh well with those of his community. When Ursa describes the feeling of algorithms filtering out potential friends and musical compatriots, she is describing the way that a kind of technologically imposed ethic for socializing with strangers mitigates her ideal mode of interpersonal interaction.

The co-constitutive relationship between humans and non-human actors, refracted through music’s affordances, is displayed especially clearly in one origin story of music livestreaming told to me by Arlo Bohannon, a long-time music livestreamer and an American who had been remotely working with Pacific Islanders to organize the Club Crosssandwich parties in Minecraft²¹ leading up to and, for a short time, during the pandemic period. Arlo has been involved with livestreaming since the mid-2000s, and described what the technical landscape looked like in its early days. “There weren’t platforms, so we were bootlegging everything. So, it was all like Shoutcast servers, distributed stuff, IRC channels.” Shoutcast, a simple and low-cost server configuration, allowed for the streaming of relatively high-fidelity audio and easy archiving capabilities while Internet Relay Chat — a chat protocol dating back to the 1980s — allowed for real-time communication between attendees. Bohannon describes that the first consolidated platform to emerge that was conducive to livestreaming DJ performance resulted in a *downgrade* of quality — the TinyChat video chatroom service could only broadcast audio at 96 kbps, or exactly half the rate offered by a CD.²²

Technology/Building Society: Studies in Sociotechnical Change, ed. Wiebe E. Bijker and John Law, Inside Technology (Cambridge, Mass: MIT Press, 1992), 232, 233

²¹ To preserve anonymity of people who participated in this study as interviewees, I am assigning each of them arbitrary initials. This will hopefully also make it easy for the reader to distinguish between people who were interviewed in my study and those who were not. Any events those participants were involved with receive pseudonymous title.

²² It is worth noting that Club Crosssandwich’s Minecraft parties sit at the intersection of videogame livestreaming

Yet, elucidating the involved technologies is valuable for one reason alone.

Livestreaming is ultimately a communication technology, as much an assemblage of communication *practices* as it is an assemblage of subordinate communication *technologies*. One of the communication practices central to all of this is the *concert*, which is itself complex assemblage of communication practices that involves, among many other constituent social elements, relationship building to organize performers, musicians sharing a bill understanding how they relate to one another and the concert itself, and that *je ne sais quoi* known as the audience's *vibe*.

To disambiguate what is the concert from what is the streamed performance for a moment, consider the aforementioned communication practices within it. There is the conversation amongst organizers, the invitation the organizer extends to the performer and the logistical juggling of sorting out the schedule, the dynamic between the performer and the audience, the conversation among the audience, and the exchange of money between audience and organizer, and then between the organizer and the recipient, not to mention the communication between nodes of the dispersed network of servers and computers. Similar communication dynamics can be disambiguated from the social media promotion of the event, the broadcast component of the media itself, the payment infrastructure, and so on and so forth.

T.L. Taylor identifies a similar process in video game livestreaming as “transformative play,” where the gamer, extends the creativity of videogames from simply a copyright media object to a very different kind of cultural object by broadcasting on Twitch and interacting with an audience. In her study, participants “consistently drew out how their productions are

and music livestreaming, and that, as T.L. Taylor chronicles in *Watch Me Play*, the history of videogame livestreaming follows an almost identical trajectory. T. L. Taylor, *Watch Me Play: Twitch and the Rise of Game Live Streaming*, Princeton Studies in Culture and Technology (Princeton, New Jersey: Princeton University Press, 2018), 55, 148.

transformative; that their work produced new forms of expression, aesthetics, and cultural products.”²³ How might we understand the way that Twitch transforms the concert, especially considering the heterogenous swath of communication practices and technologies put into play when a concert is thrown on the platform?

One simple solution is to call Twitch a venue. Just as with a punk squat or a bandshell, Twitch carries with it a variety of structural features and pragmatic protocols for throwing a concert that inscribe what types of concerts can happen in that venue. But also like those types of in-person venues, neither Twitch nor its technologies are particularly deterministic. A bandshell can host a rave, an orchestra, or multiple stages with multiple types of music. The punk squat could host a multi-channel sound art performance where audience members wander around the room to hear audio playing from different speakers in quiet contemplation or they can mosh shirtless during a hardcore set.

Perhaps nowhere is this venue flexibility clearer than in the social transaction of money. Despite Twitch featuring native payment processing software that viewers can use to donate to livestreamers, I very rarely saw this employed in a livestream and never once heard a participant mention utilizing the feature. Instead, donations were made using third-party services such as PayPal or Venmo. Not only would organizers link PayPal and Venmo handles in the chat, but other audience members would promote the links and encourage donation. Here, users were spurning a specific design feature of the platform to better accommodate more familiar codes for financial transactions. At in-person concerts, attendees pay for admission at the door, yet with no such barrier for entry on a Twitch stream, participants were pooling together to make sure that the organizer still collected money that could be split up among performers. That very act of

²³ Taylor, *Watch Me Play*, 244.

encouraging donations was in turn a form of solidarity with performing artists that was more natural to audience members coming from live music scenes. While gamers on Twitch also employ a social function of donations — specifically using Twitch’s payment mechanism for subscriptions and tips known as “bits” — those just were not familiar to a group of people that was new to the platform, and instead they ported a familiar money collection practice from the offline to the online.

Livestreamed music gains coherence as a concept when the paradigm of *concert* is applied to the event and *venue* is applied to the platform. Yet, it would be disingenuous to claim that Twitch is just like any other venue. To fully understand Twitch as a venue, we must understand it as a platform.

Platform, Labor, and Economy in Livestreaming

While much of this chapter has been dedicated to demonstrating how Twitch operates as a concert venue, we have yet to unpack *why* this is the case. Here, it is crucial to keep in mind that Twitch is owned and operated by Amazon, which is effectively a corporation that owns marketplaces selling goods and services furnished by others. Whole Foods sells granola and cheese, Amazon Mechanical Turk sells gig labor, and Amazon’s namesake marketplace sells practically all goods that it is within its legal rights to sell.

Might we understand Twitch as yet another marketplace that Amazon operates, and if so, what is it selling? Perhaps that aforementioned transformative play: the alchemical media object of broadcasters’ creativity and labor, the audience’s participation, and, in the case of both video games and DJed music, intellectual property whose rebroadcast rights belongs to no one involved. Twitch offers users that transformative play and, in return, gets advertising revenue

and a cut of all paid subscriptions to channels on the platform. Operating in this matrix, improvisers found structure that they could adapt to.

Understanding the lot of the improvising musician in this formulation is the quickest path to assessing what is *sui generis* to the platform. At a live show, there is a division of labor within a group of people involved in the production of that show. The musician is not responsible for connecting their gear to the venue's sound system and making it sound good, for example. That is the sound person's job. No matter how rudimentary the operation, live shows always boast some division of production labor. But on livestream, the musician effectively is the sound person, not just ensuring that their audio feed sounds good, but also broadcasting that feed properly through OBS.

I did not quite understand how much more demanding livestreams are for performers than live shows until I spent about an hour and fifteen minutes on the phone with a musician I had invited to play a livestream I booked in June. This musician wanted to play some of his field recordings on the stream, which was much more difficult to pull off than either of us imagined it would be. We spent the entire time trying a series of different software configurations and fiddling with audio levels just so that the performer could get sound to actually play through OBS. In this moment, I realized that when a performer is invited to perform on livestream, they are effectively also asked develop competency with a complex technical system *on top* of having a decent enough understanding of how audio software works to get sound to play through a computer. Considering the fact that many livestreams were fundraisers, organizers were not just asking performers to donate their music — which itself constitutes years of practice and the financial cost of maintaining instruments — but an immodest amount of time and labor for preparation, much more than that performer would for an in-person fundraiser.

The episode brought to mind Tiziana Terranova's treatise on free labor in her book *Network Cultures*,

Simultaneously voluntarily given and unwaged, enjoyed and exploited, free labor on the Net involves the activity of building websites, modifying software packages, reading and participating in mailing lists and building virtual spaces. Far from being an 'unreal,' empty space, the Internet is animated by cultural and technical labor through and through, a continuous production of value which is completely imminent in the flows of the network society at large.²⁴

While she published the book in 2004 and is mainly talking about the free labor performed by a swath of tech-savvy internet users to build a commodifiable, commercial internet, her scholarship rings all the truer in this era when users donate massive amounts of time, attention, content, and creative output to incredibly profitable, powerful corporations by way of their platform products.

Expand this view just a bit and you can imagine Twitch itself as a platform where performers are putting a sizable amount of labor into populating the site with the very thing that makes it run. Frankly, it is difficult to not see Amazon as an inherently extractive player in this relationship. While, on one hand, Twitch lends tools for a huge quantity of creative people to compose a livestream and grow an audience, on the other, real access to those tools is entirely contingent on those streamers having not just the know-how and equipment, but the time and energy to stream. Amazon is a profiting entity in this relationship, but unlike other gig-based platform products like Uber or its own Mechanical Turk, there is not some baseline understanding that labor will be compensated with part of the revenue they help generate unless that channel owner has joined Twitch's affiliate or partner programs, which are only available to

²⁴ Tiziana Terranova, *Network Culture: Politics for the Information Age* (London; Ann Arbor, MI: Pluto Press, 2004), 74.

users that meet certain activity quotas. If we understand that musicians are effectively donating their skills, their years of practice, and their passion to this platform, we acknowledge that Amazon has a *de facto* extractive, even exploitative relationship with these streamers.

Arlo Bohannon voiced his frustration with the current way that organizers rely on Twitch to access their communities of followers. He told me how earlier in his streaming days, he valued having direct access to event attendees, and could easily contact them all *en masse* if need be.

Yet, things are different with Twitch.

So, Twitch wants to take your grassroots community and then put a paywall between you and your own grassroots community and then keep your own community from you and give you your access to your own community. You no longer have their email addresses because Twitch has to protect their privacy. But I have a whole fucking email list with all their names, phone numbers. It doesn't matter, you know? You've got to protect their privacy.

In a Twitch channel's backend, your list of followers gives no sort of information about how to contact them were you to choose to pick up and move your streaming operation to another network. Those Twitch followers that also follow an organizer's social media accounts could glean from posts on, say, Instagram, that the organizers had decided to set up shop on Mixlr or YouTube Live instead, but it would be impossible to port those followers from one platform to another. Platforms tend to justify that lack of direct access to followers, like Arlo says, as a result of concerns for those individual users' privacy.

Just as Twitch mediates those social relationships, it attempts to mediate financial relationships as well. As mentioned earlier, Twitch has infrastructure for donations and paid subscriptions to given channels, yet rarely, if ever, did I see these used while conducting my study. Much more common are organizers sharing PayPal links, Venmo handles, GoFundMe campaigns, or links to an organization's donations page.

This could be identified as a practice that developed not necessarily as a response to Twitch's infrastructure, as much as *on top of* Twitch's infrastructure. Twitch has payment technology built into it, but organizers saw Twitch as an opportunity to send funds directly to whatever person or entity was in need at the exact moment of the stream, and used the communications infrastructure of the chat to spread that information. In some sense, this is an adversarial use of Twitch's infrastructure, one that is neither directly encouraged nor forbidden by the platform. In another sense, it speaks to a historical reality of the platform that, as William Partin points out, Twitch introduced its Twitch Bits system precisely because gamers were so regularly using third-party payment tools to earn donations during streams²⁵.

The economy of Twitch is a funny thing. Consider that the very practice of DJing on Twitch is predicated on broadcasting other people's music, and therefore other people's intellectual property. Monitoring a livestream for copyright material is difficult, and T.L. Taylor writes in *Watch Me Play* that the development of such technology would bring formidable opportunities for copyright holders to make money off of their intellectual property used on livestreams, likely rendering the development of such technology inevitable.²⁶ But that technology has not yet come; Twitch seems to only be equipped to mute sections of copyright material in archived streams on a page's Clips section.

It is unclear if a real-time tool would be used to more intricately monetize streams — renditioning part of a channel's revenue for copyright holders — or to root out streamers who are racking up a large number of copyright claims. Consider that while a gamer may play a single game during a three-hour livestream, a DJ would use dozens of tracks. Yet, the absence of such a

²⁵ William Clyde Partin, "Watch Me Pay: Twitch and the Cultural Economy of Surveillance," *Surveillance & Society* 17, no. 1/2 (March 31, 2019), 157.

²⁶ Taylor, *Watch Me Play*, 250.

real-time tool and therefore redress for copyright concerns helped make Twitch a fertile landscape for DJing during the pandemic, a boon for DJs and the communities that gather around them. Twitch really did become a haven for a scene that could no longer gather in physical space and, as will be explored later in this thesis, the music itself was crucial to that.

Regardless of whether Twitch keeps track of intellectual property during livestreams or not, regardless of the fact that Twitch mutes portions of archived streams, copyright music is still something the platform is deriving value. Even when music communities circumvent Twitch's native payment system, these are still monthly active users that Twitch is gaining, which at bare minimum boosts Amazon's market valuation and increases dependence on Amazon's AWS server system — a ubiquitous cloud computing system that underpins the Internet much of the Internet. Even if Amazon does not receive direct financial benefit from this stew of free labor and free music, it materially benefits in a way that, say, Napster or torrent-based piracy communities were never allowed to. In other words, it seems like using its corporate heft, Amazon carved space for Twitch to play by its own rules, which ultimately trickled down to music communities using the platform.

