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Thesis Title:

**SoundCloud, Sampling and Sonic Experimentation: Knowledge
Transmission in Hip-Hop's Underground**

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Doctor of Philosophy

In the disciplines of:

Ethnomusicology

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Abstract

This thesis examines the roles of human and nonhuman actors in the transmission of knowledge in experimental hip-hop. What I call ‘experimental hip-hop’ emerged with a number of musical innovators, mostly based in Los Angeles, and has since spread globally, including to London, the main site of my investigations. The musicians who make this music are usually termed ‘producers’ or ‘beatmakers’, and they employ their laptops along with other instruments and music technologies to create their compositions, usually in bedroom studios. While this style has much in common with more traditional forms of hip-hop, producers have increasingly released instrumental pieces as compositions in their own right (rather than as backing tracks for rappers and MCs), and focused on creating different kinds of musical complexity. Producers deploy an array of innovative practices alongside more traditional ones, such as sampling. Drawing on a richly varied methodology, including long-form semi-structured interviews, participant observation of studio practices, and an examination of the creation of pre-composed musical materials, I analyse the role of human and non-human actors in the ways knowledge is transmitted. It is worth noting at this point that this thesis is a study of *musical* and *technical* knowledge rather than a number of forms of knowledge examined in Afrodiasporic and post-colonial scholarship. Throughout I argue that producers learn from both technologies and their peers, and that this approach to learning seems distinct from the kinds of formal and informal teacher-student relationships that exist in other forms of music making. This means that the musicians I study must not only be formidable autodidacts, but also able to build strong bonds with other producers to help them to help them vie for distinction in a musical landscape in which particular forms of compositional complexity are highly valued.

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Introduction to the Field of Study

1.1 Introduction

Inspiration can strike at the most unlikely of times; frequently it is a case of hearing a sound in my mind, being struck by a particular concept, or imagining a new way of using an old tool or sample, and hoping this phantasm can be retained until I can open my laptop. At this point, although some of the original idea may survive, during the process of bringing the sound to life the idea rubs up against the limits of imagination, skill, hardware, and software that shape any musician's work, and the piece emerges in a unexpected form.

This evening when I open on my laptop, SoundCloud is already selected, and I see a cascade of pieces from musicians around the world, just waiting for me to listen to them. SoundCloud is an online social network of millions of users who can upload music and explore, share, and comment on their favourite works. I click play on a piece from a user I know well, a producer of 'beats',¹ compositions in an experimental hip-hop style, and let the sound fill my headphones. I enjoy the hazy timbres of the synthesiser and the way its volume is controlled by the kick drum's insistent thump, making the music spasm. Halfway through the piece an echoing snare drum arrives that transforms the timbre of the lead sequence, a change that diminishes as the echoes die away. I'm intrigued, and when the track finishes I send a message to a fellow producer asking if they know how this effect is created. Although I'm unsure if I manage to learn the exact method used in the piece, his advice, in combination with my trial and error, allows me to uncover a number of techniques to approximate the sounds heard in the original track.

During this process, although much of what I see when I use my composition software is standardised, such as the structures of the program itself, many of the objects I can access are unique. These include the samples, sounds, and synthesiser presets I have created, the personalised audio effect racks that control signal processing, and the grooves taken from obscure records or sampled from unusual rhythms I've generated; all of these are objects that help to reify and personalise my 'sound', and are constantly worked into explorations of new sounds. While many of these objects have been created during composition, others have been developed during sessions when I explore my practice more playfully, looking to create batches of sounds or signal processing tools, all of which help to smooth the connections between the

¹ For obvious reasons producers are also sometimes called 'beat makers', and I use both terms to mean 'experimental hip-hop composer'.

music I imagine and the music I create.

Inspired by my new discoveries I decide to start a new composition, picking a sample from a piano recording I made previously and looping it over a kick and echoing snare drum pattern, transforming it using just the echoing part of the snare sound, and enjoying the interplay of the lo-fi timbres and the abrupt changes brought about by the signal processing, with the echoes compressing the frequency range of the piano as if it is plunged underwater by the reverberations. I put together a demo that I'm happy with and upload it to SoundCloud, tagging it with a number of words that I hope will both describe it accurately and will bring to my website listeners who have searched for these particular, and hopefully evocative, terms. Following this, I message a user with whom I often share music, telling him that I've uploaded a new demo and would be interested to know what he thinks. Finally, I embed the new composition in posts on other social media sites, tagging friends, some of whom are producers themselves, and asking for their feedback. I hope that by the next morning users on SoundCloud, and friends on Facebook, will begin sharing my demo and giving feedback about aspects of the production. This is a process that informs my ongoing work on the piece in particular, and is part of a feedback loop of reception that shapes my musical practice and social life.

This auto-ethnographic episode illustrates the ways in which software, hardware, and online social media platforms (see Gillespie 2010, Morrison 2014, Cover 2014) are embedded in the lived experience of producers making different types of electronic music across a vast range of locales.² My research investigates how this composite life-world shapes the production of experimental hip-hop, and in particular seeks to make an original contribution to scholarship by answering the question:

“In what way do a range of actors, including social media and music technologies, shape the transmission of musical knowledge in electronic music scenes, and more specifically the experimental hip-hop scene I study?”

During this introduction I outline the specific actors, musical technologies, and human agents that I wish to interrogate, and delineate the key factors involved in learning and the transmission of musical knowledge within the scene. My core question helps

² As will become clear throughout the thesis, my own experiences are similar to those of other producers.

generate not only the ethnographic methodology of my research, which I cover in chapter two, but also three additional questions, which are:

- (1) How are experimental hip-hop compositions made?
- (2) How do producers learn to make them (or put another way, how is this knowledge transmitted)?
- (3) What kind of social interactions are involved in production, learning, distribution and reception, and how are these shaped by software and hardware technologies?

Before exploring these questions in any depth however, it is important to set out a working definition of the scene³ at the heart of this study, experimental hip-hop. While previous writers such as Rose (1994), Chang (2005), Forman and Neal (2004), and Coleman (2007) have helped to track hip-hop's history, core values, and practices at the intersection of music, dance and visual art, the music making I study exists in a liminal space between traditional forms of hip-hop production (Schloss 2004) and a variety of different styles of electronic music. It arises as a transnational style out of the explosion of what has been termed the 'LA beats scene' and the arrival of a new style of hip-hop production, typified by Flying Lotus' debut album *Los Angeles* in 2008 (see D'Errico 2015, also Solis 2019). Flying Lotus and his label Brainfeeder are at the centre of network of key producers and musicians such as Daedelus, Thundercat, Mono/Poly, Ras G, Teebs, Samiyam, and Tokimonsta. While many of these figures were also initially based in LA and other parts of the US, this network, and the broader scene, has expanded into a myriad of locales, with crucial members of the label, such as Dorian Concept and Lapalux, now originating from Europe. These musicians have also inspired a whole generation of more marginal producers across the world, including the musicians I study in London. These producers create an eclectic music that draws on a wide variety of musical materials and practices inspired by other types of electronic music⁴ and jazz, and share their music to audiences of peers and listeners across a wide range of online platforms such as SoundCloud, Spotify, and Bandcamp.

³ See chapter six for more on the definition of scene, and the scholarship of Hesmondhalgh (2005, 2013) and Straw (1991, 2001) who examine how to frame different sorts of musical collectivities.

⁴ Including other forms of dance music such as those described by Sheridan (2014).

As with the study of any music the boundaries of what *is* or *is not* idiomatic are porous, discursive and ever shifting, particularly when the idiomatic is not defined by a corpus of constantly re-performed texts (see Kärjä 2006). This is also a particularly vexed question in a music such as hip-hop (and ultimately experimental hip-hop) where through practices such as sampling (see Ratcliffe 2014, Goodwin 1990, and Williams 2013), new sounds and styles have been continually integrated (Schloss 2004, Katz 2004). Despite this, there are a number of factors that mark experimental hip-hop as distinct from its hip-hop predecessors (D'Errico 2015, Marshall 2006). In part this is because changes in modes of production, from the predominant use of hardware samplers (Schloss 2004) to specialised software for manipulating electronic sounds, have facilitated a compositional diversity in hip-hop. In some scenes, particularly those that border other forms of electronic music, this has led to an increasing focus on forms of sonic complexity that are signifiers of skill and mastery; these include the use of glitches, micro-sounds, complex synthesiser programming, and unusual timbres, textures, and rhythms (see Collins 2012, Nye 2013, Marrington 2011: 4, Prior 2008 for more on these musical effects). These forms of complexity are part of an aesthetic in which a myriad of musical parameters are constantly changing, and while this builds on practices in hip-hop, which employed samples of instrumental music and certain types of drum programming to create a sense of 'liveness' (Schloss 2004), these practices contribute to significant differences in compositional style.⁵ Additionally, a focus on linear direction has partly superseded earlier loop-based approaches to composition (see Tabron 2015, Adams 2015), and producers increasingly focus on instrumental compositions themselves, rather than seeing their works as vehicles for rapped lyrics. These changes have helped splinter the more cohesive aesthetics of previous hip-hop production, as newer techniques are used to integrate different rhythms, timbres, harmonic and melodic materials into a type of hip-hop music making that, while heavily rooted in historical practice and aesthetics, marks a contemporary step in hip-hop's history, part of its ongoing internationalisation and local diversification (see Rollefson 2017, Solomon 2005, Baker 2005, Williams 2011). Despite this, it is worth noting that a number of key aesthetics of hip-hop remain, including the appreciation of certain kinds of timbre, as my informant MZ notes:

⁵ See Marshall (2006) for some the changes in compositional practice that were occurring around the time the scene arose.

Interviewer: So there's a sense that... noise is really important... to the extent that I could probably play you a load of records and you'd be like, "Good noise, bad noise, good noise, bad noise."

MZ: Absolutely... and when I hear new music as well, I'm very aware of how interesting or not all the sound is to me, whatever sound being used. That's not only from... a sampler's mind, you hear noise and interesting sounds very – with a lot of focus. So that is definitely a dimension through which I listen to music that I can't escape, *even though I don't necessarily use samples that much at all any more* [my emphasis] (MZ interview, London, 7th February 2017).

As my informant helps to suggest, while experimental hip-hop may explore a range of compositional practices distinct from earlier forms, some of the fundamental musical qualities of hip-hop remain, in this case the deployment and appreciation of certain kinds of timbre and noise, such as the aged and 'crackly' sounds of old vinyl records and tape recordings (see Christopher 2015). As I explore in chapter four and elsewhere, my informants expand on this more 'traditional' appreciation of noisy musical timbres in hip-hop, combining these types of distinctive vinyl sounds with field recordings to create complex sound worlds.