Granted, the dynamic here is not so straightforward as Amazon exploiting musicians and music communities via Twitch. In some sense, this widespread DJing practice was a gray market activity wherein, through DIY practices, music communities exploited the cover that a large corporation, indifferent to enforcing copyright, afforded them. By playing music, gathering friends, and circulating payment links directing people's money off the platform, music communities were arguably squatting on Twitch's infrastructure and it benefitted those involved in material and immaterial ways. In other words, in exchange for these musicians' transformative play, Twitch gave them structure in which they could improvise.

I do fear that a community made precarious by the vaporizing of its in-person infrastructure has only found temporary haven in another precarious infrastructure, one that would only serve musicians for as long as it decided to turn a blind eye to that squatting. While Twitch offered a home for these communities during this early part of the pandemic, it is not a home that comes with the kind of stability and security that scene infrastructure offered, the offline infrastructure that previously helped these communities thrive. It is all too easy to imagine that simple enforcement of copyright could force an exodus, rendering these music communities again rootless, again looking for another place to set up camp and party for a while.

Through various pain points with Twitch, we can identify kinds of intimacy among music community. For example, when Arlo Bohannon speaks of being upset that Twitch will not give him a list of his followers so that he can contact them outside of the platform, it sounds a lot like he is expressing frustration that he has built a set of relationships with a community of people who have gathered around his channel, and Twitch keeps them at a distance.

Arlo's complaint brought to mind that aforementioned episode where I helped someone I invited to stream field recordings troubleshoot OBS. I spent an hour on the phone with him, putting myself in his shoes to navigate menus and see bugs through his eyes. It surprised me as a peculiarly intimate moment. His frustrations were my frustrations, and often we found this quite hilarious. Reflecting on that moment, I cannot help but think about how much interpersonal human relationships undergird what we otherwise think of as media and technological phenomena. If a platform like Twitch feels exploitative or precarious for music community, it is because perhaps it was built to corner a burgeoning market or maximize engagement, but it was not built for the kind of intimate connection that makes a music community feel like a *community*, and not just a collection of fans posting encouraging emojis in the chat.

Chapter 2: Improvisation

It was a regular occurrence during my interviews that questions asked about music would often elicit responses about technology, questions about technology would elicit answers about community. In the case of Sun Tate, my question about what it was like to improvise as a DJ without an audience to read in the same room, elicited a vivid meditation on the experience of connecting with a support network of loved ones and strangers during the isolating COVID-19 lockdown.

For the most part, everyone's sitting at home on the computer, listening to the stream. They're in their domicile or they're on Twitter, on their phone and they're walking around. There's only so many things you could be doing while you're in isolation, listening to me broadcast across the waves. So, if that's the case, how about I just try to play to those improvisations in my mind? So, for me, the improvisation is in actively perceiving people. It's in having an idea of what everyone is doing and trying to play off of their everyday life by way of just knowing that they're listening to it in isolation. So sometimes I'll go into a set and I'm like, yeah, I'm just going to play all this stuff because I'm sitting at the house just like lounging, like relaxing. I try not to stress out. So, like, let's go on a journey, you know? That's the improvisation, that's reading the room.

In his 1999 book *Liveness: Performance in a Mediatized Culture*, the performance studies scholar Phil Auslander presaged the object of my study in an eerily precise way. He was writing in a moment when the internet was young but television had permeated the music industry by way of music videos, and in turn the live performance of music too. Auslander believed that the rise of giant television screens at sports arenas broadcasting the action on-field during football games or on-stage during a Rolling Stones concert to audience members in the nosebleeds meant that, “the live event itself is a product of media technologies.” Yet, he did not view this as a new phenomenon in the 1990s, but an extension of a long running technological trend. For Auslander, the very mediation of sound with electronic equipment like a microphone meant that sound was

mediatized.²⁷

In Auslander's formulation, this very fundamental mediatization was accelerated by new institutions like MTV, whereby music videos and concerts alike were homogenized and packaged as a way to sell pop music recordings. When music piracy destabilized recordings as a reliable revenue stream for the pop music industry, emphasis shifted to live music, in particular concerts that were especially spectacular, such as Madonna's live show that mimicked her famous music videos. "If you know what Madonna's videos look like from MTV, you can read the images in her concerts as if you were in intimate relation to them, even from the last row."²⁸

And while Auslander's account of mediatized liveness came several years before internet livestreaming was first deployed in musical performance, it does speak to a remarkably similar confluence of distance and intimacy that Sun is talking about when they tell me what it is like to play to the room over Twitch. In both cases, the audience experiences some kind of closeness thanks to the screen, and, for that matter, a reproduction of the Twitch streamer's original performance, parceled out in packages of data that are broadcast and reassembled in the viewer's web browser.

Yet, both the time period and the type of music that Auslander describes are very different from the ones at the center of this study. Auslander writes about what is commonly understood as the corporate music industry, typified by the so-called major labels, the artists that they market, and the capitalist infrastructure that supports their endeavors such as record distribution, radio promotion, and, in particular for Auslander's interests, international touring. Indeed, Beyoncé's or The Jonas Brothers' shows are highly produced, mediatized spectacles,

²⁷ Philip Auslander, *Liveness: Performance in a Mediatized Culture* (London; New York: Routledge, 2008., 2008), 24.

²⁸ *Ibid*, 39.

components of massive corporate campaigns that include direct distribution deals with streaming services such as Spotify²⁹ and brand partnerships³⁰.

The claims he makes about community must be understood in this context. When saying that communities are not simply formed by co-presence at the performance, he seems to be alluding to the work of media scholars of fandom and participatory culture such as Henry Jenkins, whose work focuses on the type of power fans negotiate with massive pop culture objects and franchises by forming a community of engaged fans around them.³¹ Auslander has a fairly narrow focus when talking about the liveness of concerts, and it is constrained by popular music.

Social scientist Nancy Baym reminds us that relationships between musicians and audience are fluid, and tend to mutate alongside technology.

With each technological innovation — sheet music, printing, the player piano, recording, the internet — music’s form, flow, and ability to be contained and owned have been changed. So too have musicians’ relationship with audiences. Musicians have gone from community members to hired help to expert professionals to inaccessible objects of identification and adoration and now back to something both distant and close.³²

And sociologist of online spaces T.L. Taylor, in her study of gaming livestreams on Twitch, taps into a unique identity of streamers that speaks not just to music livestreamers, but the musicians I focus on for this study. Livestreams, produce content in a, “circuit [that] is not just about viewing traditional or new media but moving between consumer and producer too,”

²⁹ Tim Ingham, “Spotify’s Direct Distribution Deals: What Do Artists Get Paid?” Music Business Worldwide, September 23, 2018, <https://www.musicbusinessworldwide.com/spotify-direct-distribution-deals-what-do-the-artists-get/>.

³⁰ Beth Newhart, “The Jonas Brothers Partner with Coors Light on Limited Edition Beer,” *beveragedaily.com*, accessed February 17, 2021, <https://www.beveragedaily.com/Article/2019/10/14/The-Jonas-Brothers-partner-with-Coors-Light>.

³¹ For example, Henry Jenkins, *Fans, Bloggers, and Gamers: Exploring Participatory Culture* (New York: New York University Press, 2006).

³² Nancy K. Baym, *Playing to the Crowd: Musicians, Audiences, and the Intimate Work of Connection*, Postmillennial Pop (New York: New York University Press, 2018), 73–74.

making the shift from consuming content to making it on the platform a fairly simple one³³.

What Auslander is describing is the abundant, monoculture corn crop, wherein the field, the plant's genes, and the irrigation system are all manipulated in concert to maximize yield for producers. The alternative I'm describing is something like a single species that might proliferate in a prairie that would take over were that corn field to be abandoned. Improvised musics and the communities that support them are one expression of a diverse network of supporting traditions and contemporaneous scenes that may barely resemble it aesthetically, but have forged a series of supporting practices for decades. Hence, I focus on music in *DIY scenes*, sometimes referred to as *underground music*.

While much music in DIY scenes is not improvisatory music, DIY organizing practices are inherently improvisatory. One benefit of examining improvised music specifically, is it helps lay the groundwork for understanding extra-musical improvisatory practices that undergird the DIY tradition. I plan to demonstrate in this chapter that structure facilitates improvisation, which can be a bit of a paradox for DIY communities, which often must operate in contingency. While corporations can fund massive multimedia campaigns and world tours for their talent, DIY venues and organizers often operate on shoe-string budgets, in unregulated venue spaces, and on handshake agreements with talent. While this begets creativity — both in terms of organizing scenes and the cutting-edge music that often comes out of those scenes — it is a result of various forms of precarity like lack of public funding or hostile real estate markets that make opening a community-focused venue too difficult. Hence, DIY scenes use improvisatory practices to adapt to structure or lack thereof, helping explain why they so nimbly adopted Twitch at the outset of the pandemic, but are vulnerable to the risks of situations where there is little support structure

³³ Taylor, *Watch Me Play*, 258.

such as in the case of the 2016 tragedy at the DIY venue Ghost Ship in Oakland, as I will explain later in this chapter.

Improvisation as Social Phenomenon

My formulation of improvisation draws mainly from Georgina Born and George E. Lewis, two scholars whose study is rooted in their own histories and identities as improvising musicians. Their interrogations of improvised music are driven and informed by their own experience with the form, and their perspective as academics can often look like the perspective of a player in an ensemble, keeping open ears for all potential cues while always pushing the bounds of the conversation. Their improviser-informed approach to scholarship is informed by their participation in performing ensembles, and in turn seeks to understand how exactly improvisation can be understood as a collective activity.

In her essay “After Relationship Aesthetics: Improvised Music, the Social, and (Re)Theorizing the Aesthetic,” Born describes music as a “constellation of such mediations” as “an extraordinarily complex kind of cultural object— as an aggregation of sonic, visual, discursive, social, corporeal, technological, and temporal mediations.”³⁴ Mediations are central to her theorization of not just music, but of improvisation. Earlier in the essay, she outlines “four planes of social mediation” that music engenders. These include,

In the first plane, music produces its own diverse socialities — in the immediate microsocalities of musical performance and practice and in the social relations embodied in musical ensembles and associations. [...] In the second plane, music has powers to animate imagined communities, aggregating its listeners into affective alliances, virtual collectivities or publics based on musical and other identifications. In the third plane, music refracts wider social relations, from the most concrete to the most abstract of collectivities — music’s instantiation of the nation, of social hierarchies, or of the social relations of class, race, religion, ethnicity, gender, or sexuality. In the fourth plane, music is bound up in the broader institutional forces that provide the basis for its production,

³⁴ Georgina Born, “After Relational Aesthetics: Improvised Music, the Social, and (Re)Theorizing the Aesthetic,” in *Improvisation and Social Aesthetics* (Duke University Press, 2017), 44.

reproduction, and transformation, whether elite or religious patronage, market or non-market exchange, public and subsidized cultural institutions, or late capitalism's multi-polar cultural economy.³⁵

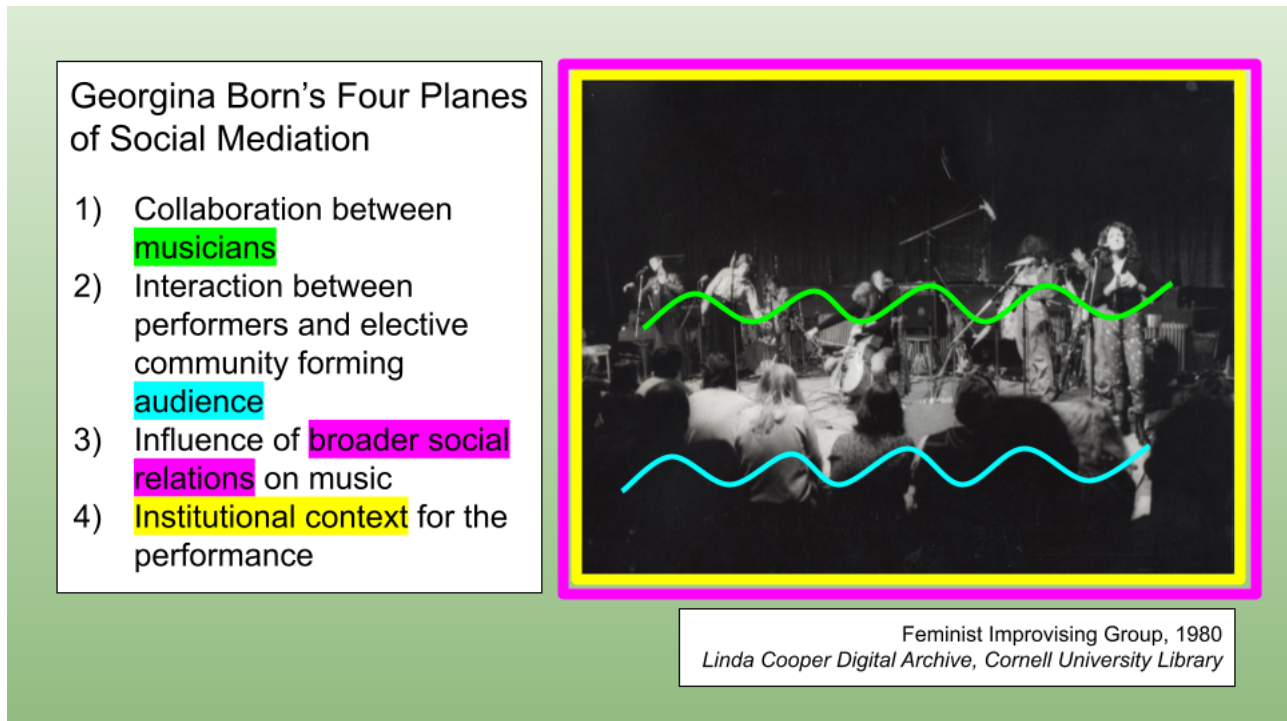


Fig 2. Diagram of Georgina Born's Four Planes of Social Mediation

Here, Born outlines a succinct and elegant taxonomy of social modes facilitated by music. She analyzes the performances of her own ensembles, the Feminist Improvising Group, along these four planes, talking about how the first-plane microsocialities of the performers' interaction in the group was informed by the third-plane norms of gender, as they parodied various typified women roles as domestics, as laborers, and as quotidian performers of femininity. She outlines how the fourth plane — the institutional — created friction as the group participated in a male-dominated music scene and for mostly male audiences in the clubs. The group ultimately gained support by way of second-plane sociality of an imagined community that formed around the group's feminist and lesbian aesthetic content.

³⁵ *Ibid*, 43.

Born's formulation demonstrates that there *can be* an uncomplicated social theory of music. Music is incredibly heterogenous, and genre often has not just distinct aesthetic norms but types of performance and social modes that go along with it. There is a considerable gulf between the way symphonic classical music and death metal are staged and received. The size of the ensembles differs greatly, the acoustic demands of the performance space are night and day, and the former sees audience members sitting and possibly napping while the latter may induce moshing. Along these lines, dancehall, free jazz, cumbia, Indian classical music, and hip hop all differ dramatically. Yet, across all of these, those four planes of social mediation can be traced.

According to Born, the performer is always socially entangled. Therefore, there is no such thing as a solitary improviser. The improviser is always responding to something, be those other performers, listeners, ideological constructs, or institutions. During this early portion of the pandemic, performers on livestream often performed solo and always without an audience in the same room, but Born's planes remind that simply because someone is performing in physical isolation, that performer is not solitary, just as an audience member tuning in alone at home or an organizer setting up a stream entirely by themselves is not solitary. Likewise, performing solo does not negate the collective nature of improvisation. As reflected by Sun Tate's quote at the beginning of this chapter, a different kind of social space was imagined, and therefore a different kind of co-presence influenced them. So, while performance happened remotely, those four planes of social mediation in music still permeate this study. Yet, that does not mean that performers found this livestream performance particularly comfortable, nor natural.

One performer I talked to felt that weirdness palpably. Elvin Foster, one of the organizers of the Jazz on the Grill series, is also an improviser in two domains: drumming in free jazz ensembles and playing electronic noise music. To help figure out the tech for the Jazz on the

Grill series, Elvin invited a bassist he frequently collaborates with to play on one of the series' first streams. They set up their instruments in the bassist's living room, a bit more than six feet apart, adhering to social distancing guidelines and without masks, as this was early enough in the lockdown that their adoption was not widespread. What the viewers saw was something like rehearsal or a recording session, the two tuned in just to one another, letting dead air breath between notes. Elvin recounts this performance going well, giving him a sense of comfort during the strange first days of his city's lockdown.

Later, Elvin would play a livestream organized by his record label for a solo modular synthesizer set, lights all turned off in his studio space save a single clamp light shining on a wall behind him and the glow of the LEDs on his synthesizer. For that concert, Elvin improvised solo. When I asked him how he felt that experience differed from a typical in-person performance, he did not remember it fondly,

The lack of feedback, the lack of energy that you get from the audience was actually more daunting and more of an effect on my comfort level than — yeah, it was a negative effect. It was an effect of being unsure, maybe just because it was new. But it didn't feel good.

Not experiencing those first and second plane socialities that Elvin would experience while playing a similar set at an in-person show left him feeling unmoored and uninspired.

Indeed, it was not a given that performers would recognize the transfer for these various socialities, and one pair of performers in my study were attracted to live-streaming originally because of their apparent perceived *lack* of such socialities. Moritz Neal and Ora Prince of the Cactus Care stream told me in our interview that they barely even view themselves as DJs. Ora would sometimes DJ at parties in her local scene, but was not playing regular paid gigs. But they claimed to have no imagined audience for their livestreamed DJ sets, instead using the livestream

as a space to hone practice their DJing skills. They demurred when I pressed them on how DJing on livestream during the pandemic differed from their experience as DJs prior to the pandemic — Moritz has really only ever DJed on the radio or livestream, so pre- and post-outbreak were not all that different for him. They were not *really* performing in the way that DJs usually performed, the duo stressed, as they were not particularly playing to a particular crowd. They were just DJing for themselves, putting together tracks that they thought would be fun to put together, practicing the art of mixing.

Yet, the way they described their improvisational practice still meshed perfectly with Born's four planes. They described responding to the other's selections when choosing what records to play next (the microsocial), they described the third-plane economic realities of DJing and crate-digging practices that they participate in, and the fourth-plane situation of their DJing practice, falling more into the DIY tradition than the club infrastructure. The only component they did not illustrate was the second-plane community that formed around their performances specifically, but this was construed in the interview as a specific lack. Periscope, the platform they used to stream during the early months of the pandemic, did not have a very effective chat mechanism, so they could not interact with listeners who were tuned in, even though indeed they were aware that people tuned into their DJing. Desiring that more direct audience engagement in the chat, they would eventually migrate their performances to Twitch later in the year.

On a very different end of the spectrum, again, was Sun Tate, who was invigorated by the very fact that the livestream offered a totally different set of second and third plane socialities. They are also a former organizer of the DIY dance party series The Fire Pit that ran for several years in the basement of a dive bar in a large Midwestern city, so understand the nuance of playing in the intimate in-person setting versus the intimate Twitch setting.

If you're on a techno night where it's all techno, it's sort whatever time to whatever time — you're not going to come through with a jazz set just because you want to. [Livestreaming] gets rid of those little bit of constraints that being at the physical location gives you. You can say like, “Oh, you know, today I'm going to play my play all jazz. It's a good day for jazz. And then we're all at the house trying not to be anxious. Jazz, let's go.”

What Sun details here is a versatile emotional intelligence — a kind of performer's empathy — that the DJ can employ regardless of whether that performance is occurring in the same physical place as the audience. Reading the room at a party means keeping people dancing. Reading the room in the livestream, on the other hand, could mean understanding the psychic state of listeners at home and meeting them there, DJing to suit their needs in that moment as well.

Between Elvin Foster's duo and solo performances, Moritz Neal's and Ora Prince's livestreaming practice sessions, and Sun Tate's playing to the room, we have three different modes of social mediations through the livestreams, ranging from a feeling of isolation disrupting perception of participating in a social practice to the livestream affording a unique kind of connectedness. I highlight these three to show how even within my own data, there are radically different ways that performers conceived of and navigated this streaming terrain during a period of time of novelty and distress. That very heterogeneity typifies the livestreaming practice, and clear understanding of how improvisation manifested in livestreaming necessarily entails some sort of summary of the wide variety of those livestreaming practices. What follows is less a taxonomy than a representative sampling.

Doing It Yourself While Everybody Is Watching

As far as DJing went, solo performances were the most common, and these would come with a variety of visual presentations, or to borrow a term from film scholarship, *mise en scene*. One

set by the Pittsburgh experimental club DJ W00dy was streamed from their cellphone propped upright against a wall, showing them dancing in place in their bedroom while clicking through various tracks in Ableton. Some people who were used to DJing on livestream already had a complex set-up with a separate webcam that they could use to get a different angle either on themselves or on the turntables along with detailed visual presentations including animated GIFs or scrolling text, programmed in OBS. Such was the case with DJ Philip Tan, the creative director of the MIT Game Lab in my own Comparative Media Studies department, who started a weekly morning livestream of uplifting disco to help get friends tuning in through the strange drudgery of a newly quarantined working and school life.

There were also livestreams hosted by clubs or festivals that involved a more uniform visual presentation, such as the online edition of the party No Way Back, which is usually thrown during the annual Movement festival on Memorial Day weekend in Detroit — itself a giant, city-wide event drawing attendees from all over the world to parties in everything from clubs to vacant lots to parking garages to a roller rink. No Way Back asked performers to submit pre-recorded sets and then applied a uniform video manipulation to them where, every now and again small squares of the video would separate from the frame and start rotating. This slight obscuring of the performer was taken to logical extremes, such as Arlo Bohannon setting up a light behind himself so that he appeared entirely in silhouette while DJing, or the Boston-based club music livestream Happy Hour sometimes presenting a constellation of emojis and memes on the screen instead of any video of the performer at all.

Yet, there were not just solo performances. On an edition of the Technofeminism, the New York DJs Umfang, Kush Jones, and DJ Elise took this idea one step further, and not only went back-to-back with each other, but took turns chatting from the streaming account's official

handle, dancing around the room, and interacting with the one or two non-DJ in-person attendees, seemingly either roommates in the apartment where the stream was being hosted or friends invited over for the event. Watching the stream, I was torn between a feeling of joy to watch something similar to the type of dance parties that I missed so much, and a feeling of dread seeing so many people together in one room, without masks.

Fairly frequently, on-screen collaborations were made possible by the performers being live-in romantic partners. During the No Way Back stream, for example, the Chicago duo Farplane set their lights low and took turns DJing in chunks, effectively going back and forth between short solo sets. Another style of group performance came from Izzy Jordan and Kimia Lastra on their Biosphere III stream, where the two would perform in the so-called back-to-back style, where multiples DJs will switch off with each other every few tracks to collaborate closely on cultivating a specific vibe for a party.

The Jazz on the Grill stream largely featured solo instrumental performers, sometimes creating elaborate performances directly engaging the audience such as a Wisconsin artist's solo tribute to the recently departed Kraftwerk founder Florian Schneider in early May, and sometimes simply featuring an intimate, almost voyeuristic view of a performer improvising alone as if the audience were watching a practice session. While watching these solo performances, it often laid bare to me the very palpable sense of difference and separation. I tended to imagine what it was like watching these performances at Elastic Arts in Chicago or in some unconventional space in the Boston area as programmed by the Non-Event series, how the audience would often be tense, focused silence or random outbursts of excitement from the audience, with the feedback loop between performer and spectator feeling visceral. No matter how Born's planes of social mediations *actually* translated — the community I was forming with

fellow listeners, the interesting tensions I was witnessing a given performer elicit between themselves and the streaming medium — it sure could feel like a lonely, lacking experience.

Hence, just as I asked Sun Tate, I would tend to ask DJs what it was like DJing without any audience feedback. When I posed the question to Izzy and Kimia of Biosphere III, I got two very different responses. Kimia enjoyed the lack of boundaries, but ultimately missed being able to read the room,

And obviously, there are so many benefits to just playing without audience on the livestream that I connected with that first. Do whatever you want, you can go in any direction that you want. That's really cool, and I still really love that. But I really do miss the way that I choose music when I have an audience in front of me and how I play and the type of risks I take based on the energy in a room. Collective energy really does make me more confident sometimes. And then I do things I didn't think I would even think about doing, and it turns out well.

Izzy on the other hand, found the lack of audience to be particularly generative in its own way,

I would say that. I definitely miss the response of the crowd, and I definitely take risks in front of a crowd, but I take even more risks when I'm at home in my studio, doing my own thing. It's just like I'm just playing for myself. And so I think that it's been fun to kind of experiment with that in front of folks. [...] My records aren't super amazingly organized, but they're organized enough that, for the most part. One of them is in the seven, eight-hundred [records in my collection] and I probably have a good shot at finding it before the next track comes up. Sometimes that just comes to you. You're just like, "Oh shit, this is the next one."

The pair effectively describes two sides of the same coin here. Kimia describes finding the most inspiration from an audience, feeling the most empowered to take risks as an improviser when there is an audience to give her feedback, to support the adventurous decisions she may make at a party. Izzy, on the other hand, thrives in the type of experimentation that comes from

having no boundaries and total access to his record collection at home, therefore able to string together any musical train of thought whatsoever.

Yet, crucially here, both Kimia and Izzy understand their improvisational practice as having a particular relationship with a cultivated community and a particular design of their Biosphere III series. Here, we can trace their second and fourth plane social mediations — their interactions with the community forming around music and with institutional forces. Even though Izzy enjoys the liberation of nothing having a specific crowd to keep in the mood, he feels supported to explore precisely because of the community that formed around Biosphere III early on in its life as a Twitch series. He recounts,

But I'm on the stream, there's less of the stress of it not working, less of, “Am I going to do good?” or whatever, because it's become a community, a closed community thing. And so it's just like, “OK, well I'm playing for my friends again. It doesn't matter if it's a train wreck or if it's all over the place, because it's just this comfortable thing.”

The concept of a train wreck is familiar to just about anyone who has attended an event with a DJ, from a highly produced party in a club to a bar mitzvah. Just like it sounds, a train wreck is when a DJ goes terribly awry, when they just cannot seem to put together music in a way that suits the event, and instead starts to make the party itself go awry. As audience members, we may internalize the train wreck as a bad experience that *we* are having. A terrible performance might make us embarrassed for the performer on stage, and feel torn between staying at an event with terrible music to be with our friends or leaving to save a lot of grief. But as Izzy reminds us, a train wreck is a bad experience for the performer too.

What is interesting though is the idea that there might be a supportive situation where the train wreck does not matter — a supportive social space formed by the performer and the audience where the performer can feel empowered to take risks. This is also what Kimia

describes, although for her that social climate is more readily enjoyed in person. The reason we must understand these points of view as two sides of the same coin is because it shows that this similar dynamic between audience and performer occurs both off and online, and its sheer existence does not entirely hinge on bodies being together in the same physical space. What both Kimia and Izzy are describing is that there are second-plane social mediations between performer and audience which create the very foundations on which performers feel confident improvising, implying that improvisations, interestingly, may not simply be an act that needs to occur between people in a space at the same time to still have the same collaborative, generative dynamic.