Some of the distinctive aesthetics described above can be heard in the track 'Sleepy Dinosaur' from Flying Lotus' album 'Los Angeles'. Although more than a decade old at the time of writing, one can identify sounds and practices that producers continue to employ in their compositions. Throughout the piece, heavily textured white noise saturates the foreground, compressed against a drum line just a little too off-kilter to be a classic hip-hop beat (listen in particular to the unusual placement of the kick drum), causing the texture almost to writhe. Underlying this texture is a gritty buzzing bass figure that locks the percussive elements and the noise together. The middle of frequency range is filled with multiple synth lines, sound effects, and sampled materials (including what appear to be voices) that constantly change, generating a feeling of incessant movement. Some of these changes include rapid filter sweeps, revealing and then hiding significant portions of the frequency range of a synth passage, while others include sounds that glitch and repeat in unusual ways (such as the synth sound entering at 1.30 just after the descending keyboard figure). Many of these elements in the middle

of the frequency range can feel almost smudged, as noise and the high end of the percussive sounds swamp the upper parts of their frequency range. This track contains many elements that are deeply rooted in traditional hip-hop, but, like much experimental hip-hop, employs compositional practices and types of sound design that push at the tradition's very seams.

My research focuses in particular on the production of experimental hip-hop in London, and the impact of American innovations in local music making. London's history as a city crucial to the development of a number of British electronic music styles (see Bradley 2013, Bramwell 2015, Rollefson 2017) means the producers in the city work in a field that differs from their American counterparts, and although producers may draw heavily on the work of American pioneers they also have influences that are distinctly British in origin. What this suggests is that understanding the transmission of knowledge in this context requires a broad understanding of music making in London, both historically and contemporaneously, and requires research that uses ethnography to delve into the local connections that occur in such a cosmopolitan city. Here, as in other parts of my research, I use the term 'local' to refer to hyper-local intimate relationships between producers who are implicated in the production of the London scene, which itself is but a facet of a far broader translocal scene. My research thus explores London as a key site of experimental hip-hop music making and as part of a wider scene. It also examines the ways in which, in this particular context, the social and the technological shape the transmission of musical knowledge. Before situating my work theoretically, I will first look to frame my core research questions, and describe how my thesis answers these in the succeeding chapters.

1. 'How are these compositions made?'

This question is key, as it focuses on the process of production and the kinds of knowledge important to producers, and therefore what might, and might not, be transmitted. To start answering this question, I will examine the tools producers use to create compositions. As my opening ethnographic episode shows, musicians are able to create entire pieces of recorded music using only their computers. In doing so, they often draw on pre-composed sounds, samples, presets (settings programmed into the software they use), and processes, recombining materials old and new within their creative practices. Although there are a wide variety of different possible software and

hardware contexts in which to employ these practices, a central technology for many producers is the Digital Audio Workstation (from now on referred to as the DAW). The DAW is a piece of software which allows producers to accomplish many of the creative acts which historically required complex and expensive mixing desks, in addition to a range of hardware effects and synthesisers (see Zagorski-Thomas 2014 for more on the history of these different technologies). DAWs, such as Ableton or Logic, contain an architecture which enables musician to record sounds onto their computers, modify these with a myriad of effects, and combine these with sounds that they programme and sequence (see Bates 2016 for an extensive examination of the role of the DAW in record production). The DAW also contains a variety of digital objects, including drum machines, software synthesisers, effects (such as delay or reverb), and sounds (such as drum hits or short loops).

DAWs have replaced hardware units like the mixing desk or the Akai MPC for a number of reasons, in particular due to the fact they allow for a very high degree of flexibility (see Duignan, Noble, and Biddle 2010) and because, thanks to piracy, they can be more accessible. They also enable producers to use combinations of software and hardware devices, such as MIDI controllers,⁶ in conjunction with components of pre-composed musical materials, such as vintage drum machine samples, all of which facilitates the reproduction of valued musical tropes.⁷ By examining the technologies producers use, the ways they combine and program them, and the way these technologies interact with different musical practices and materials, I hope to understand more clearly how experimental hip-hop is made, and the kinds of specialist knowledge required to be a producer.

2. *How do producers learn to produce?*

⁶ MIDI stands for Musical Instrument Digital Interface; MIDI controllers are pieces of hardware that can be used to send digital information to and from the DAW. MIDI controllers, such as keyboards or drum pads, therefore allow musicians to input musical information (such as rhythms) into the DAW and for this to be transformed into sound as it is 'played' by the DAW (on a software drum machine for example).

⁷ See Butler (2005) and (2014) for more on the connections between the historic and contemporary music technologies.

This question seeks to get to the core of how and what producers receive in the process of knowledge transmission.⁸ By using specific aesthetic and technological knowledge, producers are able to create music that is recognised as idiomatic and valued by their peers, deploying particular musical tropes and engaging with a wide range of technologies. This process involves complex cycles of production, reception, and trial and error, and the knowledge that producers seek to attain is diffused throughout the scene and beyond.

During this process producers may communicate with their peers directly about specific techniques, access online forums to find the answers to similar questions, or use websites like YouTube to watch demonstration videos that explain both general production techniques and how to reproduce idiomatic sounds. The role of peers and other actors appears to be particularly vital, as so much learning and knowledge transmission occurs outside of the context of more formal pedagogies (see Green 2002). Although there have always been a variety of different ways that recorded, visual, oral, and textual materials have been involved in the process of musical transmission (see Nettl 2015: 294-301, Berliner 1994), it is arguable that the predominance of online and communal resources in a scene such as this marks a subtle shift in emphasis from historical practices that centred teacher-student relationships (see Kippen 2008, Shelemay 1996: 48). I frame the journey that producers undergo as they navigate this convoluted landscape as *the learning trajectory*, a process in which producers move (at different rates) through a number of key areas of musical practice with the aim of mastering these areas so they can produce the music they audiate.⁹ By understanding how and what producers learn, I hope to examine in detail that part of transmission that involves producers receiving knowledge from other agents; in contrast, in the next question I look to explore those aspects of musical knowledge that producers themselves transmit and the kinds of social interactions involved in this process.

⁸ I will use the terms learning and knowledge or cultural transmission almost interchangeably throughout this thesis, following on from the work of Van Maanen (2011) who defines culture as the “knowledge members of a given group are thought to more or less share; knowledge of the sort that is said to inform, embed, shape, and account for the routine and not-so-routine activities of the members of the culture” (Van Maanen 2011: 4).

⁹ The sonic equivalent of visualising.

3. *What kind of social interactions are involved in production, learning, distribution and reception, and how are these shaped by software and hardware technologies?*

Producers engage in a wide range of interactions that shape knowledge transmission; these can include peer-to-peer learning, collaboration, exchanges of collections of recorded music, gifts of musical objects (such as valued sounds to be incorporated in recordings), and in-depth discussions of practice. These interactions are shaped by perceived hierarchies and the shifting dynamics of interpersonal relationships, and can shape knowledge transmission in different ways. For example, upon receiving a gift such as a customised effects rack (a composite of different digital effects linked together with their parameters set in particular ways), producers may be able to engage in a process of disassembly that helps them to develop a deeper understanding of how such an object is made. The gift of such an object therefore has the potential to lead to transfers of advanced forms of knowledge between producers, meaning that, as I explore at length in the thesis, these types of exchange may require the formation of strong social bonds developed through mediated and in-person interactions.

Along with YouTube and SoundCloud, producers use a variety of online social platforms (see Gillespie 2010, Morrison 2014, Cover 2014) to interact with their peers, accessing these through laptops and mobile devices (see Goggin 2013, Bergh et al. 2014, Marshall 2014). Rather than thinking of these different software and hardware tools as a separate ‘virtual’ world away from ‘real’ life, advances in technology have embedded the internet in the everyday. This means online platforms are less distinct spaces that one accesses from one’s home and desktop, than technologically-facilitated sites and tools deeply interwoven into lived experience.¹⁰ Musicians use these tools to share sounds, files, videos, thoughts, and images in ways that shape social connections (see Morrison 2014) and musical aesthetics. They may also build on online networks to develop offline friendships and collectivities with other producers. These online practices mirror the kinds of activities that producers engage in in-person, such as collective listening,

¹⁰ Current platform models and internet connectivity speeds however do shape these interactions, meaning that not all kinds of musical interactivity are practiced. Although this is gradually changing, these technological limitations do mean that real time collaborations between producers online can still be limited (see Koszolko 2015).

discussion, and composition. As noted above, the depth of social bonds may shape the ways in which these sorts of interactions are conducted, both on- and offline, and the kinds of knowledge transmission that occur during these interactions. Answering this question is therefore central in the process of uncovering the kinds of sociabilities and social practices at the core of knowledge transmission.

To answer the questions posed here I employ ethnography (including participant observation) that engages directly with the experiences of producers and with the various forms of musical practice and sociability that occur during the production and reception of experimental hip-hop. These are processes that shape how producers learn their craft; impact on the communal discourses of production, reception, and aesthetics; and frame the fluid process of transmission. My ethnography will be embedded in each section of the thesis, particularly chapters four through seven, and will be contextualised by the more theoretical discussions that take place in chapters two and three. Below I lay out a schema for the thesis so as to guide the reader through its structure and the arguments I make to answer the questions outlined above.

1.2 Chapter Summaries

2. Methodological Challenges in the Study of Emerging Practices and Technologies

This chapter will outline my composite methodology and highlight the scholarship that it draws on, specifically elucidating why the methodology proposed can answer the core questions of my thesis. This composite methodology employs a variety of techniques to study interconnected sites of off- and online musical practice, and the role of human and non-human actors in the production of experimental hip-hop. These techniques include the online exploration of multiple sites of interaction, dissemination, learning, and critical discussion; in-person ethnographies of studio practice with multiple informants; long-form semi-structured interviews and a roundtable with a collection of

informants; and the creation of pre-composed musical materials and samplepacks¹¹ for commercial use in combination with interviews with industry tool makers. In addition to outlining these techniques, I will also begin to tell the story of the research process and reflexively explore my role within it as an active agent.

3. Affordances in the Learning Trajectory of the Electronic Music Producer

This chapter examines the nature of various musical technologies, how human perception shapes the ways tools and objects may be engaged with (their ‘affordances’ see Gibson 1979), and how this impacts on interactions between human and non-human actors during production (see Brøvig-Hanssen and Danielsen 2016). This will necessarily involve outlining not only the key actors involved in the practices studied, but in addition, considering how these practices are influenced by both modern innovations and iconic technologies that have been crucial historically in the production of hip-hop (see Zanfagna and Brandin 2014, Fouché 2012). The chapter will scrutinise the theory of affordances and how it fits with a number of theories laid out in the second half of this introduction to expand my critical apparatus. Additionally, it will introduce the DAW in detail, in particular considering key technologies within the DAW that are relevant to my informants, such as pre-composed musical materials and tools, and elucidating how these various actors have the potential to shape musical practice and knowledge transmission.