Music as Enclave and Support System

Kimia and Izzy describe that their entire ethos, and therefore a type of rapport that they hope to strike with Biosphere III attendees as both organizers and performers, is informed by DIY raves and the Gays Hate Techno festival in Washington. Such events helped the pair each realize that there were scene structures outside of the corporate dance music world that makes up a global circuit of for-profit clubs often supported by brand sponsorships and afforded the highest visibility in the international music press.

Kimia recounts an eye-opening experience at Gays Hate Techno where she learned that there could be a rave scene centered around community and not careerism. She views Gays Hate Techno as,

A community involving myself as a community member, not as an artist or celebrity artists type of personification that a lot of time that happens, where people are climbing up a ladder as opposed to finding their way into community. Being at Gays Hate Techno definitely solidified that for me, and that's how I approach music now and just try to be like an accountable member.

Gays Hate Techno is one of many camping-based festivals that occurs in the United States in the summer, and one intended to attract a specifically queer community of artists and audience.³⁶ Such festivals act as a point of convergence point for attendees from around the country, with programming running from afternoon through the early morning each day and, usually, lacking formal food and merchandise vending or brand sponsorship. As these events require attendees plan travel accommodations and stock up on enough amenities to stay for multiple days, they require a higher buy-in than the typical dance party one might attend for a night. In turn, such camping festivals offer a more advanced iteration of Born's second plane of social mediation, the imagined community³⁷. Notably, Kimia and Izzy were far from the only regular streamers involved with Gays Hate Techno and other camping-based festivals. For example, the regularly-streaming NotMassPGH Twitch account is the online arm of the Honcho collective that books both the Hot Mass series in Pittsburgh and the Honcho Campout in the woods of western Pennsylvania.

Izzy drew a connection between these community-based camping festivals and the DIY scene, suggesting that the type of community that he and Kimia found at Gays Hate Techno is similar to that found in the non-commercial rave scene. He imagines the Biosphere III streams as an alternative to extent DIY spaces in Chicago, which he considers overly exclusive to niche communities, and hopes that post-COVID-19, he and Kimia could potentially open a DIY space that's as flexible and inclusive as their Biosphere III streams.

³⁶ Other community-oriented camping festivals running for several years in a row include the dance music festivals Sustain-Release in upstate New York and the also queer-focused Honcho Campout in western Pennsylvania, as well as the West Virginia noise music festival Voice of the Valley. These are just a few notable ones, and the practice overlaps with so-called regional burns, or local gatherings around the country bringing together members of the Burning Man community, also often featuring a party component.

³⁷ See Kim, "Gays Hate Techno Talk Non-Commercial Techno Culture, with a Killer Compilation to Match," Ryce, "Honcho Campout," and Saxelby, "Sustain-Release Is The Techno Summer Camp That Electronic Music Needs," for community building at Gays Hate Techno, Honcho Campout, and Sustain-Release respectively.

The tension between dance music's DIY scene and commercial club culture goes back to the very origins of raving, which traces one origin to the illegal parties thrown in public and abandoned spaces in Britain in the late 1980s and early 1990s left behind by Thatcherite neoliberal policy.³⁸ Sarah Thornton traced the push-and-pull between the largely improvised raving scene and the commercialized, increasingly profitable rise of dance music-focused clubs in London in her 1995 book *Club Cultures*.³⁹ And indeed, what Kimia speaks to is a persistent struggle in American and European dance music scenes between, on one hand, careerist DJ culture and a commercialized club industry and, on the other hand, the community focus and relative disregard of profit motive in the so-called underground.

As Andy Bennett and Paula Guerra explain in their introductory essay to the collection *DIY Cultures and Underground Music Scenes*, the idea of DIY in music as first implemented in the 1970s punk community was an offshoot from a longer-standing craft-based tradition.

The term 'DIY' first begun to be heard at the beginning of the twentieth century, when it was used and understood in the context of home improvement (Gelber, 1997). Referring to the practice of creating, repairing and/or modifying things without the use of an expert craftsman, the meaning and currency of DIY gradually evolved over subsequent decades to embrace a range of creative cultural practices.⁴⁰

This is the sense in which DIY becomes relevant to my focus here on improvisation, the musicians and organizers participating in this study all tended to have experience organizing DIY shows or participating as stalwart members of their local DIYs scenes, and in turn were able to illuminate for me a variety of techniques and tactics that proved portable from the in-person to online events sphere.

³⁸ Reynolds, *Energy Flash*.

³⁹ Sarah Thornton, *Club Cultures Music, Media and Subcultural Capital*, 2013.

⁴⁰ Bennett and Guerra, "Introduction," 7.

Of course, it is worth reiterating that live-streaming DJ sets did not begin when COVID-19 broke out. Several of my participants had been operating their livestream events since well before this lockdown period, but became those events increasingly popular, and in some cases more frequently organized, during lockdown. The COVID-19 lockdown period did not seem to provoke a realization that music communities could port in-person practices to livestreaming; people *had already* been doing exactly that. Instead, the rapid and widespread pivot from in-person to online events reflects the fact that there was a precedent, and therefore a roughly hewn path that new streamers, organizers, and attendees could follow when contributing to an increasingly robust livestreaming music scene.

One small-scale, direct example of this comes from the duo Moritz Neal and Ora Prince running their Cactus Care stream. To use their own term, they considered themselves “supporters” of the Bay Area DIY scene, dating back to their regular attendance at noise music shows there. As they became more interested in dance music, they found substantial overlap between those two scenes, and recognized the DIY dance party landscape as similar to the DIY noise music one. Their involvement in that DIY dance scene spurred their own interest in record collecting and DJing, which in turn inspired them to start the Cactus Care stream in 2018. As the lockdown period of the COVID-19 pandemic progressed, they began to value the community aspect of livestreams more and more. This resulted in them ultimately deciding to transition from Twitter’s Periscope platform to Twitch in the fall of 2020, where they hoped to foster the kind of community they were missing from their in-person DIY scene.

I spoke with organizers of two separate Minecraft-based party series that relayed those events for broadcast on Twitch — Grave.Site and Club Crosssandwich — who both cited a DIY ethos as central to how they operated. Cooper Dill of Grave.Site referenced his experience throwing DIY

shows — specifically dance parties in Toronto and afterparties at anime conventions and MAGFest, a Canadian video game convention — as key learning moments that inform his work helping organize the Grave.Site project. While he met many of his collaborators in the Grave.Site party over the Internet, conventions and DIY parties are where he would meet up with those friends and party with them in person. Planning online parties became a logical next step, since they could enjoy social dynamics and interactions similar to what they experienced at those convention afterparties, but remotely.

Minecraft became a natural forum for these parties, since the friends could create a space centering video games and play similar to the conventions they attend together. Ethics typical of the DIY ethos are central to the planning of Grave.Site. The parties are run without a profit motive and significant planning is dedicated to ensuring that the moderation and design and teams are fostering a space where attendees are free from harassment and are safe to express themselves and their identities however they may please.⁴¹

A DIY ethos is also evident in livestream organizers' accounts of planning and producing events. Organizers of both Jazz on the Grill and Biosphere III discussed starting from scratch to figure out how to teach OBS and other related streaming technology to the artists they invited to perform, as well developing their own troubleshooting systems for technical issues inevitably arose. Organizers of Grave.Site avoided the whole mess by asking performers to submit pre-recorded sets, while Club Crosssandwich boasts a specific team dedicated to working through technical issues with performers. Bennett and Guerra remark that, "More than anything, DIY serves as a counter-force to neoliberalism. However, this is only one part of the story. We must

⁴¹ Financially, the Grave.Site parties are always fundraisers for charitable causes, which, while not necessarily the norm for all DIY events, is rooted in the organizers' conviction that no one need profit off the gatherings.

take into account several questions that connect us to alternative socialization paths.”⁴²

Where the musicians of Nancy Baym’s *Playing to the Crowd* are trying to figure out how to eke out something like a middle-class career in a music industry, struggling with a lack of institutional or corporate support while also navigating a relationship with a community of fans that is neither alienates nor violates personal emotional boundaries, DIY structures tend to reject the industrial, commercial aspect of music outright and instead center community. As such, Bennett and Guerra highlight “alternative socialization paths” that partially ring true to this study such as rejecting corporate and multinational control (streamers use Twitch, but often direct financial dealings outside of the platform) and embrace of direct action (such as the leverage of livestream concerts as mutual aid fundraisers), as well as ones fully on display in the practices at hands, such as “the practices of emancipatory DIY culture in learning with computers and new technologies” and “the education of adults.”⁴³

Will Straw, a scholar of scenes, sees emphasis on community as defining characteristic of contemporary music communities. With Nathalie Casemajor, he writes, “What were once marginal or secondary aspects of scenes — their ‘support’ system — are now fully assimilated within ideas of creativity and innovation.”⁴⁴

The support infrastructure of livestreamed music is an exemplary encapsulation of this trend. For events to be successful — whether they are sprawling Minecraft parties utilizing several platforms or intimate friend-group-scale livestreams as the Biosphere III parties often are — a support system must already be in place, be that for moderation or technical troubleshooting.

⁴² *Ibid*, 12.

⁴³ *Ibid*, 12.

⁴⁴ Nathalie Casemajor and Will Straw, “The Visuality Of Scenes: Urban Cultures And Visual Scenescapes,” *Imaginations Journal of Cross-Cultural Image Studies/Revue d Études Interculturelle de l Image* 7, no. 2 (November 7, 2016), 26.

But what Straw and Casemajor was observing in the Montreal indie rock scene that has been active since the early 2000s has been a key component of non-commercial music scenes for decades, dating even farther back than the advent of punk in the 1970s. One remarkable example comes with the Association for the Advancement of Creative Musicians, or AACM, as chronicled by George E. Lewis in his history of the group, *A Power Stronger Than Itself*.⁴⁵

In the early chapters of that book, Lewis describes how disappearing jobs and city disinvestment in the South Side of Chicago lead to a, “rapidly decaying environment,” in which “not only jazz clubs, but rhythm-and-blues joints were also disappearing, along with Bronzeville’s movie houses, banks, clothing stores, bookstores, doctors’ offices, and quality restaurants.”⁴⁶ One member of the organization recounted,

When I first came to Chicago in the Fifties — around 63rd and Cottage — that was a kind of Mecca. The music was all over. You could walk up and down the street and hear brothers playing everywhere. You didn’t need to go in no joint. . . . They were localized in terms of our community. But something happened.⁴⁷

The remaining clubs featured staid music the to-be members of the AACM found uncreative, reflecting a sentiment expressed by jazz luminaries at the time such as John Coltrane and Max Roach that the established jazz industry typified by clubs and festivals was relegating groundbreaking approaches in the name of safer, more traditional sounding music.⁴⁸

Key figures including Cohran and Muhal Richard Abrams assembled the AACM through a series of initial meetings, where musicians discussed the plight of trying to play what they considered *creative music* — which encompassed cutting edge jazz informed by developments in

⁴⁵ George Lewis, *A Power Stronger Than Itself: The AACM and American Experimental Music* (Chicago: University of Chicago Press, 2008).

⁴⁶ *Ibid*, 87.

⁴⁷ *Ibid*, 87.

⁴⁸ *Ibid*, 90.

avant-garde classical music as well as the rapidly innovated bebop and free jazz styles — in a city where there seemed to be little market for it. What emerged from the meetings was not just practical consensus on how to start such as an organization, such as implementing a due-paying structure and leveraging of the resources collective to rent concert halls when venues would not book them, but a ritual of rigorous jam sessions.

Through these formalized organizational structures and regular jam sessions, AACM lent an opportunity for solidarity among Black musicians increasingly disempowered by the market. Lewis quotes Abrams, “Our ticket is to get ourselves together as a body. They got the thing set up in a certain way, but they can’t control us, because we have the music, and this is what they’re after. Now, if that’s not a good reason for organizing, I don’t know what is.”⁴⁹

Hence, AACM was an organization that both wanted to advance creative musicians as individuals and advance the interests of and opportunities for creative musicians in aggregate. In the AACM’s story, we can see a dynamic and generative relationship between individuals who form a collective that builds a structure that helps them best improvise as musicians. AACM cultivated a fertile creative environment not just because it created a space for individuals to explore and express themselves, but because it created an interpersonal and financial support system specifically suited to those creative needs.

Structure and Safety in Improvisation

Structure enables improvisation. In the AACM’s case, it was a thoroughly scene-based, DIY structure. Frustrated with a city’s jazz scene that could not support its players, AACM organized to take control of their social mediations per Born’s four planes. As improvisers, they collaborated in new ways they found empowering and fruitful; as a collective, they accrued a

⁴⁹ *Ibid*, 114.

devoted following at home and abroad; and as an organization, they learned how to navigate public funding structures in Europe, where they were embraced.

While the circumstances of the DIY-inflected music livestreaming and the AACM's inception are quite different, in both cases, collectives leveraged a support system that accounted for the musical, the economic, the logistical, and the interpersonal. And in the various descriptions of practices relayed by the organizers behind Cactus Care, Biosphere III, and Grave.Site, it is clear that collective efforts and infrastructure facilitated their use of DIY tactics to adapt segments and *modus operandi* of their own music scenes to the virtual realm.