4. The DAW as an Instrument and its Role in the Practice of the Everyday

This chapter begins by drawing out the key factors and processes involved in the learning trajectory, in particular exploring how producers respond to challenges when learning to use the DAW. From here I will discuss how producers' early explorations tend to coalesce into a number of distinct kinds of practice (in the sense of rehearsal or honing their craft) that enable them to improve their skills. These practices include creative problem solving and play as research, the organisation of one's pre-composed

¹¹ Samplepacks are collections of precomposed musical materials that can be used in the DAW. They usually include drum sounds, and rhythmic, harmonic, and melodic loops (all in a particular style) that can be re-purposed and manipulated by producers. I discuss these materials extensively in chapter five.

materials (see Duignan, Noble, and Biddle 2010), various forms of improvisation, and the development of methods to facilitate ‘flow states’ (Csikszentmihalyi 1990, Bakker 2005, Diaz 2011). I will also examine how these different types of practice enable producers to ultimately produce forms of valued complexity.

5. The Samplepack, Musical Tools and the Circulation of Idiomatic Sounds

This chapter considers the samplepack and a number of other musical tools that are important in the creative practices of the producer. It explores how these digital tools are created, how they circulate, and the role they play within the learning trajectory of the producer, highlighting the importance of these materials as pedagogical tools at the start of the trajectory, and appraising the social, musical, and market-based factors that limit their efficacy as producers become more experienced.

Following this, I elucidate the ways that producers build on these approximations, and through close listening practices and social interactions, learn how to reproduce sounds crucial to the construction of ‘authenticity’ (see Moore 2002, O’Flynn 2007). This section will explore the significance of various pre-composed musical materials, and how producers create similar tools themselves to conserve cultural capital and idiomatic knowledge.

6. The Social life of Beatmaking and the Role of Online Technologies

This chapter will outline the local and non-local ways in which people engage in experimental hip-hop music making, considering the different kinds of social interactions involved, and how they intersect. It therefore draws together online and offline socialising, personal and collective listening, and the role of early familial relationships, gender (see Farrugia 2012, Bradby 1993), and educational institutions. At this juncture I seek to explain how public and private interactions help shape musical practice over time, and how a variety of different human and non-human actors are involved in the transmission of musical knowledge. In doing so I shed light on the tensions between the local and the global in these kinds of interactions, and the pragmatic ways producers navigate a complex music industry and social media-scape (see Appadurai 1996: 27-48) shaped by their own particular positionalities.

7. Learning the Idiom and the Intimacy of Idiomatic Sounds

Building on the previous chapters I will examine the varied ways musicians produce idiomatic sounds, in particular focusing on how important rhythms and grooves are created. In doing so I explore the ways in which producers conceptualise certain sounds as possessing particular import and intimate value. The value producers ascribe to these particular signifiers shapes the ways that specific sounds, and ways of producing them, circulate. Following this I will then interrogate why these sounds possess such value, and how factors including perceived status, personal expression, intimacy (see Shryock 2004, Berlant 1998), and place in the learning trajectory, shape how and when producers transmit, or re-circulate, idiomatic knowledge and sounds.

8. Conclusion

In the final chapter I will re-examine how producers evolve through the learning trajectory, summarising each of my chapters, and restating my core argument. Finally I will draw the different threads of my research together to assess the significance of a range of non-human and human actors in the process of knowledge transmission, commenting reflexively on the strengths and weaknesses of my work, and looking forward to further research.

In the remainder of this chapter I present a theoretical overview that contextualises my work and places it in dialogue with various fields of study, such as hip-hop, popular music studies, and ethnomusicology.

1.3 The Field of Cultural Production

In this section I layout the theoretical basis for my work, drawing together Bourdieu's work on cultural capital (Bourdieu 1984) and more recent scholarship to comprehensively frame the context in which production and knowledge transmission occurs within experimental hip-hop. Bourdieu's work was developed within a very specific socio-cultural context, and since then a myriad of other scholars have expanded upon it and applied it in other contexts, while also critiquing its weaknesses in a number of acute ways (see for example Born 2010, Warde et al. 2008).¹² Thus, while Bourdieu provides the core frame through which I study the production of experimental hip-hop and knowledge transmission, my understanding of his work is profoundly shaped by the work of other scholars, and by socio-cultural changes that have occurred since his analysis was first written (see Bennett et al. 2009, Lizardo and Skiles 2012, Warde et al. 2008). Later in the thesis¹³ I combine this Bourdieusian framing with other perspectives, such as actor-network theory (see Prior 2008, Drott 2013) and affordance theory (Gibson 1979), to build a more comprehensive picture of musical practice and knowledge transmission in a socio-technical context (i.e. modern electronic music production) in which a vast number of non-human actors are co-implicated. Bourdieu's work therefore provides a foundation to which other theoretical perspectives are added; in this sense, throughout the thesis, I seek to gather the theoretical resources to answer Prior's pointed line of questioning, which asks, "are Bourdieu's ideas sophisticated enough to deal with the specific ways that we interact with musical forms, their active presence in our everyday lives and the meanings we attach to them? If not, what alternative approaches are there and where do they lead us theoretically and empirically?" (Prior 2013:182). To build this foundation I begin by considering cultural capital and its relevance to my work, then going on to discuss the different fields in which culture is created and capital is accrued, before ending with a critical examination of the ways changes in technology and music production require some reassessment of Bourdieu's original work. Following this, I contextualise my work further by scrutinising the scholarship on electronic music and hip-hop, and situate my research in relation to a number of key scholars.

¹² Others have also defended Bourdieu from these attacks, for example by pointing to the explanatory power of his work in specific contexts (see Straw 2010).

¹³ In particular in chapter three.

I engage with cultural capital specifically because it accurately describes many of the kinds of rewards that producers may gain if they are able to deploy certain types of musical and technical knowledge. By this I mean it is by learning how to create certain sounds that producers are able to assert both their creative individuality, and attain their position as distinctive, valued figures within the scene. This means that understanding cultural capital is vital to comprehending the context in which knowledge transmission occurs, and *why* it occurs. As Bennett et al. note, ‘cultural capital’ can be seen as “different forms of asset which may be taken into social worlds and social contexts, and which may be converted into economic opportunities, valued social contacts, or honour and esteem” (Bennett et al. 2009: 30). Bourdieu’s work suggests that cultural production occurs in a context in which producers can receive different forms of recompense in exchange for their labour, of which a crucial form is cultural capital. Importantly, this cultural capital is highly valuable because it can be converted into different forms of capital (Moore 2008), not only economic capital but also social capital, through various process, such as institutionalisation (Bourdieu 2002: 281). As noted above, while I employ the term cultural capital throughout the thesis, developments since Bourdieu’s pioneering work have led to some differences in how scholars understand this term and the phenomena it describes, in particular in regards to how porous the boundaries are between different fields of production. For example, musicians may move in a number of scenes, meaning their experience of a relatively niche scene is not the totality of their musical experience, due not only to the broad cultural experiences of individuals in the present (Bennett et al. 2009), but also the difficulty producers may face in turning their cultural capital in one scene into enough financial capital to make a living.

In contrast to Bourdieu, I do not focus on class as the central lens through which to study musical practice and cultural production; however, the notion of cultural capital, and the ways in which certain groups of human actors attempt to define their cultural works in hierarchical relations to others, has a strong resonance and explanatory power in my research. In this context “cultural capital works rather like property: those with it can gain at the expense of those without” (Bennett et al. 2009: 11). Music making, knowledge transmission, and the accrual of cultural capital therefore take place within a field “characterised by a polarisation between those who are positively endowed with honour... and those who are not” (Bennett et al. 2009: 12-13). While some scholars such as Grow (2004) and Prior (2013) deploy the frame of subcultural capital to explain

these sorts of phenomena in niche scenes or communities (like the one I study), I continue to deploy the term cultural capital for explanatory ease, even if I move away from Bourdieu's specific deployment of the term in the context of class and 'high' and 'low' culture (see Warde et al. 2008: 149) towards the work of scholars who build on Bourdieu to examine a changed social context in which such boundaries are no longer so impervious to cultural flows, and which more omnivorous forms of taste have developed. These scholars include Bennett et al. (2009), Lizardo and Skiles (2012), Warde et al. (2008) and additionally those who critique their work such as Lahire (2008). This means that ultimately I employ cultural capital in the manner espoused by Frith (1996) and Prior (2013), who note that "expressions of superiority and discrimination" (Prior 2013: 185) occur in multiple contexts of music making (not just in the dynamic between apparent 'high' and 'low' culture as examined by Bourdieu), and that there therefore "a specific kind of capital native to popular music generates distinctions and struggles over what is aesthetically valuable" (Prior 2013: 185).

This kind of contestation for cultural capital (and the other rewards it may be exchanged for) by experimental hip-hop producers can be understood to occur within a 'field of restricted production' (Bourdieu 1984). Bourdieu understands fields like this to be "a network of objective relations between agents, but also larger groupings and institutions distributed within a space of possible positions" (Prior 2008: 304). They shape the value and exchange possibilities of different types of cultural capital. As Bourdieu notes, "the structure of the field, i.e., the unequal distribution of capital, is the source of the specific effects of capital" (Bourdieu 2002: 284). For Bourdieu, cultural production is split between the field of restricted production, "producing cultural goods objectively destined for a public of producers of cultural goods, and the field of large-scale cultural production, specifically organised with a view to the production of cultural goods destined for non-producers of cultural goods, 'the public at large'" (Bourdieu 1984: 4). Bourdieu posits that this distinction is because the popular, or "field of large-scale cultural production... submits to the laws of competition for the conquest of the largest possible market" (Bourdieu 1984: 4), whereas the restricted field is dominated by the economy of cultural capital. This means that while the field of large-scale production seeks always to expand its market share, "the field of restricted production tends to develop its own criteria for the evaluation of its products, thus achieving the truly cultural recognition accorded by the peer group whose members are both privileged clients and competitors" (Bourdieu 1984: 4-5). As will become clear,

experimental hip hop producers are one another's most attentive, critical, and (at times) supportive audience, underscoring why my informants often privilege the role of other producers in the audiences they imagine for their work, and the way they deploy certain musical elements to impress their peers, demonstrate virtuosity, and accrue cultural capital.

In the restricted field artists are therefore focused on exploring specific aesthetic niches and creative practices that are based less on appealing to wide swathes of the general public than on demonstrating a command of aesthetic knowledge and specific forms of virtuosity to one's peers.¹⁴ As Bourdieu notes, "the more the field is capable of functioning as a field of competition for cultural legitimacy, the more individual production must be oriented towards the search for culturally pertinent features endowed with value in the field's own economy" (Bourdieu 1984: 7).¹⁵ In my work I employ Bourdieu's ideas to frame the context in which experimental hip-hop production takes place, and specific examples of cultural practice and artefacts are articulated, but nuance my use of these theoretical tools by taking into account more recent scholarship that has sought to incorporate the role of time, agency, and particularly technology that some scholars note is lacking in his work (Born 2010, Sterne 2003). In later chapters it is this that brings me to examine the ways Bourdieu, and the work of Bruno Latour (2005) and other ANT scholars (not all of whom have a completely comfortable relationship to Bourdieusian theory, as I explore in chapter three) may be used in conjunction to frame the ways that non-human and human actors are co-implicated in cultural production, and the creation of artefacts with 'culturally-pertinent features'.

These articulations of various 'pertinent features' represent 'position takings' in the field of restricted production which may allow producers to accrue different amounts of

¹⁴ While I do not explore it in detail here it is worth noting that in addition to external rewards such as cultural capital, producers do also engage in music making for the internal rewards on offer, such as creative and emotional fulfilment (see Banks 2012 after MacIntyre 1981/2007).

¹⁵ Although some actors within the broader scene, including iconic American producers like Flying Lotus, have attained a degree of popular success, Bourdieu's frame appears to have explanatory power for the part of the scene I study in London, which is far more marginal.

cultural capital depending on the dynamics of the field (Bourdieu 1984); a model that seems to demonstrate an extensive explanatory power when it comes to cultural production within experimental hip-hop. A cultural artefact (e.g. an experimental hip hop composition) can therefore be seen as an expression of a particular place in a field of cultural production, which will be valued (and therefore enable the producer to accrue cultural capital) in different ways that depend on the field itself and the way it is structured. What this suggests is that producers require specialist aesthetic and technological knowledge to articulate a specific position in a shifting field shaped by producers, audiences, and the scene around them, engaging a network of nonhuman actors to assist them in this process (see Sterne 2003, Prior 2008), while producing works that reflect their own identities and positionalities. In this sense, when discussing creative musical practice one must tread a fine line between “a Bourdieuan account which reduces it to strategic position-taking, and from culturalist models which cast creativity as little more than a mystification of those processes by which a culture speaks to itself.” (Straw 2010: 214). To understand position takings in a restricted field such as experimental hip-hop I think it is therefore essential to take into account the way the field is shaped by the specific technologies that affect production and reception, the structures and social groups that surround them, and the ways that musicians acquire specialist knowledge. This is why in chapter two and throughout the thesis I use the theory of affordances and actor-network theory, in combination with the work of Bourdieu, to explore the vital role of technologies as actors within the production of experimental hip-hop, and assess how the positionalities of my informants impact the positions they articulate within the field.

In the next section I will review current scholarship on hip-hop and electronic music that considers how a wide range of actors, discourses, and factors shape musical practice, to further contextualise my research. In this review I will therefore assess relevant scholarship, situate my own study within it, and look towards the ways that understanding technology can inform the study of cultural production and the transmission of musical practice.

1.4 Hip-Hop and Electronic Music Making in Recent Scholarship

Due to the nature of the music that I study, I position my work at the intersection of hip-hop studies and research from across the academy on electronic music more broadly. Foundational works in hip-hop studies, including Rose (1994), Schloss (2004), Forman and Neal (2004), Coleman (2007), and Chang (2005), sketch out hip-hop's cultural history, historiography, and hagiography across DJing, graffiti, rap and breakdance. This is a vital endeavour when studying a form that (like jazz; see Monson 1996) is so engaged with its own philosophy, canon, and politicised temporality and spatiality.¹⁶ Building on these works, scholars have explored hip-hop's intersection with a broad and complex range of issues including religion and spirituality (Pinn 2003), feminism, gender, and sexuality (Miller-Young 2007, McFarland and Bragg 2007, Zevolli 2016), and hip-hop's increasing globalism and translocalism as part of, and in response to, a dominant American culture and colonialism (Solomon 2005, Baker 2005, Mitchell 2001, Rollefson 2017). Additionally, works by Hesmondhalgh and Melville (2002), Bramwell (2015), Oliver (2016), McNally (2016), and Rollefson (2017) are part of recent scholarship that seeks to understand the development of hip-hop in the UK, and its relationship, not only with developments from across the Atlantic, but also with a long history of black music making in the UK (Bradley 2013) and the Caribbean (Veal 2007, Stolzoff 2000). Other key pieces of scholarship include those that consider electronic music production and online communities, including Butler's (2014) work, to which I will return throughout the thesis, and research by Wood (2008), Whelan (2006), and Lysloff (2003).

Recent works at the intersection between hip-hop and electronic music, such as D'Errico (2015), Zanfagna and Brandin (2014), and Fouché (2012), have also highlighted hip-hop's evolution in the light of technological change. Zanfagna and Brandin's and Fouché's work in particular traces the impact of emerging digital and mobile technologies on DJ performance practice, pointing to tensions in DJing between innovation and an attachment "to a nostalgic sense of its past" (Zanfagna and Brandin

¹⁶ It is worth noting that tensions exist between the commercial and the political in hip-hop, what Rollefson describes as "the paradox of commercialised resistance music" (Rollefson 2017: 8), however, in depth discussions of these dynamics are beyond the scope of this chapter.

2014: 2). Their work highlights the vexed nature of these changes in the context of a hip-hop authenticity (see Williams 2013) grounded in conceptions of race, temporality, and iconic technologies that are now in flux. Contemporary works on electronic music more broadly are also critically engaged with technology, specific production techniques and their impact on musical practice. These include Collins' (2012) survey of electronica, which centralises considerations of sampling, synthesis, glitch (see Bates 2004, Prior 2008) and the ways these elements help to construct the aesthetics of the sub-genre of microsound.¹⁷ Garcia's (2005) work meanwhile seeks to understand the connections between technology and the types of pleasure that looping generates. Additionally, other scholarship helps to track the impact of wider forces on electronic music scenes, such as cultural flows, locality, and migration. Nye (2013) in particular tracks the multi-site influences on techno, helping to explicate musical changes within specific German cities and a number of global sites, such as Detroit.

Building on this scholarship, my work focuses on the DAW as the crucial node in the network of online and offline sites and technologies that inform the production of experimental hip-hop, and shape the ways in which its practitioners learn to develop key compositional techniques to gain cultural capital. Within the experimental hip-hop field, there are perhaps two key elements that distinguish it from earlier practices: "the intentional lack of a rap element, and the self-conscious foregrounding of production techniques" (D'Errico 2015: 281). These production techniques are various, but key examples include sampling (see Katz 2004), "side-chain compression,¹⁸ 'off-the-grid' rhythmic sequencing, and the use of hardware peripherals to control digital software" (D'Errico 2015: 280). These idiomatic practices are deeply indebted to prominent producer James Yancey, aka J Dilla (see D'Errico 2015: 281), and are shaped by a translocal scene of producers connected by social media platforms (D'Errico 2015).

¹⁷ Microsound is a genre which highlights and aestheticises microscopically short samples of audio (see Demers 2010: 76).

¹⁸ See Hodgson (2011) for an extensive discussion of some of these techniques, including side-chaining, which is an effect where one element controls the volume of another. One common technique is to make the kick drum decrease the volume of many of the other elements, an effect which creates space for the kick to have a significant sonic impact. While this effect is used in many types of electronic music, in experimental hip-hop it is extremely exaggerated.

My work therefore focuses on the myriad objects and actors involved in production which may not only be the laptop and external interfaces, but also software and objects within software such as synthesisers, samples, and audio effects (Butler 2014: 94). These structures help to blur the distinctions between different forms of rehearsal, composition and performance as they are used across a range of practices, and this points towards the varied and expansive types of musical practice I examine in my research. Butler's (2014) analysis highlights the importance of conceptualising composition and improvisation as existing on a continuum, due to the strong relationships between the two processes. This is particularly relevant for composers of electronic music where composition "often involves considerable improvisation. Musicians frequently begin or develop compositions by setting in motion a pattern such as a loop or sequence, allowing it to repeat indefinitely, and improvising in relation to it while recording the results" (Butler 2014: 126). These varied processes point towards the "increasing irrelevance of the polarities that continue to form our understanding of performed and recorded compositions and improvisations... Recordings can be *prior* to performance. They can come unfixed. Recorded compositions can be the very formative material of improvised performances" (Butler 2014: 171).¹⁹ While Butler's work focuses largely on the fluid relationship between performance and composition, I build on his scholarship to consider rehearsal, practice, research and play, which are explored extensively in chapter four. I build on Butler's idea of a network of samples, presets, audio effect patches, provisional works, and multiple versions of the same track (Butler 2014: 5) to frame the ways musicians develop their ability to 'speak' idiomatically through the development and manipulation of these musical objects and engagement with multiple non-human actors. More broadly, paying close attention to *which* technologies, and combinations of technologies, musicians use, helps me to understand the ways in which *these* technologies help to shape knowledge transmission, cultural capital and the position takings of producers within the field of experimental hip-hop production. This research therefore also builds on scholarship about cultural transmission in ethnomusicology

¹⁹ While this work is innovative, it builds on scholarship on the fluidity of the compositional process, including works such as Nettle (2015: 49-62) and Solis and Nettle (2009), that conceptualise pre-composition, composition, revision and improvisation as part of a continuum (Nettle 2015: 52), albeit a continuum now shaped by the particular structures of DAWs (see Marrington 2011).

(such as Shelemay 1996, Nettle 2015, Livingston 1999) that examines a broad range of factors in teaching, such as the vital role of recordings in learning idiomatic practice in jazz (Berliner 1994: 199, Wilf 2012), but shifts the emphasis away from more direct teacher-pupil or text-pupil interactions towards technologically-mediated knowledge networks (Jenkins 2006) and peer-learning (Green 2002). My work sits within and contributes to, not only to hip-hop studies and popular music, but also wider scholarship, in fields such as ethnomusicology, that engage with musical practice, technological change, and cultural transmission.