One notable counterpoint to this trend came up in my interview with Club Crossandwich organizer Arlo Bohannon, as he reflected on the precarious situation that embarking on DIY practices alone created in his early days of livestreaming. In the mid-2000s, Arlo participated in another version of DIY culture: an music streaming community at the time rooted in pirate radio.⁵⁰ of Club Crossandwich referenced a different iteration of the DIY ethos, talking about the overlap between the DIY ethos and piracy practices that were often central to online music communities in the mid-2000s.⁵¹ He referred to his assemblage of Shoutcast servers and IRC channels as a “bootleggy” way to bring together a consistent group of people who would bond over the music.

But Arlo stressed something in our interview that few others touched on, perhaps thanks to

⁵⁰ The history of DIY radio and its relationship with pirate radio is outlined wonderfully in Christina Dunbar-Hester, *Low Power to the People: Pirates, Protest, and Politics in FM Radio Activism*, Inside Technology (Cambridge, Massachusetts: MIT Press, 2014). As described by Arlo, the early livestreaming he was involved with split the difference between the DIY radio practices outlined in Dunbar-Hester's book and the British pirate radio tradition mentioned in my previous chapter.

⁵¹ Two pirate communities were especially prevalent in the mid-2000s through early 2010s: that torrent community as exemplified by the private torrent tracker and message board What.CD, and the ecosystem of so-called MP3 blogs, where download links to rare albums were often posted alongside short reviews. OO and KD also drew a link between piracy culture and their decision to livestream DJ sets, as both provide an opportunity to share music they are excited about.

his longer-term perspective of having operating streams for well over a decade. At one point he recounted his vast archive of sets hosted on his Google Drive, talking about how if he were not to archive the music himself, it would disappear into the ether. He went on to describe how there is music that he put out on a DIY record label he ran that released all music on CD-Rs — home-burned CDs — that is effectively lost to him and the artist if neither has a copy of that CD.

What Arlo was driving at is there is an inherent ephemerality to DIY culture. In the online sphere, a livestream really only has permanence if someone archives it, and the durability of that archive will ultimately depend on its respective storage medium and retrievability. That ephemerality in online instantiations of DIY culture reflects and ephemerality of in-person DIY culture as well. DIY venues tend to shut down for a variety of reasons ranging from exhaustion of organizers to pressure from landlords, police, or neighbors. Since, as Izzy Jordan identified, DIY venues tend to host relatively niche communities, those communities may lack a gathering space after a DIY space disappears.

There is a longer term and bigger picture implication here: since DIY venues do not generally have that much permanence, DIY scenes in general experience a lot of turnover, and there does not end up being the kind of institutional awareness for safety practices or scene stewardship that, for example, helped the non-profit arts space that launched Jazz on the Grill gather the expertise and cooperation to render that series a lifeline for the national experimental music and avant-garde jazz community. After all, even though the two Jazz on the Grill organizers who I talked to were stalwarts of and organizers in the Chicago DIY community, it was through this established institution that they were able to help build something more permanent.

This is the other side of the improvisation coin. DIY scenes are exciting and dynamic

precisely because they are steeped in established collective improvisational practices. But the focus on building a structure in a contingent situation means that keeping that structure standing is, by definition, an afterthought. That is to say, while AACM continues to this day, it is not often the case that these grassroots support structures for non-commercial music last.

As Lewis points out, permanence was part of the early conversations when forming AACM, but this is not always the case with DIY structure, which can prove quite flimsy, and therefore dangerous, in the long term. Even though DIY scenes often provide crucial infrastructure for non-mainstream musics and types of identity formation, they can also, in some cases, be incredibly dangerous in specific situations and contingent even for an entire city's scene.

One notable example of this is the 2016 fire at the Oakland DIY venue Ghost Ship that claimed 36 lives.⁵² I asked Moritz Neal and Ora Prince of Cactus Care how that event affected their local scene, they told me, simply, that the scene was shaken, with many venues simply closing shop. In a part of the country where a rent crisis makes it difficult for more conventional arts institutions to establish themselves, underground DIY venues such as Ghost Ship filled the gap. Ghost Ship's organizers were negligent and operated the venue in a profoundly hazardous, reckless way. When it burned down, it took human life and much of the energy of a music scene with it. It is a sobering reminder that improvisation can create something surprisingly robust and can support people and communities in need, but that support is only as secure as the structures that the improvisation occurs within.

In this frame, Lewis's casting of the AACM as a group of people teaching themselves together starts to make sense. As an association developed to support creative musicianship, the

⁵² Fessenden, Ford, and Anjali Singhvi. "The Oakland Fire: What Happened Inside the Ghost Ship." *The New York Times*, December 12, 2016, sec. U.S. <https://www.nytimes.com/interactive/2016/12/12/us/oakland-warehouse-ghost-ship-fire.html>, <https://www.nytimes.com/interactive/2016/12/12/us/oakland-warehouse-ghost-ship-fire.html>.

AACM began to assume an institutional structure that supported the development of creative individuals' voices. The AACM, in turn went on to enjoy decades as a support structure for musicians and dancers who enjoyed an avid following in their black community at home in Chicago and support from European audiences and funding bodies that helped the AACM's members stake careers for themselves. The AACM has persisted because it became its own institution, as its members intended from the outset.

The traditional lack of formalized support structures in DIY helps explain the unease that I would hear from my participants about using the Twitch platform in a way that basically everyone involved acknowledged violated Twitch's terms of services — by playing copyrighted content. Despite the versatility of the cooperative DIY practices that musicians used to adapt to livestreaming, they found themselves precariously inhabiting yet another space.

Twitch, a corporate platform with its own imperatives, conveniently created a copyright grey market in which musicians could set up shop. T.L. Taylor notes that this plight is common to the gamers on Twitch, that her own participants,

Are frequently insightful theorists of their own experience, identifying the ways that they dance between their own desires and legal or economic structures that are always one moment away from tossing them out of the system. They knowingly, and often with great pleasure, engage in forms of affective and performative labor on platforms that they recognize are never fully theirs to control.⁵³

Gamers are suffering the brunt of Twitch's current copyright enforcement and they seem to be adapting accordingly. How will music communities that gather almost exclusively around copyright material deal with such a crackdown? Where will those communities go? Will Twitch prove to be yet another faulty structure?

⁵³ Taylor, *Watch Me Play*, 259.

Chapter 3: Community

It was Friday night before the shelter in place went down that I was at Jupiter Bar playing a show with Alex Ross. And I was with a bunch of people there. It was a crowded bar. And at midnight that night was when [the city said], “At midnight, we have to shelter in place.” And the whole conversation at the bar was that we were going to have a weekend when we couldn't leave the house. Like, a weekend — it's just going to be a shitty weekend. It wasn't till Monday where we kept on getting new information and new vibes and new conversations happening to where, “Oh, this is going to be more than a weekend.”

Here, Elvin Foster, a Jazz on the Grill organizer, is reflecting an experience in his Midwest city that was common among my interviewees — effectively, overnight, a music scene, and in turn a social circle, collapsing. The realization that “oh, this is going to be more than a weekend,” was a dreadful epiphany that manifested in a variety of ways across my interviews. Two performers I interviewed came to this realization as they were forced to cancel tours they had booked: Gray Hampton, also an organizer of Jazz on the Grill, had to cancel an American tour while Sun Tate, a Midwestern DJ starting to develop an international career, had just returned from a gig at the New York listening bar Public Records and was preparing to depart on a monthlong stint in the United Kingdom. Both participants described these as considerable sacrifices, given the months of planning those tours demanded.

Some important threads that will form cornerstones of this chapter emerged from these three participants' accounts of their personal moments when they realized COVID-19 would change their lives. For one, their identity as individual performers in their respective scenes are enmeshed with their community identities. None of them simply describe missing out on work, but the experience of being ripped from the in-person creative communities that invigorate them. In the case of the two Jazz on the Grill organizers, this was an animating moment, as it dawned on them that there may be an opportunity to gather their networks virtually and keep those

communities alive online despite the need for physical isolation. In the case of Sun Tate, it was a moment of disorientation. Their work as a security guard at club nights dried up immediately, and the local roots they had just begun to set down after moving from a different Midwestern city the year prior were quickly made shaky.

Community Support and Mutual Aid

It is important to pause for a moment here to reflect on this strange moment between in-person music community disappearing and the online adaptations emerging. There was a period of chaos in between, when the realization began to set in that this virus was a grave, terrifying matter, when carrying on as normal was suddenly the least of anyone's concerns. A kind of purgatorial state revealed itself after the initial shock, when it became clear that there would be no such normal to return to any time soon, and some other way of life would have to supplant it. As in the case of Sun Tate and many others, this meant that gigs on stage and off had dried up instantly; their livelihoods revolving around music events were rendered impossible for a long while to come.

The bottom fell out at the very beginning of the pandemic and before eviction moratoriums had been instituted, or stimulus checks were sent out, or unemployment benefits were bolstered, or, for that matter, freelancers and contract workers could qualify for unemployment, or even, for that matter, *when* all of these resources were provided yet the hoops one had to jump through to access them proved too cumbersome, we turned to our families, friends, and neighbors. Improvised music livestreaming was just one way of utilizing the community structure of music scenes. Mutual aid and other fundraising efforts were rapidly organized to support artists, nightlife workers, and freelancers who lost out on work, including comprehensive efforts like PGH Artist Emergency Fund in Pittsburgh and the NYC Nightlife United fund in New York

City.^{54 55}

Mutual aid efforts sprouted like mushrooms in the United States and Europe in the early months of the COVID-19 pandemic, from a proliferation of community fridges to GoFundMe fundraisers for rent relief to care work like shopping for the elderly and immunocompromised.⁵⁶

⁵⁷ A group of British academics writing as the Care Collective noted rise of mutual aid as part of a genre responses to authoritarian leadership and capitalist markets that both failed to provide adequate care at the outset of the pandemic, that,

Underscored our enduring interdependence, from cradle to grave. It should be clearer than ever that our shared vulnerability and need for care are fundamental to human life. The pandemic has thus laid bare the horrors of both progressive and authoritarian neoliberalism, along with the profound falsehood of its ideal subject — the self-sufficient entrepreneurial individual.⁵⁸

Indeed, it is profoundly striking that a terrifying disease forcing people to stay away from each other did not usher in widespread atomic self-interested survivalism, but one of networked creative caring, of mutual support, at least in the communities at the center of this study.

As depicted in the archive of livestream flyers I gathered, early livestreams were often set up to directly send money to musicians, often using the payments app Venmo. Flyers would either feature the organizer's Venmo handle or several of the performers', so that attendees could pay those performers directly. On face, this seems like an extension of the typical ticketing model for

⁵⁴ "PGH Artists Emergency Fund, Organized by Julie Mallis," gofundme.com, accessed April 21, 2021, <https://www.gofundme.com/f/pgh-artists-emergency-fund>.

⁵⁵ Quinn Moreland, "NYC Nightlife United Establishes Emergency COVID-19 Relief Fund," Pitchfork, accessed April 21, 2021, <https://pitchfork.com/news/nyc-nightlife-united-establishes-emergency-covid-19-relief-fund/>.

⁵⁶ Dayna Evans, "Give Some, Take Some: How the Community Fridge Fights Food Insecurity," Eater, June 17, 2020, <https://www.eater.com/2020/6/17/21291849/community-fridges-food-insecurity-coronavirus-covid-19-impact>.

⁵⁷ Jia Tolentino, "What Mutual Aid Can Do During a Pandemic," The New Yorker, accessed April 21, 2021, <https://www.newyorker.com/magazine/2020/05/18/what-mutual-aid-can-do-during-a-pandemic>.

⁵⁸ Andreas Chatzidakis et al., "From Carewashing to Radical Care: The Discursive Explosions of Care During COVID-19," *Feminist Media Studies* 20, no. 6 (August 17, 2020): 889–95, 4.

in-person live shows, where attendees pay up front and then performers get a cut of those proceeds. Yet, often during these livestreams, the organizer would make regular calls for attendees to donate money in order to support musicians, usually explicitly saying that the musicians needed support from losing out on live gigs and service work that was obliterated in those early days of the pandemic.



Fig 3. A sampling of flyers for livestreamed concerts.

These early livestreams were not just organized to provide an artistic outlet and connection via music scenes while individuals were alone at home, but often material financial support for key community members who suddenly found themselves missing an important source of income. Making the link between music live-streaming and mutual aid-type community support explicit, the New York venue Nowadays organized a panel in April about mutual aid and other

forms of support for nightlife workers as part of its regular DJ livestreaming schedule⁵⁹.

Indeed, the livestreams that sprang from the initial COVID-19 lockdowns were similar in form to the informal radio-style sets that the duo behind Cactus Care had been live-streaming since 2018 or the Twitch rebroadcasts of Minecraft concerts thrown by Club Crossandwich and Grave.Site starting in 2019. Yet, simply calling the COVID-19-era livestreams an extension of these existing practices would erase the reality of the circumstances that spurred them. These events were a form of comprehensive community support. This is a key puzzle piece when understanding why live-streams proliferated so quickly at the beginning of the pandemic: they were places where friends could both gather while physically isolated from one another and financially help one another get through a confusing, painful moment.

While March, April, and much of May 2020 were dedicated to raising money for community members effected by the pandemic and the lockdowns, the community support structure built on top of regular livestreams was largely redirected when the national uprisings spurred by the Memorial Day murder of George Floyd began. From a pure fundraising point of view, the by-then widespread community of musicians livestreaming on Twitch shifted gears to fundraising for community bail funds, organizations and funds working with predominately black communities, and, a couple of weeks deep into the uprisings, for specific black community members in financial hardship. This last practice continued deep into the summer, as fundraisers shifted gears from supporting protestors to supporting organizations supporting vulnerable Black subcommunities, such as incarcerated and trans folk.