It is worth noting at this point that this thesis is fundamentally a study of *musical* and *technical* knowledge transmission, and as such it does not consider a number of types of knowledge significant in hip-hop's fourpart culture of breakdance (Holman 2004), graffiti (Castleman 2004), DJing (or turntablism²⁰), and rapping (see also Chang 2005). My work therefore does not focus specifically on 'knowledge'²¹ as it has usually been understood throughout hip-hop's history (Rollefson 2017). Subsequently, a number of forms of knowledge that have been significant throughout hip-hop's history (and Afrodiasporic music more broadly) are not treated in what follows. These include political and social knowledge (Dyson 2004); spiritual or mystical knowledge and knowledge of self²² (see Baraka 2010, Rollefson 2017); knowledge of surviving and navigating urban spaces and the music industry (see Richardson and Skott-Myre 2012);

²⁰ Note that later forms of hip-hop production have developed from earlier, more turntable-centred forms of music making (see Schloss 2004, Forman 2004).

²¹ As Lott notes, the “the core meaning of the rapper’s use of the term ‘knowledge’ is to be politically astute, that is, to have a full understanding of the conditions under which black urban youth must survive” (Lott 1992: 80-81), suggesting this knowledge allows individuals to overcome oppression (Boyd 2004: 331), part of a broader understanding of the connections between knowledge and African-American emancipation (Chude-Sokei 2016 : 70).

²² Often related to currents of Afro-futurism in hip-hop, soul, and jazz more broadly (see Solis 2019).

knowledge and insight into American's turbulent history of oppression;²³ and knowledge of the form's history and hagiography. The liminal position of experimental hip-hop perhaps explains why these forms of knowledge are less central in the lives of my informants (and thus less reflected in my research), and helps to highlight how different elements of hip-hop culture may wax and wane in influence as the music and its successors evolve and change.²⁴ This foregrounding of the musical and technical in my thesis is not intended to suggest that other forms of knowledge, or more traditional forms of hip-hop practice, are insignificant or irrelevant, but rather that focusing on *these* distinct forms of knowledge and knowledge transmission is vital to answer my core research questions, and present an original contribution to scholarship.

Afrodiasporic and post-colonial scholarship on forms of knowledge and knowledge transmission are highly significant in hip-hop studies, particularly in the ways in which different levels of information, irony, and meaning are layered into communication and music, which may be accessible in different ways to insiders and outsiders (see for example Baraka 1963:86 on minstrelsy, and Rollefson (2017) and Jeffries (2011) on hip-hop lyricism), a notion referred to as signifying by Henry Louis Gates Jr. (see Gates 1988, also Mitchell-Kernan 1986). One can see this as part of a wider example of what Paul Gilroy calls 'doubleness', in which Afrodiasporic forms are located both "inside and outside the conventions, assumptions, and aesthetic rules which distinguish modernity" (Gilroy 1993: 73). We can see these dynamics at play in hip-hop where 'flipping the script' describes the "*performative* ways that hip-hop artists... invert, deform, presignify, and otherwise trouble Enlightenment discourses, Eurocentric written histories, and the presents and futures that they *script*" (Rollefson 2017: 17). While my research, and the music it concerns, does not focus on these kinds of knowledge or practices, currents in the experimental hip-hop scene, including increasing intersections

²³ This is part of a broader dynamic in which history is embedded in Afrodiasporic musical practices. As Gilroy notes, one of the themes "which binds together the different black expressive cultures is the premium they place on history itself... The recovery of historical knowledge is felt to be particularly important for blacks because the nature of their oppression is such that they have been denied any historical being" (Gilroy 2002: 280).

²⁴ Consider for example the instrumental focus of this music, meaning that MCing and rapping are radically de-centred.

with jazz (see Solis 2019), suggest that scholarship that examines how traditional and emerging forms of knowledge intersect may be a fertile. To reiterate however, this thesis is limited to those forms of musical and technical knowledge essential in the production of experimental hip-hop ‘beats’, and even this limited definition of knowledge presents challenges for researchers.

1.5 Conclusion

This introduction contextualises my work in relation to foundational and current scholarship and presents the initial theoretical framework for my project, laying out my approach to studying the emerging technologically-mediated social and musical practices of experimental hip-hop producers, and how knowledge is transmitted between them. In the succeeding chapters I examine different areas of musical and social practice to explicate the different factors and agents involved in knowledge transmission, and their relative importance. Throughout I draw on the experiences of my informants, in addition to my own, to uncover the complex relationships between the different sites of social life, social interactions and the technologies that mediate them, and the role of these sites and other actors in the production of compositions and the transmission of knowledge. In particular, my participant observation and semi-structured interviews uncover the ways that producers manipulate specific technologies to articulate positions in their field, balancing transmitted knowledge and practices with innovation.

In the next chapter I outline the various methodologies employed throughout my research, highlighting the challenges involved in collecting and navigating the data, and drawing connections between my fieldwork and scholarship on ethnographic methodology and actor-network theory. Following this in chapter three, I expand the discussion begun here on technology, and explore the theory of ‘affordances’ and its relation and relevance to my research, before moving onto the core of the thesis which aims to answer my central research question:

‘In what way do a range of actors, including social media and music technologies, shape the transmission of musical knowledge in electronic music scenes, and more specifically the experimental hip-hop scene I study?’

Methodological Challenges and Innovations in the Study of Emerging Practices and Technologies

2.1 Introduction

To answer the core research questions laid out in the introduction of this thesis I build on the work of scholars such as Bates (2010, 2012, 2012a, 2019), Butler (2014, 2014a), and Schloss (2004) to construct a methodology that aims to examine the ways in which a range of actors, both human and non-human, explicitly and implicitly shape music making. My research, as is common in ethnomusicology (see Kaufman Shelemay 2008, Berger 2008), employs ethnography as a central qualitative method to answer these questions, and help develop data that critically engages with the lived experience of musicians.¹ This methodological chapter lays out the key aspects of this ethnography and reflects on its success over the lifetime of the research, and the ways in which the project changed between early plans and actual implementation. The chapter is split into three main sections. Firstly, I will discuss the theoretical underpinnings of my methodology, and then set out the methodological schema I used in my research. Secondly, I will reflect on the research process, and on the differences that occurred between the planning and the implementation stages of the research, assessing the success of the methodology I ultimately ended up employing, examining its limitations,

¹ While a critical discussion on the nature of ethnography, power, experience, and the authenticity of the research subject is beyond the scope of this thesis (see Berger 2008), I will note that I engage my informants as both authorities on the music making they are involved in, and as human actors as capable of error as any other, with the scholar as a figure whose position allows them a degree of critical engagement which itself is limited by the particularities of their positionality, as Berger notes:

Assuming that people have a perfect understanding of their own experiences denies that interpretation is a kind of practice and decontextualises it. To act as though people cannot misunderstand their own experiences is ultimately to dehumanise them by deifying them, to deny their capacity to grapple with the complex realities of social life... Neither the scholar nor the research participant is an infallible observer of social life, and the richness of experience requires dialogic methods in ethnography (Berger 2008: 73)

and how these highlight the need for a range of additional methodological practices in the future. In particular, I will articulate how limitations in time led to research practices that were of a smaller scope than originally planned. Thirdly, I explore the evolution of my methodology, and how I ultimately ended up following a number of unexpected paths to examine areas I did not initially intend to pursue.² Additionally, I suggest that my initial plan, while over-ambitious, could be usefully employed in future research, albeit by a group of researchers.

Throughout my ethnographic research I examined a number of key sites of musical interaction, production, practice, and reception. During this process I used participant observation, broadly defined as “the embodied placement of the researching self in a fieldsite as a consequential actor” (Boellstorff et al. 2012: 65), and a number of technologically-facilitated methodologies to explore the complex musical practices of producers using DAWs. Although participant observation’s wider explanatory power is limited by sample size,³ its ability to deeply engage with lived experience means it was well suited to answering my research questions. To begin this chapter I will lay out the theoretical framework which shaped my methodology.

2.2 Theoretical Framing

My work examines a culture of experimental hip-hop music making “maintained, developed and changed by people in several different geographic contexts” (Ramnarine 1996: 133), moving beyond the study of visible digital artefacts (Cooley et al. 2008: 91) to a form of multi-sited ethnography that seeks to build on traditional forms of ethnomusicology often conducted in single sites (Rice 2003: 159-162). This process involves immersive forms of participant observation (Howard and Blacking 1991: 60), examining experiences shaped by a cultural context in which the on- and offline are profoundly co-implicated. My research considers the movements and actions of people on- and offline, the circulation of compositions they create, and in particular the role of

² Throughout the fieldwork I therefore used an “iterative-inductive” (O’Reilly 2005: 3) approach in which new research insights were continually worked back into the methodological framework.

³ As individual may have a limited and specific grasp of a broader culture (see Berger 2008) in addition to being a small slice of a far larger group.

human and non-human agents involved in production and musical practice in the studio. In this my methodology is informed not only Marcus (1995), but those who have built on his work such as Burrell (2009) and Miller (2014), and by key proponents of actor-network theory (ANT), who radically broaden the networks of actors understood to be involved in cultural and social production (see Sayes 2014, Prior 2008, Mol 2010, Law 1999, Latour 1996, 2005). While I examine ANT in more detail in chapter three, here I point towards some of the connections between ANT and the methodology of the multi-sited ethnography. In this section I begin by grounding my ethnographic work in its theoretical and historical context before moving on to discuss the impact of George E. Marcus' work on my own and the way it intersects with ANT.

Although historical claims about ethnography's power to present comprehensive portraits of specific cultures have been problematised (see Berger 2008), it remains a powerful research technique for investigating music making, especially when participant observation is combined with other methodologies (Nettl 2015: 141-156). My research attempts to uncover the impact of a range of actors on knowledge transmission, by examining the musical life of the everyday. My study is therefore not only an analysis of composition, but also of other areas such as practice (in the sense of exercise or rehearsal), collaboration, and play, all of which are shaped by the internet (see Born and Haworth 2018). While traditional musical communities and scenes of the past were often built on formal and institutionalised student-teacher relationships (see Kippen 2008), many modern scenes, particularly those that have translocal components, can now be framed as a series of knowledge-sharing relationships between users that scale up into networks "held together through the mutual production and reciprocal exchange of knowledge" (Jenkins 2006: 137). In a number of scenes the distinctions between audience members and producers may be permeable. These individuals form networks by communicating directly, both in person and via social media platforms (see Cover 2014, Morrison 2014), and by indirect forms of communication such as the public discussion of musical practice on online forums.

Within this contemporary paradigm, the study of musical practices that develop in both online and offline sites requires different methodologies from historical single-sited ethnography that studied musical cultures that were more strongly bound by place (see Born and Haworth 2018). To study producers and scenes that span diffuse geographical and online spaces, it is important to consider a range of sites and actors (see Coleman

2010), such as laptop studios and the website SoundCloud. SoundCloud is an important site in which my informants interact, a node in a network of offline and online spaces that inform the production of experimental hip-hop, the social practices that surround it, and the processes of knowledge transmission. This process of knowledge transmission through social interaction is a quotidian aspect of each informant's lived experience, shaped by a world in which laptops and mobile devices allow everyday life to be interpenetrated with online experiences (see Bergh et al. 2014, Goggin 2013). This means that an ethnography that studies these composite experiences must consider the laptop as both site and actor in processes of production, reception, transmission, and sociability, shaping these social and musical processes in particular ways. To study such a complex socio-cultural context, my research pursues a multi-sited approach (after Marcus 1995) encompassing a range of spaces of musical practice and using participant observation as a key method.

George E. Marcus' 'Ethnography in/of the World System: The Emergence of Multi-Sited Ethnography' (1995), which suggests scholars need move "out from the single sites and local situations of conventional ethnographic research designs to examine the circulation of cultural meanings, objects and identities in diffuse time-space" (Marcus 1995: 96) has significantly influenced my methodological practices. Of particular import to the development of my work is a schema that seeks to ground multi-sited ethnography in the lived experiences of informants by structuring investigations around six possible imperatives:

1. 'Follow The People'
2. 'Follow the Thing'
3. 'Follow the Metaphor'
4. 'Follow the Plot, Story or Allegory'
5. 'Follow the Life or Biography'
6. 'Follow the Conflict.'

Although I could have centred my methodology around a number of these imperatives, I chose to ground it in both 'Follow the People' and 'Follow the Thing,' following the movements and actions of actors, on- and offline, to examine crucial sites of communication and production, a strategy of "quite literally following connections, associations, and putative relationships" (Marcus 1995: 96) which Marcus states are "at

the very heart of designing multi-sited ethnographic research” (ibid.). ‘Follow the People’ is a practice in which one must “follow and stay with the movements of a particular group of initial subjects” (Marcus 1995: 106) across borders and different sites; together these actions help conceptualise a new object of study, “a diasporic world independent of the mere movement of subjects from one place to another” (Marcus 1995: 106). ‘Following the Thing’ can be used to examine the network of actors involved in the creation of compositions (which are themselves actors). This can involve following a finished recording on SoundCloud back through the site to the DAW, the multiple digital tools it contains, and the way they intersect with the human actors who engage with them. Marcus’ imperatives therefore suggest a methodology similar to that of ANT, imploring the scholar to engage with the movement and actions of a wide variety of ‘people’ and ‘things’ that are involved in the continuous creation, maintenance, and populating of networks. As Latour notes:

ANT is not about *traced* networks, but about a network-*tracing* activity... There is not a net and an actor laying down the net, but there is an actor whose definition of the world outlines, traces, delineates, describes, files, lists, records, marks or tags a trajectory that is called a network. No net exists independently of the very act of tracing it, and no tracing is done by an actor exterior to the net. A network is not a thing, but the recorded movement of a thing (Latour 1996: 378).

It was in fact ‘Following the Thing’ that led to some of the methodological innovations discussed later in this chapter, in which I undertook a range of creative practices to examine how some of these non-human actors, in this case samplepacks, are created.⁴ By employing these two imperatives in conjunction with an ANT-influenced ontology, my scholarship looks to reveal the actors involved in the production of electronic music, and even, as I suggest in the section on methodological innovations, engage with how some of these actors are created. In the next section I lay out the methodological approach I employed to study a small part of this complex, composite ‘world’, before turning to explore the ways in which my research differed from what I had initially planned and the methodological innovations this involved.

⁴ In this sense my work is also influenced by another part of ANT’s methodology, that of ‘depunctualization’, which is a “process of blowing open the black box to reveal a complex actor network contained within” (Bates 2019: 46).

2.3 Methodology

In my research I enacted a methodology that expanded upon a core of participant observation and semi-structured interviews by means of online and offline techniques that enabled a deep study of musical practice, culture, knowledge and pedagogy. In this chapter I introduce the elements of this methodology before outlining the key stages of the research.

At the core of my research was locale-specific fieldwork in London, undertaking participant observation and engaging in discussion and collective composition with research subjects. Throughout my research these informants are anonymised for consistency, and to respect the wishes of those individuals who did not wish to be identified. London was the site of this research as it is both the city I am located in as a researcher and practitioner, and a crucial site for the production of a variety of electronic music genres (see Bradley 2013, Bramwell 2015, McNally 2016, Rollefson 2017) including experimental hip-hop.⁵ My fieldwork built on a network of local contacts established on SoundCloud and through personal connections, ‘following the people’ into the different spaces that shape musical practice, such as home studios. The central aspect of my participant observation involved collective composition and skill acquisition as a “productive point of entry for conversation and exploration” (Boellstorff et al. 2012: 74); this process was designed to help me develop an understanding of the ways in which varied uses of music technology and the social life of music making shape the deployment and transmission of specialist knowledge. To document this process I recorded studio sessions to capture specific musical processes for study (following Bates 2010) in combination with fieldnotes (see Barz 2008), interviews, and audio recordings of the off-screen processes that are lived in the studio.

This offline fieldwork was supported by aspects of the methodology that focused on online sites, particularly SoundCloud, where I observed social practices at a distance and developed networks of informants. The development of informants was shaped by

⁵ Previous scholarship on SoundCloud has underlined the important role geography plays in networks created through the platform (Allington et al. 2015), pointing to local research as a vital part of investigating emerging musical practices.

observing the ways that musicians navigated the site, socialised and accessed music through groups, specific hashtags, external blogs, browsing of shared networks, and other “entry points” (Burrell 2009). In addition to ‘following the people’ in this way, I also employed an approach which focused on ‘following the thing’, examining the lifecycle of compositions, tracing them from their creation in the studio to their circulation on SoundCloud and the wider internet, or vice-versa. To develop a more comprehensive online methodology, I also explored networks beyond SoundCloud, as “given the arguments for the vast terrain and complex intermingling of cultural spaces, it is clear that field site selection must become something that is done continually throughout the process of data gathering” (Burrell 2009: 184).⁶ This exploration of a network of connected sites enabled me to develop a greater understanding of the lived experience of my informants who browse, socialise and share their music on a number of platforms.

The online and offline aspects of the research continually intersected. Music and the tools used to create it continually moved between offline and offline spaces, as did everyday social activities, including browsing the web, listening to music, and interacting with peers. To explain my multi-sited approach to research more clearly, I lay out below the five distinct phases of my fieldwork.

1. *I began my initial fieldwork by observing the actions of producers online, identifying key points of entry, such as particular group pages on SoundCloud, before initiating dialogues with users to recruit informants. Informants were also recruited through offline social networks.*

My selection of informants was shaped by observing the ways that musicians navigate the website, socialise and access music,⁷ grounding the ways I accessed and contacted users in communal practice. Having already conducted research at postgraduate level (Gouly 2011) I had relationships with previous informants that I attempted to build on initially, messaging users on the website itself to discover

⁶ This is essential as although all websites are impermanent to a greater or lesser extent, this is particularly important for websites such as SoundCloud which can be threatened by complex issues over copyright.

⁷ Although some of this is hidden (Orgad 2005), one can still observe a user’s likes, shares, and the networks they present themselves as part of.

whether they were interested in being involved in the research, in addition to engaging primary and secondary social connections. Although a majority of producers were recruited over SoundCloud, a number of my informants were already known to me through personal connections and research at MMus level. I often contacted these informants more directly, either by phone or over Facebook, to ask if they were interested in the project and if they knew others who would be willing to be involved.

For this part of the research I used my pre-existing, well connected SoundCloud profile as I believed that the status suggested by the number of followers I had already accrued (see Allington et al. 2015), would allow me to engage my informants from a position as a respected electronic musician of skill and a known user of the website. I thus did not create a separate academic profile, in contrast to the approach of some previous researchers (see Orgad 2005: 55); I did however provide a prominent link on my SoundCloud page to an external website where a research outline, academic papers and extra information could be accessed easily (see Orgad 2005). I pursued this course of action because I believed that connecting with producers from my personal site would allow me to interact with them in ways that were grounded in communal practice, as initiating relationships with informants can be a delicate process (Boellstorff et al. 2012: 76, Kivits 2005). While a “common practice is to begin by reaching out to influential members of a group” (Boellstorff et al. 2012: 77), I reached out to a range of music makers, from semi-professionals with thousands of followers to budding bedroom producers with tens or hundreds, to gain a more comprehensive view of musical practice and knowledge transmission at varying levels of professionalism and popularity.

SoundCloud’s affordances (see Morrison 2014) were vital in this process due to the fact that they allow users to list their location on their page, and although some users don’t supply this information, I was able to search for producers in London to take part in the research. In addition to searching by location, there are several other points of entry that I explored. These included tracking the comments, likes and recommendations of various initial contacts to broaden my network of possible informants. Additionally, I searched for specific tags that related to the musical and discursive tropes relevant to experimental hip-hop, such as ‘Beats’, and explored the numerous groups that exist on the website where users can share their music with

others who have similar interests, tastes or locations. As this network of informants and potential informants expanded, I began initiating dialogues with users over SoundCloud, outlining the project to them and beginning the process of discussing my core research questions. At this point I contacted significantly more users than I intended to work with (and was ultimately able to work with as I outline later in the chapter) due to the fact that a number of informants were not be willing to participate in all phases of the project.

2. *These dialogues fed into semi-structured online interviews centred on my key questions with an expanding group of informants, enabling me to develop relationships and gather qualitative data.*

At this stage I developed a set of basic questions to pursue broad dialogues with informants based around my research questions. These questions were created with the intention of helping me to gather initial data and engage my informants, forming the starting point for new questions to emerge and be worked iteratively into subsequent interviews. My core research questions therefore helped generate the initial questions for the semi-structured interviews and framed the subsequent dialogues that occurred during my participant observation in the studio. Examples of these questions included:

What do you do when you sit down to make a beat? This question was designed to open discussion on the different starting points that exist for composition, looking to highlight how different objects such as presets, samples, and audio effects may be vital in the various stages of composition.

Have you ever had a sound in mind that you didn't know how to make? If so, what did you do? This question opened up a large number of possible routes involved in knowledge transmission and learning, from direct social interaction to trial and error. In doing so it was intended to highlight the way sociability and production are tightly interwoven.

Do you collaborate with other people when making/playing music? If so, how? This question was necessarily broad, and invited informants to explore a variety of social interactions. My intention was that a question like this would be particularly useful when trying to understand the role that local networks play in production and

transmission.

These questions helped shape discussions about knowledge and transmission, and as these dialogues evolved, further questions arose with particular informants that were cyclically worked back into my dialogues with others (for full list of questions see appendix). This allowed me to develop themes in the research that represented the perspectives of my informants; helping to structure my work, challenging me to think reflexively about the direction of my research, and developing deeper qualitative data. However, all my interviews started from the same set of initial questions to help retain an element of structural homogeneity to simplify the analysis phase of the project. This phase of the project continued throughout the fieldwork and often overlapped with the fourth stage of the research detailed below. Throughout the thesis the majority of the quoted materials come from these sessions, which were a vital counterpoint to the participant observation, and a time when practices that I observed could be dissected in detail.