⁵⁹ Spontaneous Affinity, “Lil Heads up That We Put Together a Panel Discussion and A/V Set That’ll Be Streaming next Monday 8-10 Pm ET on the @nowadaysnyc Stream :) See u in the Chat <https://t.co/TRiOqgoble>,” Tweet, @spntnsaffinity (blog), April 10, 2020, <https://twitter.com/spntnsaffinity/status/1248685600330448904>.



Fig 4. One flyer for a livestream supporting a Boston-area employee relief mutual aid fund and another for a livestream raising money for abolitionist organizations during the summer racial justice uprising of summer in 2020.

Several white and non-black POC interviewees in this study voiced the conviction that while scene and friend-circle support were central motives in the first two months of post-lockdown livestreaming, the care methods developed during that early period needed to be devoted to the fight for racial justice that had exploded in late May and early June. Notably, none of the participants in my study who had events planned for what would prove to be the early weeks of a massive protest movement outright cancelled their events. Instead, in the cases of Grave.Site, Jazz on the Grill, and Biosphere III, they consulted with the black performers they had booked to ask if their events were an unreasonable distraction from the movement. Jazz on the Grill ultimately decided some events were and cancelled them, but the others continued their events as planned. In the case of Grave.Site, the organizers were in the midst of a collaboration with a

Brooklyn nightclub and used the Twitch chat and Discord to amplify calls for social justice during those planned events, directing all donations collected during the series to the Minnesota Freedom Fund.

The organizers of Biosphere III originally planned on cancelling an event they had booked with a black trans DJ, but decided to consult her before making a decision. That DJ told them that she indeed wanted to continue with the stream, and the organizers found that the event proved to be a useful space for people who wanted to rest at home and chat with friends after a long day of protesting. The chat also acted as a fertile forum for discussion of racial justice issues. This became a motivating factor for the Biosphere III organizers during the protest movement — to provide a space for friends and community members to come together to recharge. Here, the social support structure of the livestream satisfied that earlier need for connection during isolation with the newer one for addressing the racial violence crisis.

It also changed the way that they used the Biosphere III space as a fundraising apparatus. During that show, all funds were directed to the headlining DJ, as a form of direct aid and show of solidarity with a specific black trans community member. From there on out, the organizers, the organizers asked the performers where funds should be donated, or if the performers themselves would prefer the funds. As Izzy Jordan recounts, “Sometimes something happens on Sunday and we were streaming on Tuesday. And that person was like, ‘This is what I want the Venmo to be. This is what I want to raise for.’ It was a cool way to raise funds and stay connected through that.”

These efforts to redirect the fundraising efforts of live-streaming events were just one part of how the dance music community specifically responded to the uprisings spurred by George Floyd’s and Brionna Taylor’s murders at the hands of police. A wider conversation about how

the commercial dance music industry treats and benefits black people burst open, especially as old disparities were agitated by a combination of the hardship intensified by the pandemic and the injustices magnified by the uprising movement.

Chief among them was a discussion about *who* benefits from dance music. Dance music in its current incarnation is rooted in house music and techno — the former springing from the black gay community in Chicago in the 1980s and the latter developed by young intellectuals of Detroit’s black middle class in the same decade. Similar to the members of AACM described by George E. Lewis, some originators and key members of Detroit’s techno scene enjoy robust careers as performing musicians while enjoying little popular support or career back home. But unlike those members of the AACM, Black American performers must contend with white Europeans in the European club scene who appropriate music developed by Black people and co-opt Black cultural aesthetics for personal gain⁶⁰.⁶¹ These issues of appropriation are exacerbated by economic realities that put Black Americans at a disadvantage to white Europeans working the same genre: in Europe, artists and venues often receive public arts funding from their governments, while in America, basically no such public arts funding exists for such performers and venues⁶². During a pandemic when Black Americans as a whole saw their collective wealth devastated while European governments issued support grants to music communities, the

⁶⁰ Axmed Maxamed and Mathys Rennela, “A Conversation on the Bleaching of Techno: How Appropriation Is Normalized and Preserved,” *Dweller Electronics* (blog), June 24, 2020, <https://dwellerforever.blog/2020/06/24/a-conversation-on-the-bleaching-of-techno-how-appropriation-is-normalized-and-preserved/>.

⁶¹ Marissa Cetin, “Nina Kraviz Faces Accusations of Racism over Appropriating Cornrows and Insensitive Comments on Twitter,” *Resident Advisor* (blog), accessed April 21, 2021, <https://ra.co/news/44688>.

⁶² Frankie Decaiza Hutchinson, “Business Techno Matters: How Those Who Have the Most Sacrifice the Least (French, Spanish, Japanese Translation Available),” *Dweller Electronics* (blog), August 18, 2020, <https://dwellerforever.blog/2020/08/18/business-techno-matters-how-those-who-have-the-most-sacrifice-the-least/>.

wounds were freshly salted.^{63 64}

Who Is Part of the Music Community?

In their interview with me, Sun Tate interpreted these questions of how the dance music industry supports its black members as a tangibly community-focused one. Shortly after George Floyd's murder, publications such as Pitchfork and users on Twitter began circulating the revelation that George Floyd rapped as Big Floyd in Houston's fertile turn-of-the-millennium hip hop scene, even making an album with one of the city's most storied and beloved producers, DJ Screw. George Floyd, the music scene realized, was one of us⁶⁵.

Little discussed, though, was Floyd's work as a security guard at Latin nightclubs in Minnesota that often hosted techno events.⁶⁶ Since Sun themselves is a Black musician who mentioned working security during concerts, I asked them how they felt about the connection.

So, you have this situation where you got this person who is doing security at dance music parties, but is anybody looping that back around in the community to make sure that the people that protecting you are protected themselves? And then in that case, if you're just using them to guard your party, but nobody's looking out for them — even though we're supposed to be this universal, loving dance music scene that's inclusive — are we really doing that?

What would it look like, I asked, to have a music scene that was more aware of all the people that intersect with its core community? Sun, suggested considering the party as only one

⁶³ Dominic Rushe, "Coronavirus Has Widened America's Vast Racial Wealth Gap, Study Finds," *The Guardian*, June 19, 2020, sec. US news, <http://www.theguardian.com/us-news/2020/jun/19/coronavirus-pandemic-billioinaires-racial-wealth-gap>.

⁶⁴ DeForrest Brown Jr., "DeForrest Brown, Jr. | Speaker Music on Twitter," Twitter, accessed April 21, 2021, <https://twitter.com/dfnbrown1/status/1316392273643438086>.

⁶⁵ Lawrence Burney, "The Rap Report: To George Floyd a.k.a. Big Floyd of the Legendary Screwed Up Click," *The FADER*, accessed April 21, 2021, <https://www.thefader.com/2020/05/29/the-rap-report-to-george-floyd-aka-big-floyd-of-the-legendary-screwed-up-click>.

⁶⁶ "George Floyd, Derek Chauvin Worked Security At Same Minneapolis Nightclub," May 29, 2020, <https://minnesota.cbslocal.com/2020/05/29/george-floyd-derek-chauvin-worked-security-at-same-minneapolis-nightclub/>.

potential context for DJing and performance, and a limiting one that catering to people willing and able to stay up late and participate in that kind of setting. They wondered if there could be community outreach efforts from the dance music community, such as involvement with community centers or DJing while food was being handed out at pantries.

Sun spoke to a concern that came up in my study in a variety of ways: how do musicians define who a community includes and who a community is for? Going back to Georgina Born's four planes of social mediation, one model of community is that second plane, or the people who elect to form a community around a specific kind of music or event. In one sense, these current-day communities forming around improvised music are a progression from the youth subcultures described by foundational cultural studies scholars Stuart Hall and Dick Hebdige. After all, the DIY practices often employed by livestreamers both before and during the pandemic can be traced back directly to the punk subculture described by Hebdige in *Subculture: The Meaning of Style*.⁶⁷

But whereas Hebdige describes subcultures broadcasting their resistance to hegemonic structures through a series of striking symbols, forming cliques and solidarity in part around how members of a given subculture present themselves, there is little consensus on visual iconography among either my participants or the livestreams I observed. Likewise, when participants in my study did speak of something like subculture, it was often when recounting alienating moments from subcultural groups, such as people of color and queer folks who felt marginalized by discrimination at club gigs or artists who grew tired of the aesthetic sensibilities or careerism they experienced in circles they once called their community. Granted, were the term *subculture* a good descriptor for the kind of community I am tracing in my study, people's

⁶⁷ Dick Hebdige, *Subculture: The Meaning of Style*, New Accents (London; New York: Routledge, 1991).

feeling of alienation from a given subculture would not be evidence that the subculture is irrelevant; inclusion and exclusion based on identity norms is a constituent component of subculture. Yet, it is precisely that identity-centric clique-like aspect of subculture that makes the concept a poor fit here.

As described in the previous chapter, *scene* describes these social formations around music quite well. But the question I am posing here is how do we think about community when, as Sun enunciates perfectly, there is a permeable boundary between that scene and the surrounding world. As demonstrated by both the statements of my participants and by the fundraising infrastructure propped up around livestreams to benefit broader social initiatives like mutual aid and bail funds, people in these scenes see them as a haven of sorts — as an intimate collective that is yet another community they are part of, be those geographic or identity-based communities. Now, this may be a mark of the multiple intersecting tragedies that comprise the period of time this study focuses on, inspiring the realization that the kind of illness and violence witnessed in America starting in March does not discriminate, and that any person who identifies in any sort of way and forms whatever kind of community, is just as vulnerable.

More so than subculture, *counter-public* as formulated by Michael Warner is an insightful descriptor of the type of collective or community at hand⁶⁸. Warner describes three key components of counter-publics which ring true here. First, a counter-public is a subset of a public, more generally, that “exists by virtue of being addressed,” and “comes into being through an address to indefinite strangers.” Warner defines that address as discursive circulation of a texts, which may be things, “not even recognized as texts — as, for example, with visual

⁶⁸ Michael Warner, *Publics and Counterpublics* (New York: Zone Books; Cambridge, Mass.: Distributed by MIT Press, 2002., 2002).

advertising or the chattering of a DJ.”⁶⁹ I would extend that by saying the text could not just be the *chattering* of a DJ, but a DJ’s set. If that is the case, an improviser’s performance counts as a text too, helping square Warner’s theory with Georgina Born’s first and second plans of social mediation in music: the micro social relationship between performers and the relationship of the audience who forms around that performance.

Second, publics and counter-publics alike are “a multicontextual space of circulation, organized not by a place or an institution but by the circulation of discourse⁷⁰,” a useful modality for, say understanding the pluralistic co-constitutive identities of my participants such as Sun Tate, who view themselves as simultaneously a member of the black, a non-binary, and DJ communities, or Gray Hampton whose social and political tenets are equally informed by his involvement in academia, non-profit art spaces, and a national DIY experimental music scene.

Finally, Warner posits that, “a counterpublic maintains at some level, conscious or not, an awareness of its subordinate status. The cultural horizon against which it marks itself off is not just a general or wider public but a dominant one⁷¹.” And indeed, the idea of a *dominant* public was a looming specter in my study, from hegemonic structures like white supremacy or hetero- and cis-normativity, to powerful industrial structures like commercial clubs, or to a wider Internet community, such as Twitter as an abstract whole. Often, participants in my study conceived of their streams as a kind of enclave — not necessarily intentionally exclusive spaces, but certainly ones that were intended for specific types of participants, be those based on aesthetic preferences, identity, or established social circles.

Sun’s mention of making space for people like George Floyd in a more expanded conception

⁶⁹ *Ibid*, 67—68.

⁷⁰ *Ibid*, 119.

⁷¹ *Ibid*, 119.

of music community seems to speak to the limits of the discursive space demarcated within the counter-public. A dance community that conceives itself as exclusively inscribed by music may be obfuscating its own multi-contextual nature a site where people from all walks of life come together to dance to a DJ, ignoring that it is *bringing together* people across difference. Sun is asking that if we consider music as bringing people together, that we think of the people brought in who may not even be on the dance floor, such as security staff, that the counter-public space includes address to those people too.

Such address is not possible, and mutual aid efforts that accounted for nightlife workers and musicians alike at the outset of the pandemic are one form of such address. Sun did not seem to be voicing concerns about something they believed was impossible, but a pre-pandemic and pre-uprising status quo that had been proved inadequate.

Inclusion, Exclusion, and the Opportunity to Participate

That moment outside of such a status quo opened up space for reflection and revision.

Livestreams in some cases, provided a way for people who may not typically be able to participate in an event the opportunity to tune in. Gray Hampton, one of the organizers of Jazz on the Grill, recounted his own difficulties with a sleep disorder that complicated his participation in his local Midwestern city's music scene, with the typical show running quite late at night. He listed a variety of ways that venue themselves may not be ADA compliant, and how tuning in to a show on livestream gives the participant more control over how they attend and experience the show, such being able to adjust loudness of the sound during the concert.