3. *As this data was gathered I conducted a process of continuous debriefing, allowing my informants to comment on my interpretations and representations of their views as the research developed.* This process involved sharing my work's continuing development with my informants and was mainly conducted in person. I had originally intended for my research participants to be more engaged with my outputs, such as papers, and some of the actual data, such as recordings of studio sessions, but this was in fact one of the areas my research diverged from initial plans, as I detail later in this chapter. Despite this, my informants were able to engage with my research as it developed, a process that facilitated their comments on my analyses, giving them the opportunity to express broad responses to my research questions (after Schloss 2004). In particular this allowed my informants to clarify their musical practices and views, guiding me towards vexed areas of discourse and practice, and helping to structure my work thematically. This stage of the research overlapped with the following stages, and additionally towards the end of my research (overlapping with stage five) I brought the majority of my informants together for a roundtable session. This enabled me to discuss my findings in detail and for them to comment on them as a group. This part of the methodology was essential, as it allowed my informants to engage with me in a critical dialogue about my findings and interview analyses, and enabled us to explore my research questions on a more profound level collectively (building on

the kinds of dialogue described in Berger 2008: 74-75).

4. *As my network of informants grew I 'followed' them into the spaces that they produce in, to conduct the main body of my participant observation.* In this part of the research I traced my informants to the central space in which musical artefacts are created and distributed, the studio, both a physical location, often in producers' bedrooms, and one with a digital actor at its core, the DAW. Alongside the semi-structured interviews, this participant observation was the principal methodology of my fieldwork and involved engaging with my informants in their studios as they composed, improvised, practiced, researched, and navigated online spaces. During these sessions, I documented studio practices, drawing on the explanations my informants provided, to develop comprehensive data on musical practice and knowledge acquisition and transmission. This data was recorded directly for later analysis as audio, contextualised by my field notes. While these sessions were free-flowing, I occasionally directed my informants in a number of respects, asking them to demonstrate the ways that they produce a track, or drawing on particular material that had arisen from my interviews with them to examine the creation of specific sounds. This therefore not only involved observation of the ways in which my informants compose, but participation and discussion, as I sought to learn how to reproduce idiomatic sounds myself.

An example of a typical session would start with a discussion around issues developing in my research and a recap of what we had spoken about in the previous session or interview. Following this, we would spend time together in which the producer, with varying degrees of involvement from me (depending on our relationship, and the interest they had in collaborating rather than demonstrating), would spend time producing a composition. In a number of the sessions the starting points for these compositions were samplepacks that I had made, a process that I examine in detail in the section below on methodological innovation. During this process I would ask producers how they learnt particular techniques, and why and how they used them. For example, I might observe and discuss the construction and deployment of a chain of effects used by the producer to process drum sounds; such chains of effects are often used in multiple compositions, and are revised and updated for each one. By examining these objects in detail we would delve into how crucial aspects of sound processing and drum programming are achieved, and how

producing involves iterative cycles of learning and practice, in which the producer may have varying degrees of knowledge and control over the tools they deploy. These sessions could last from forty-five mins to several hours, but usually once they were finished we would discuss the session that had just passed, often expanding on the original questions from the semi-structured interviews to examine particular areas of interest in more detail. In this sense these sessions often overlapped with, and incorporated, the semi-structured interviews detailed in point two.

During these sessions I sought to learn techniques of production not only from my informants, but in addition from the sources they drew on, such as records by iconic producers. This kind of participant observation allowed me to observe the ways in which musicians reproduced musical tropes in real time, while they commented on not only the processes involved, but also how they learnt them. As part of this comprehensive methodology, I also ‘followed’ my informants beyond the DAW to SoundCloud and other sites (see Burrell 2009: 184) crucial to their lived experience, such as Bandcamp, blogs, and personal websites. This helped me to develop a greater understanding of the lived experience of my informants, following them as they browsed, socialized and developed networks with users. This process aimed to highlight not only the connections between different nodes in on- and offline social networks, but also the way in which laptop-facilitated production of electronic music is deeply embedded in technologically-mediated social practices. This aspect of the methodology was patterned on the processes producers undergo to acquire the technological and aesthetic knowledge vital to the reproduction of idiomatic musical tropes (after Schloss 2004: 5). Employing such an approach allowed me to develop an understanding of the ways in which varied, local uses of music technology, the relationships between different actors involved in production, and the deployment of specialist knowledge shape musical aesthetics and practices within the scene.

This part of the fieldwork required a high degree of reflexivity, as although other musicians may recognise me as a skilled producer of electronic music, I am not principally a producer of experimental hip-hop. Thus, while I was often able to understand the techniques and language used in the compositional process, I needed to approach my informants as one looking to understand the ways they learn their practices and how they use them; in this respect I was both an insider and an outsider. Analyzing how informants taught their techniques, prompting them to

reflect on the process through which they learnt them, and reflexively considering the factors involved in shaping these practices, helped me understand the role different actors play in knowledge transmission.

5. *As the participant observation continued, I began analysis and transcription, processes that were shaped cyclically by the perspectives of my informants.* Here I documented key parts of my participant observation for later analysis via audio recording so both discussion and the sounds created could be analysed. This allowed me to engage with a number of my research questions, seeing for example how different software objects, including those created by producers, helped shape musical practice within the studio, and how the studio and online sites are interconnected. I also used field notes, interviews, and audio recordings of off-screen studio activity to develop a better picture of musical practice and sociability. This meant that when studying my data to understand how particular musical tropes were reproduced I was able to analyse not only how the music is programmed on screen, but also how my informants describe and embody that process.

The composite methodology outlined above was developed to enable me to gain an understanding of the ways that music technologies and social media shape the musical practices of my informants, and the way knowledge of music making is transmitted and shared. In the following section I discuss some of the ways this methodology differed from my initial plans for the fieldwork, the impact of these changes and the corresponding shifts in focus and scope, and additionally explore a key methodological innovation that occurred during the fieldwork and the way it supported my examination of the role of pre-composed materials in the creation of music.

2.4 Methodological Changes that Occurred in the Field

When I entered the field I arrived with a broader and more ambitious schema than the one just outlined. However, as I have already hinted, my experiences in the field led to a number of critical changes. These had two key components. One was a shift of the central focus of the research, meaning that, instead of being split equally between the DAW and online platforms, the DAW became my principal site of study. This led to my work on online sociability providing context for my examination of knowledge transmission, rather than being a central focus of the study itself. Secondly, while I had

intended to work with around fifty informants more comprehensively spread across a range of locales, I quickly realised that the amount of qualitative data that I was developing with a smaller number of informants suggested that the original plan would be unmanageable for a single researcher in the transcription and analysis phase.⁸ These changes also led to my methodology having a slightly more traditional character, as some of the more technologically complex methodologies that I intended to pursue with this larger number of purely online informants, such as using screen-sharing to document production sessions, were ultimately jettisoned. In addition, I also ended up exploring a number of methodological avenues that were previously unforeseen, so as to investigate specific areas of interest that arose from my interactions with my informants. In the following two sections, I will first lay out the major shifts that occurred in the core of my methodology and consider the significance of these changes, before moving on to an important area of research that my fieldwork led me to, specifically, exploring the construction of commercial samplepacks, as an area in which a number of crucial and contested ideas, such as authenticity and the role of non-human actors, could be examined. To conclude this chapter I will summarise my methodology and its changes over time, before reflecting on whether the final methodology that I arrived at was appropriate to answer my research questions.

2.5 A Shift Towards the DAW

As outlined above, the more comprehensive methodology that I had initially planned became streamlined over the lifecycle of the project, ultimately meaning that the DAW became the central focus of my study. This change was brought about by my initial interactions with informants for whom SoundCloud appeared to be less important in their lives than I had previously foreseen. For the producers I spoke to, the DAW and certain social interactions, albeit interactions augmented by a wide range of online platforms and digital tools, were critical to knowledge transmission. This revision also meant that not only did my recruitment of informants change, but in addition, some aspects of my methodology were discarded. For example, in-person observations of online practices, such as navigating SoundCloud, did not end up as a central activity in

⁸ For example, even with a smaller set of informants, I still generated around half a million words of interview data in addition to other materials that documented my participant observation.

their own right; rather, activities like this were folded into my participant observation in studio sessions where different forms of online navigation occurred during social interactions and problem solving. The impact of this was that while I still engaged in a large number of the core methodological practices, such as semi-structured interviews and participant observation, the fieldwork was no longer equally focused on both online and offline sites of study. This meant that the balanced, multi-sited approach I had intended began to centre on the DAW, with a number of peripheral sites. In part this arose out of the difficulties I faced in accessing and recruiting informants online who were not based in London. While creating initial connections with producers was not necessarily challenging, it quickly became clear that it would be extremely difficult to persuade producers to commit to the research in the long term (that is beyond answering some cursory initial questions), without the kinds of in-person interactions which often enable a researcher to build trust and relationships with one's informants. In particular it appeared that the temporal commitment I was asking of these individuals, particularly without financial recompense, was unappealing. These issues are clearly of the kind that researchers with particular positionalities can face when looking to recruit online, particularly in a social and political climate in which potential informants' interactions with unknown cis male individuals (in this case the researcher) may be looked on with a degree of suspicion. In-depth interactions with individuals may also require certain kinds of trust and intimacy that are difficult to build through electronic messaging, and this may also highlight why I was only able to recruit other cis males as informants.⁹

In addition to the difficulties I faced recruiting informants online, I swiftly realised from my initial data collection and analysis that conducting multiple interviews and production sessions with a large number of informants, each several hours long, would lead to hundreds of hours of interviews and vast amounts of data to transcribe and analyse, and that this would be beyond the capacity of a single researcher. The shift to a smaller number of around ten informants, mostly recruited in London through personal connections and online interactions, was a compromise that enabled me to complete my

⁹ This is an issue that I return to in the chapter six; however, looking to the future, in a context in which misogyny, transphobia and other sorts of abuse can be common, and in which online dating and apps have blurred the the purposes of online spaces, researchers with a range of positionalities may be needed to develop a diverse network of informants.

fieldwork within the lifecycle of the PhD and navigate an already challenging amount of data. In addition, the initial successes that I was already experiencing with local informants led me to focus on London and the DAW as the central loci of my research. Like many researchers, I was drawn to my successes and sought to buttress them, grounding my thesis in ethnography that engaged deeply with the lived experiences of my informants, rather than in less depth with a larger array of informants, as I believed that the depth and quality of the data was vital to comprehensively answer my research questions.