As Gray recounted, Jazz on the Grill's origins are rooted in accommodations for a disabled community member. Since 2015, Uptown Performance and Sound Center (UPSC) — the non-profit recording studio and art space in Gray's Midwestern city that provided infrastructure for

the Jazz on the Grill series — operated a weekly series on Monday called Plateaus. When mobility issues forced a UPSC donor and regular Plateaus attendee to stop coming to the concerts, UPSC started livestreaming the Plateaus series on YouTube every week. Because the UPSC staff was already well-versed in live-streaming — meaning the sound person at the venue understood how to set up a livestream on YouTube and broadcast the same audio played over the venue’s speakers — it was easy for the Jazz on the Grill organizers to set up regular livestream programming right at the beginning of the lockdown period and for UPSC’s sound person to assist performers to set up OBS and broadcast themselves. At its most prolific, Jazz on the Grill broadcast every night.

Gray did not just see livestreaming as accessible to people with disabilities, but people with lifestyles that make attending late-night concerts prohibitive.

At the same time — and I bring up the other stuff about like, oh, this is for shows being geared towards young people for other reasons — because it's not just that someone who is has mobility issues should be allowed to go to a show. Someone who has to go to work the next day should be allowed to go to a show too and not feel like I can't stay or I shouldn't go because I'm tired. There's economic and class issues that come up too.

Quinn Ramos, one of the organizers of the Hot Fusion stream and a regular participant in multiday livestreams organized by Traxx, a Chicago DJ, remarked,

For somebody like me, it has been incredible as a community building kind of exercise. I'm an introvert and during the week, in a time where there is not a pandemic, I don't get out much. You know, I have a nine to five job and I get home and tired and going out takes a lot of energy out of me. Even when there are live music events during the week in my community that I'm really excited about and I want to go see, it's hard to do that. When the only avenue of live music community interaction is watching it on the Internet, well, it equalizes the playing field a little bit.

In-person music scenes are often comprised of audiences that skew fairly young. The older

participants in my interviews, such as Gray and Quinn, often remarked on the late-night party aspect as being in one way or another prohibitive for their participation in in-person events, be that because of the need to get up early the next morning for work, family obligations, or simply the sensorily overwhelming nature of such an event. Factor into this matrix people who are may not as easily attend an event because of mobility issues, and the picture that emerges of live events pre-pandemic is one full of youthful, healthy, and unencumbered attendees. It must be noted that the counter-public framework accounts for groups of people who elect to take part in a specific kind of discourse circulation, but they are not necessarily accessible to *everyone* who might elect to participate. As became clear in my study, there are absolutely factors that prevent people from participating in shows they would like to attend and scenes they may want to join.

The themes of body and lifestyle came up several times in my study as factor prohibiting people from participating in certain music communities, such as the case of three queer members of the dance music community, Izzy Jordan of Biosphere III, Arlo Bohannon of Club Crosssandwich, and the rust belt DJ Ursa Viola. In the case of Izzy, he realized that the commercial rave scene that he grew up participating in was one rife with careerist DJs jockeying for accolades and high-paying gigs. He did not find this particularly nurturing, nor for the type of music he was interested in, nor for the type of scene dynamics that he could find healthy, nor for the type of support network he really needed as a queer person in techno. Along with his current romantic and booking partner Kimia, Izzy found a more collectively-minded community at the Gays Hate Techno festival, one that reminded him in spirit of the co-op housing system he lived in while attending college in Michigan. That scene gathering around that festival was not just one boasting exciting music, but nourishing friendship and supportive community.

Yet, not all stories about bodies and lifestyle in music scenes are so positive. Arlo saw a

lucrative, promising DJing career fall apart before his eyes after a cross-country move. He grew up in Massachusetts and was performing at relatively high-profile gigs opening for the likes of Guns Not Bombs and now-superstar-DJ Steve Aoki. But upon moving to the South in the mid-aughts, Arlo was forced to change his DJing moniker from one that referenced gay sex in order to get placed on bills and was ultimately driven out of his new local scene because of open homophobia he faced. That alienation from live events is ultimately what drove Arlo to putting together livestream events in the mid-aughts, in turn forming a robust community around his weekly livestream radio show and building up the skillset and experience that would ultimately lead to him helping organize the Club Crosssandwich parties in Minecraft.

Ursa described the virtual space as a similar refuge from commercial club gigs,

A lot of my experiences playing in clubs as a transgender person have been pretty terrible. I don't really know if I've seen a lot of other trans people really be the people who are like, 'Oh, I miss playing in the clubs.' It's kind of a dice roll always — on [having] beautiful experiences, or you just feel like totally dehumanized and like you can't focus on playing music and you just call the Uber and go to where you're staying and sit there and think about it.

Ultimately, what she missed the most about in-person shows was the visceral feeling of sound coming from a loud sound system and the chance encounters with strangers and friends. Yet the most valuable live music experiences for Ursa did not come at clubs, but at the DIY parties that she booked in her home city with a collective including Sun Tate, where they could cultivate an intimate community of trans and queer folk, partially put together as a space where artists and attendees could enjoy music, dancing, and community to the fullest.

These various stories of dissonances between individuals and their music scenes seems to speak to something common across music communities. If music community is understood as elective — comprised of people who come together around music they love or events they enjoy

attending — it must be understood that they are not therefore perfect fits for all, if any, of the people they bring together. Sometimes, such in the cases of Izzy, Arlo, and Ursa, there is a disconnect between the perceived state of the collective and what would make that individual feel like a welcome member. Sometimes, such in the case of Gray and Quinn, they are spaces full of friends and music those participants are passionate about, yet the terms of participation in those in-person spaces just do not mesh with those individual community members' lifestyles.

Stories about discrimination against gay and trans people in the club scene speak to an alternate meaning term club: not as a semi-public space for a group to commune, but as a semi-private place where people can be excluded on whatever grounds those policing its bounds feel are appropriate. The history of dance music in its current incarnation — with a DJ at the center of a party where people dance to electronic music all night long — begins with Chicago house music, a genre and scene that spawned from Chicago Black gay community, and Black gay people and spaces have been central to locale-based subgenre that have defined the modern-day sound of dance music, such as New York Vogue and New Orleans Bounce. In his documentary about the advent of the rave scene in late 1980s Britain, artist Jeremy Deller says of early Chicago house music, “the club is a haven, a place where you can be who you want to be.”⁷² But the stories told by my participants show the other valence of the term club, as an exclusionary space, one of membership.

Despite dance music's roots in gay and Black culture, there is a sense that clubs and much of the industry wealth are dominated by white, cis het men.⁷³ The kinds of people who, in theory, built dance music themselves feel excluded from some of its spaces, yet, to use Deller's phrasing, these participants describe still looking for places where they can be who they want to

⁷² Jeremy Deller, *Everybody in the Place* (Frieze, Gucci, 2018), <https://vimeo.com/394779397>, 5:34

⁷³ Maxamed and Rennela, “A Conversation on the Bleaching of Techno.”

be. In a sense, this is a matter of finding or creating spaces that are designed not with a commercial club's imperative of ostensibly having doors open for anyone who *wants* to take part, but making space for certain people and bodies to *be able* to take part. It is a matter of defining community on terms of who is accommodated. Tying it back to Michael Warner's conception of counter-publics, I witnessed that these online communities were discursive spaces, with the demarcations for inclusion and exclusion sometimes made literal and explicit in the text of the chat box. Of course, even this presents a barrier to entry for members of in-person music communities who may be prohibited from accessing these online spaces, be it from poor internet connection, lack of an available computer, or obligations that preclude joining the livestream.

Defining the Terms of Community

Community, in the case of this study, can only partially be described as a group who elects participate in a given music or concert. We must stretch this definition to account for the counterfactual — the fact that there is not just an inside, but an outside to community, that certain people and bodies are excluded because room is not made for them in that community.

To give one example, in early May, Jazz on the Grill presented a show organized by a Washington DC-based organizer, featuring a solo performance by a bassist who is a key player in the city's experimental music and jazz music communities. The bassist performed last on the line-up, presenting a piece that used a variety of feedback systems, wherein sonic feedback in his recording set-up would trigger video feedback. During the raucous climax of his set, intense distortion from his amplified electric bass was causing a strobing effect on the screen. A user by the name of Grey_Allien, a regular member of the Jazz on the Grill audience and participant in the chats, said that they were enjoying the bassist's set but would have appreciated a warning about the strobing effect on account of their sensitivity as an epileptic. One of other audience

members, the head of a notable experimental music record label, was enthused about the set, and responded by discounting the concern, saying, “This is noise music. It’s dangerous!”

Grey_Allien responded that they were disappointed to hear that kind of dismissal since that exact cavalier attitude tends to keep them away from in-person shows: in their experience, organizers and performers sometimes do not take into account the simple reality that some audience members might be put in danger by strobe lights. Livestreams, Grey_Allien explained, were safer precisely because they themselves had control over the environment and, in turn, the risks, but seeing this attitude in the chat still made them feel unwelcome. Other participants in the chat quickly came to Grey_Allien’s side, voicing their concerns, and shortly after the label head apologized for being flippant and insensitive.

This moment was a demonstration that even though anyone with a fast enough internet connection can access any Twitch stream, those streams are *not* de facto community spaces, just as no space, be it online or off, is by default a community space. In this specific example, Grey_Allien expressing their concerns over their own health and safety during the bassist’s performance was communicating that they did not consider in-person live shows to be a welcome space given their specific needs, implying that were they to come to a similar conclusion about these livestream events, they may also feel unwelcome in these and decide to opt out.

An exchange like this would have been difficult at a noisy, crowded in-person show, with loud sound coming from the speakers and many simultaneous conversations among attendees. The livestream chat, though, is a single stream of text. Even if multiple conversations are held simultaneously, the single stream gives organizers and, as demonstrated by this case, attendees the ability to moderate discourse. This is not the type of centralized moderation administered by

social media platforms like Facebook and Twitter, where users report posts that potentially violate the platform's policies and the platform decides whether or not to delete it. Instead, here we see an example of community moderation.

Social scientist of online communities J. Nathan Matias, studying similar user-level moderation in Reddit's subreddit communities, equates these moderation efforts to other kinds of *civic labor* that,

May also be found beyond online platforms: in debates over the unionization of school street-crossing guards, among parents who coach community sports within for-profit leagues, in the elected school boards of publicly funded private schools, or in the everyday governance work of scholarly peer review. In all these cases, volunteers do more than just the work associated with their role: they must negotiate the meaning of their civic role and power with each other and with a wider system that relies on their labor.⁷⁴

Community moderation inscribes and enforces norms of discourse in online communities. In the case of Reddit, a list of rules is drafted and made public within each Subreddit community. But this is not the case with Twitch, unless the channel's owner lists rules directly in the channel's description. Instead, in this case, participants in the chat clearly had some sense of values that they learned were shared values, and therefore enforced collectively, compelling the offending party to reassess his statements and apologize for them.

When I asked the Jazz on the Grill organizer Gray Hampton to give me his thoughts on this episode, he told me,

I was really proud of our community and that scene in that very short bit of interactions. It was a telling but important one for people to be comfortable asking each other to be held accountable, because I don't know if it's an accountability, but just recognizing that there's something wrong with what they were saying and then that person going, "You

⁷⁴ J. Nathan Matias, "The Civic Labor of Volunteer Moderators Online," *Social Media + Society* 5, no. 2 (April 2019): 205630511983677, 11.

know what, you're right, I apologize.”

In this case, the participants in the Jazz on the Grill chat demonstrated that indeed there was room for someone with a strobe sensitivity, rallying around this person making a convincing case that a flip dismissal of such a danger was not acceptable. When the label head apologized, it came with no excuses or qualifiers — the label head simply realized they had transgressed against the rules of that space, and they did not wish to make anyone feel unwelcome. But this did not come immediately.

It came after other members created a protective discourse, casting the terms of this community in text, enforcing them in the same gesture. Collectively, they decided to make this online space one where this individual, and perhaps any other people watching the chat but not participating, understood that there would be certain protections and certain types who would be protected. This provides a glimpse at how communities decide who exactly is afforded the opportunity to participate, and what members of that community are owed. This too was an improvisatory moment, one that proved risky for lack of structure, even if fairness and inclusion won out at the end of the day.

In general, I found that these chats were congenial spaces, with little harassment or intolerance to be seen and tensions often quickly diffused. This is not necessarily always the case with Twitch livestreaming; T.L. Taylor describes in *Watch Me Play* how some esports and videogame livestream chats are chats can be hotbeds for harassment, misogyny, and hate speech⁷⁵, a dynamic I admittedly did not witness or hear reported in my interviews. But, with the livestreams I studied that began after the pandemic, there was also none of the formalized

⁷⁵ Taylor, *Watch Me Play*, 172.

moderation structure that Taylor also describes that, “set the tone, socializing chat participants into the values of the space, and redirecting bad behavior to more positive engagement is part of the work that they do.”⁷⁶ The community brought the tone and values with them.

Yet, that community behavior *is not* a given, nor is the lack of toxicity Taylor describes appearing in video game livestream chats. No matter how effectively the community rallied around Grey_Allien, their effort took guesswork and enjoyed little formalized guidance. My realization of this fact came when Gray Hampton recounted talking to the bassist about the strobe light after the show. The bassist felt remorseful about putting someone at risk, and never would have included the strobe effect in his performance had he considered the possible harm. All went well, but only after something went wrong. The community stepped up to the plate, but it would not have had to step up to the plate were the strobe prevented in the first place or a specific set of guidelines were made clear that all participants in the show must be sensitive and compassionate about others’ differences.

And while enough participants in the chat agreed on a shared ethic that ultimately rendered the event more inclusive, there was some element of chance at play there as well, perhaps even a kind of luck. In disability studies literature, conversations about accessibility are often ones about architecture, asking how physical spaces and infrastructure are designed and put together to accommodate different types of bodies.⁷⁷ For example, a ramp going into a bank means little if there is no curb cut on the sidewalk leading to the ramp. People rushing out of a bank to help someone get their wheelchair over the curb does not reflect well-designed infrastructure. In Twitch and clubs alike, we see that accessibility is both a question of *access* and

⁷⁶ *Ibid*, 220.

⁷⁷ Bess Williamson, “Access,” in *Keywords for Disability Studies*, ed. Rachel Adams, Benjamin Reiss, and David Serlin (NYU Press, 2015), 14–17, <http://www.jstor.org/stable/j.ctt15nmhws.6>.

accommodation.

In this episode, we see a similar reality that queer participants in my study mentioned about clubs: it was only as accessible as the collective comprising the audience made it. This was in early May 2020, two months into the lockdown, and two months into this new live-streaming thing too. For two months, we had been operating without much guidance and making a series of decisions collectively about the safest way to exist. For two months, we had been improvising, cobbling together a new of life by cutting out what was unfeasibly and adapting subsist on the scraps of whatever was left. Looking back on this moment from the Jazz on the Grill stream, it looks to me like yet another example of people watching out for each other because there was not some broader structure in place keeping them safe, resonating with the regular practice during this period when livestreams were used as fundraisers for mutual aid efforts.

Granted, this is the predicament not of just this live-streaming that cropped up after the COVID-19 lockdowns began, but of DIY music scenes in general. DIY practices adapted to Twitch so readily partly because of the ability to operate within contingent scenarios, but that often meant that there was no existing scaffolding for community norms and standards, only the ethics and sensibilities of the specific people involved with those events. This should not be understood as something inherent to online spaces, nor to DIY practices. Instead, it is a sign of newness, and perhaps even contingency — longer running streams already had community governance systems in place come the COVID-19 outbreak.

Over the years that the Grave.Site team has been throwing parties that span Minecraft, Twitch, and a Discord channel, they have developed a strict set of rules and moderation style to help maintain the type of community interactions that they see fit, similar to the ones Taylor writes about. As Cooper Dill described to me, Grave.Site has a strict policy of routing out any

kind of discrimination or harassment whatsoever, partially based in a set of convictions held by the organizers, partially based in the palpable need to keep the Grave.Site community safe and welcoming for all of the queer folk and people of color who participate.

As Grave.Site parties attract up to 100,000 attendees and their Discord server hosts 12,000 members, the organizers mount a considerable moderation effort, which is a tricky balancing act given the “chaotic vibe” that Cooper Dill said the organizers like to maintain during parties. During events, about a dozen different moderators monitor the various chat streams, including the chat on the Twitch mirror of the Minecraft event, the various Discord voice channels, and the Discord text chat. Cooper appreciates that, “It's so easy to just ban someone and it's so easy to prove that they did something and they're lying about doing it, or harassing someone or saying something inappropriate.” The people who the team bans “are just banned permanently from ever participating.” While Cooper was not able to tell me how many people are banned from the Twitch chat, he says that currently 552 people are banned from Grave.Site’s Discord server.

In addition to banning, moderators have other tools at their disposal to root out abuse and harassment in the chat. Gray Hampton mentions that people have had to be banned from the Jazz on the Grill Twitch channel for “talking shit,” and guesses that many of those were not fans but trolls looking for a Twitch channel where they could start trouble. He cites two useful tools for separating random trolls from members of the community who might be encouraged to better follow the community’s norms. First, Twitch can automatically flag and censor certain profane and derogatory language. The moderator of the chat is shown the most offensive speech before it appears in the chat and has the ability to delete those messages outright. Second, Gray mentioned that the moderator has the ability to see which participants in the chat have attended streams before, giving the moderator the opportunity to sniff out random offenders. Lastly, when the chat

seems to veer off course from congeniality and collegiality, the Jazz on the Grill moderators tend to switch the chat to “emoji only mode,” where participants can no longer type text. Gray considers this a very effective way of cooling down the chat, “a good way to reset and get everybody to shut up.”

These various methods of moderation speak to a series of technical affordances that online chats that have given organizers the unique ability to moderate online spaces in a way that they would not be able to moderate an in-person show. At a concert, for example, someone could sexually harass someone else under the cover of loud music. This is a regular enough issue at live shows that music venues adopt safe space practices that make explicit such behavior will not be tolerated, giving attendees of shows a level of recourse when they seek help from the organizer of the show.⁷⁸ With an online show, loud sound and relatively anonymity provide no such cover. If someone is harassing someone else, the organizer can evict that harasser from the show immediately.

The community aspect of livestreams must be understood not as one that is elective, but one that is cultivated. It is not only the case that participants can help induce the type of community they want to participate in, but that organizers can set explicit terms of who is and who is not allowed to participate. What we can learn from this more distilled version of community governance — where an internet technology makes it relatively easy to define rules and enforce them — is that music scenes in general have sets of norms, sometimes codify those norms as rules, and can cultivate specific types of community spaces around those rules and norms. This is all to say that if livestreams were made possible by the extent practices of in-person DIY music communities, then perhaps those in-person DIY music communities can have new sets of

⁷⁸ “Safer Spaces,” *Sissy Collective* (blog), January 30, 2012, <https://sissycollective.wordpress.com/safer-spaces/>.

practices made possible by lessons from live-streaming communities.

Conclusion

Every week day, I get a Twitch notification that DJ Elise — a club music DJ from New York who is a member of the Juke Bounce Werk collective — is streaming. She broadcasts in the middle of the afternoon, and whenever I tune in, I find a GIF of a dancing green alien and a mirror of the live chat superimposed over the video feed of her DJing. The stream is always casual and high energy, with DJ Elise shouting out friends in the chat and bantering about tracks into the microphone. It lasts about an hour, and she will play a fun mix of club tracks, turn-of-the-millennium R&B, older funk music, and hip hop that, it seems to me, is programmed as the exact right amount of energy to help viewers get through the mid-afternoon slump.

DJ Elise reflects a trend that I noticed rising late in 2020, well after physical isolation became not a temporary way of life, but the norm. That trend was the rise of casual livestreams hosted by a single DJ, perhaps more akin to the type of spontaneous livestreaming that we might recognize from the videogame streamers on Twitch. One participant in my study, Ursa Viola, picked up the pace of her individual livestreaming practice, using events announced last-minute to woodshed her DJing chops with themed genre sets, raise money for grassroots organizations, and hang out with friends. Another participant in my study, Sun Tate, reduced the amount that they were streaming on Twitch when they started playing a monthly show on a prominent internet radio station, but put together a birthday party for themselves on Twitch that featured sets from their house mates and saw a steady stream of chat participants who seemed to be friends with the people on screen.

Sometime last year, and I am not entirely sure when, the kinds of entities running regular streams started to homogenize. While there was once a proliferation of informal weekly or biweekly shows organized by people who do not typically organize such regular series offline — Biosphere III from this study is a good example — those dwindled dramatically. The weekly, bi-

weekly, or monthly series that were occurring, on the other hand, were booked by promoters or in-person venues who had been in the habit of booking shows regularly before the pandemic. These include, for example, the NotMassPGH stream, which is the Twitch arm of the Hot Mass party from Pittsburgh. The duo behind Biosphere III still does Twitch events occasionally, but it is usually just for an hour on a Sunday evening, featuring one or two of them.

And while the Jazz on the Grill series no longer runs nightly like it did during the period of time covered by my study, the series does still run weekly. Jazz on the Grill, as mentioned in the previous chapter, was an outcropping of the Plateaus series at a non-profit arts space in the Midwest. So, again, there was already process in place for that space to host regular shows, and it makes sense that the venue would be able to continue hosting regular Jazz on the Grill shows a year into the pandemic. For that matter, the venue has *also* resumed its Plateaus series, dedicating a full Monday night every two weeks to a single artist, interspersing performances and short interviews with that artist. These Monday night streams are announced weeks and sometimes months in advance, and the artists featured hail from all over the world.

This, too, reflects a trend. Programming in this sphere is, overall, less sporadic and better promoted — which is to say that streams are announced and flyers are shared on social media fairly well in advance of broadcast. This reflects an overall landscape shift, where streams featuring multiple artists are less sporadic and more highly produced. In some sense, the trend here is that streams featuring more than just one performer are presented, increasingly, with intent.

One of the surprising developments of the latter half of 2020 is that the two Minecraft parties that I studied — Grave.Site and Club Crosssandwich — dramatically wound down their programming. Their streams became more sporadic as 2020 went on, and neither have broadcast

or announced any broadcast in 2021. As I mentioned in previous chapters, these were events that were frequent and popular well before anyone had a sense that a pandemic was on the horizon, and if I had to guess, I would have said that they would have behaved similar to the organizers and venues that booked regular shows offline before the pandemic. I would have thought that their practices for bookings streams regularly would have made it simply to continue, but instead these died down.

The fate of improvised music livestreaming is a bit uncertain. Some of the participants in my study who were the most enthusiastic about the rapport in the chat and the easy access for anyone from anywhere are the ones who have virtually disappeared from the streaming space, no longer programming events or popping up in the chat of the streams where I may expect to find them. I have a suspicion — driven by my own personal feelings — that COVID-19 lockdown fatigue has parlayed into stream fatigue too. It seems entirely possible that a practice that seemed crucial and exciting early on has turned into yet another screen-based activity that demands attention, that intensifies feelings of loneliness, isolation, and exhaustion.

In some sense, it also reflects how the energy of the protest movement spurred by the police murders of George Floyd and Breonna Taylor — the protest movement that provided the backdrop for the majority of my interviews, which were mostly conducted in the summer of 2020 — has also died down. An election came, and then winter; with the winter holidays came COVID-19 spikes; and by spring, it felt like all anyone was capable of was trying their hardest to get by, waiting for the vaccine. Keeping it together has honestly become hard enough.

The future is uncertain. In terms of the livestreaming scenes that I studied, my feelings about their longevity are similar to and different than what I thought I would write in this conclusion when I was first conducting my research. At the time, I thought that music

communities discovered something new and wonderful, and even after in-person shows came back, we would look for ways to preserve these multi-artist, DIY-level livestreams. Here were places where so many people who typically could not make it to live shows could still gather and enjoy them. Just look at Phish, I figured at the time, whose fans tune in to their livestreams to watch the band perform in faraway cities all the time.

Right now, I still think livestreams are here to stay, but I may be less bullish. If I had to guess, I would say that organizations like the arts space running Jazz on the Grill will probably continue livestreams well after the pandemic because they realized it is a great opportunity to extend their programming to the widest audience possible. But I am not so sure that livestreams will really take the mantle as the locus of underground music communities. It seems far more likely that individual artists will continue to livestream on Twitch, in a manner analogous to gamers. They will attract their friends and develop followings, and likely use their platforms to showcase other talent. But it may become yet another form of individualistic expression like posting mixes to Soundcloud or albums to Bandcamp, and resemble less and less the effort of a local geographic community built around mutual support that it started out as a year ago. That does not devalue livestreaming, it just speaks to the fractured, individualistic mode of being an artist in the age of corporate platforms. Ultimately, I think this will hew closer and closer to the situation described by Nancy Baym in *Playing to the Crowd*, wherein artists more and more tailor their craft to the demands of platforms and fans alike, with the amount of emotional labor coming to rival the creative labor that we might more readily associate with performance.

But, and I must stress this, the future is uncertain, unimaginable. At the time of this writing, the trial of Minneapolis police officer Derek Chauvin for the murder of George Floyd is underway. A week ago, protests broke out in Brooklyn Center, Minnesota, less than a dozen

miles away from that courtroom, when a police officer killed the 20-year-old Daunte Williams during a routine and seemingly spurious traffic stop. Those protests are intensifying and the police response has become quickly militarized and repressive. Just a few states east, a 13-year-old was killed by police on the South Side of Chicago, a boy by the name of Adam Toledo. Today, the city released body cam footage showing the death. We may soon learn that the national reckoning from last summer did not fizzle out, but only lay dormant for a bit.

And the future is uncertain for music communities too. Venues are shutting down at a rapid clip, and the Save Our Stages act that successfully got turned into law to spread federal arts grants to independent music venues and community arts spaces has yet to disseminate a single dollar to applicants⁷⁹. That much needed lifeline is coming too late, and America is hemorrhaging live music spaces. This will result in corporate consolidation by the likes of Live Nation and a gutting of local infrastructure to support new aesthetics, marginalized voices, and community solidarity. And perhaps Twitch will pick up some of the slack.

Regardless of what comes next, one thing is clear: the organizers who already had the structure had no problem creating lasting spaces for improvisation on Twitch. And, on the flip side, the shuttering of independent venues that is happening right now — which we will have to confront once everyone is vaccinated and comfortable enough to enjoy live music again — betrays a *lack* of structure in our current governmental and economic systems to support them. With no structure, improvisation struggles to result in lasting change. What might it look like, then, to foster a society where there is structure to support improvisation, where improvisation is not just something we do when things go wrong? What would it look like if we were not just

⁷⁹ David Dayen, “First 100: Arts Venue Closures Likely After Months-Long Delay in Federal Grant Program,” *The American Prospect* (blog), April 15, 2021, <https://prospect.org/first100/arts-venue-closures-likely-months-long-delay-svog-sba/>.

improvising to rescue ourselves and each other, but instead enjoyed structures that we could play with, iterating and implementing new ways of life driven by the shifting needs of complex communities? How might improvisation not be a solution, but a method?

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