Additionally, my initial intentions to exhaustively document these sessions using video proved impractical, as aside from the challenge of controlling a camera whilst attempting to stay engaged in a studio session as an active participant, some producers were uncomfortable with such interactions being recorded and stored. This is perhaps because this sort of documentation, for example the video recording of all the settings of a particular software synthesiser, might allow for distinct acts, such as creating specific timbres in synthesis, to be reproduced almost exactly.¹⁰ Despite this, I did make audio recordings of these sessions which included dialogues between producers and myself, and the process of composition and experimentation in real time. In addition I conducted interviews after each session to discuss what had occurred, and related these events back to my core research questions, meaning that although they were not as extensively documented as initially planned I did manage to collect significant data for analysis.

Finally, although I did manage to incorporate some continuous feedback into my methodology, I was not able to weave this process into the fieldwork as comprehensively as I had planned, in part because of some of the difficulties I faced staying in touch with certain informants, but also because asking them to read passages I had written required further time commitments that were untenable. Partly as a response to this, and out of a desire to have my informants involved as more active agents in my study, I decided to put together a roundtable in which my informants could discuss some of my initial ideas and conclusions together. Although I curated this conversation by framing particular

¹⁰ As I will explore later in the thesis, accurate reproductions of an individual's sounds and techniques, can make producers feel threatened by a potential loss of cultural capital.

areas of discussion, a significant portion of the dialogue occurred between individual producers, and it was extremely useful for me to observe, record, and transcribe these interactions, to support the semi-structured interviews and participant observation sessions that form the core of my data. This roundtable therefore enabled me to engage in a form of continuous feedback, albeit in a manner that was more limited than initially intended.

Although these changes in my methodology were unanticipated, they led to some important improvements in my research. One aspect of this was making the focus of the project more narrow; whereas the project had originally attempted to focus on two major conceptual areas – the intersection of mediated and in-person musical sociability and composition centred on the DAW – the realignment of the project and the centring of the DAW meant the project was more manageable, more focused on my research questions, and a better reflection of the perspectives of my informants.¹¹ Arguably this reduction of scope also allowed me to delve far deeper into the core areas of study, leading to more developed relationships with my informants, repeated studio sessions, and better qualitative data. Despite this, I believe that the methodology I initially proposed could in fact be useful in the future. However such a methodology would have to be employed in slightly different ways to be successful, as I examine in the conclusion to this chapter, and could also employ some of the innovations that occurred during the lifecycle of the project that I detail below.

2.6 Methodological Innovations that Emerged During the Project

As discussed earlier in this chapter, I intended for my research to be iterative (see O'Reilly 2005), so that new research insights could be worked into the methodology during the lifecycle of the project. While I have discussed some of these changes in the context of the core methodology above, there were also a number of distinct areas of methodological practice that emerged that I had not planned at the start of the project,

¹¹ Furthermore, the reduced amount of data actually enabled me to complete the fieldwork, as larger amounts of data would have been completely unmanageable. Even with the reduced amount of data I ultimately collected, I had to employ a company to complete the transcriptions of the interviews as I developed Repetitive Strain Injury in my attempts to complete them myself, leading to a three month suspension of studies.

the most important of which was an exploration of samplepack construction. These developments in the fieldwork helped shed light on my core research questions and helped provide me with a broader understanding of the context in which the production of experimental hip-hop occurs.

While I had previously not imagined exploring the commercial construction of samplepacks, the importance of pre-composed materials to the production of experimental hip-hop, as outlined by my informants, suggested that this might could be a fruitful avenue to pursue (part of a 'Follow the Thing' methodology). A helpful starting point for this aspect of the research was that I knew a number of people who worked, or who had worked, in this sector of the music industry. This meant I was able to set up a relationship with a company that makes samplepacks to create sounds for them in a variety of styles. Over the lifecycle of the project I made three samplepack collections; while the first of these was more general and involved me recycling interesting sounds from some unused composition projects, the second two were intended to be more explicitly in an experimental hip-hop style. Making these packs involved extensive time in my own studio reproducing many of the processes that I had observed or discussed with my informants, and employing these to create sets of short compositions that could then be deconstructed and arranged for use in the samplepacks. These drafts were then sent to the company, who provided extensive feedback on the ways they wanted me to re-edit the loops, and sought to shape the materials in ways that they believed would make them more commercially viable. Following this advice, I edited these materials appropriately, and documented and critically reflected on the way these commercial pressures can impact on the construction of pre-composed musical materials. Once these packs were finished they were released by the company, and I also used them as compositional starting points during some of my participant observations sessions with my informants. In these sessions I would ask producers to initiate their compositional processes with the materials, rather than what they would normally use, so I could observe how they were used during the session and discuss their quality and efficacy afterwards. I detail these experiences in the chapter five, and discuss how the creation and use of these materials provoked crucial insights in my research.

While this was an unexpected area of my fieldwork, it did emerge from discussions with informants who often centred the role of pre-composed materials in their own work. The importance of these tools in the production of experimental hip-hop led me to

explore their construction, and how they might be involved as active agents in the construction of authenticity and the transmission of knowledge. This process helped underscore the significance of thinking about production as involving a network of human and non-human actors with varying degrees of agency. With this in mind I not only engaged in the construction of samplepacks myself, but in addition interviewed a number of other individuals (one of whom happened already to be one of my informants) about their experiences creating these materials, and asked them to reflect on the kinds of relationships between knowledge and idiom involved in this process. This involved multiple semi-structured interviews with two samplepack makers, and one with a producer and musician who also creates software synthesisers professionally. These interviews engaged my informants around the processes involved in the construction of these tools, and the extent to which they thought the materials they were creating were intended to be explicitly idiomatic. As I discuss elsewhere, while this methodology is unusual, I believe it can shed light on how industry pressures can impact on the production of these tools and the scene more broadly. In addition, I believe that the examination of digital musical tools, and by extension their construction, should be a vital part of ethnomusicological research that engages with music making that employs the DAW. In the future I hope that ethnography can build on more traditional forms of scholarship in ethnomusicology connecting organology and the social (such as Bates (2012a) and Dawe (2005)), to reveal a clearer picture of the multiple actors involved in modern music making (Bates 2019). Such scholarship would embrace both Marcus' imperatives and ANT, to broaden the ways in which we examine practice, composition, and performance.

In this section I have outlined an unexpected methodological avenue explored within my fieldwork, sought to explain how it transpired, and demonstrated its relevance to the rest of my fieldwork. This choice, and the more general changes outlined in the previous section, marked a general shift in focus and a narrowing of the scope of the research so as to more acutely answer my research questions. In the conclusion to this chapter, I will summarise the methodological processes engaged in over the life cycle of the project, and consider the efficacy of my final methodology in answering my core research questions, before finally considering how methodological improvements could be made in the future for similar projects that consider questions of production, knowledge transmission, and social interaction.

2.7 Conclusion

This chapter has presented both the framework of my final research methodology – a composite, multi-sited approach drawing closely on Marcus’ (1995) schema and ANT – and the broader framework I had initially intended to employ. The range of techniques I ultimately utilised have the capacity to illuminate experiences of musical practice and knowledge transmission across both a local and a geographically-diffuse scene of experimental hip-hop music makers. While my initial methodology sought to engage equally with both the on- and offline social life of music making, and musical production centred around the DAW, my fieldwork, and the views of my informants, led to a re-assessment of the scope and foci of study. These experiences, in combination with some of the issues around data outlined above, led to a streamlining of the research and the focus on DAW-based production and the social context in which these practices occur. These changes also led to the employment of some innovative methodologies that allowed me to engage with my research questions from some previously unexpected angles. In this case I, like many researchers before me, brought a whole set of initial perspectives and biases to my research that were challenged by my informants and my experience of fieldwork. In this chapter, and throughout my thesis, I critically reflect on these biases and seek to examine how they shape my findings and role as an active agent within the field. An example of this, discussed earlier in this chapter and elsewhere in the thesis, is the impact of my positionality on the kinds of informants I managed to recruit, and how this, in combination with the methods used, only managed to bring a limited set of voices to light. While this means that my research may not be completely representative of the translocal scene itself, a task that would be potentially impossible considering its size, it unearthed data, insights, and themes, that are of significance to scholarship on hip-hop and electronic music more broadly. In this sense my aim is that this chapter, and those that follow, help to justify the decisions made during the fieldwork as I examine the implications of the qualitative data that I have gathered.

While the final methodology I employed engages with field sites and informants in a different way than I had initially planned, these changes were not only ultimately necessary, but in addition more efficacious as they allowed me to engage with my research questions more directly, and not spend large amounts of time on areas that were tangential or marginal, meaning I conducted my fieldwork in ways that spoke more representatively to the lived experience of my informants. However, as noted previously,

one of the ways of improving projects like this in the future would be to involve a number of researchers so that larger amounts of data gathered could be more manageable. These researchers could be split into teams involved in the different phases of the research, for example across the on- and offline parts of the project. Additionally, engaging research participants in a more comprehensive manner, in which they themselves are partly involved in the process of analysis, would be an innovative way to involve informants as co-researchers. This might involve producers commenting directly on, and discussing in person, some of the data gathered by a researcher, such as a video of production practices, making time-coded comments that express their perspectives on particular actions taken within the video, and explaining how these comments relate to the central issues of my research. This approach however has its own challenges, such as the creation of large amounts of meta-data, and could require financial recompense for informants due to the level of engagement required. Although more expansive methodological approaches like this could be successful in the future, the schema I employed throughout my research enabled me to develop qualitative data that was instrumental in answering my core research questions, as I detail in the rest of this thesis.

The Affordances of Digital Music Tools in Theory and Practice

3.1 Introduction

MG: I had a friend... who had an MPC and this is around the time that I'm starting to like listen to all this type of music. And I was like, "Oh wow, I didn't know, I've heard so much about it, can you show me," and so, you know, he just gave me a quick run through and I just tried to programme a couple of things, and... when you understand how those machines work it changes your perception of that music because you understand... how the stuff is constructed...

BH: It's kind of like watching a 3D movie in that when you ... you look at the screen without the 3D glasses on... you kind of get a sense of what's going on, but like the detail is lost to you because you don't have the sort of specific lens through which to look at it. You pick up a sampler and you pick up the tools, it leaves the same imprint on your brain that it left on the music, and those things kind of line [up]... Like... the MPC imposes some limitations on how you can arrange things, just like Ableton does, you start to hear those. (Roundtable interview, London, 11th December 2017)

As this exchange makes clear, producers are aware of the complex relationships that exist between older, iconic technologies such as samplers¹ and newer ones; the architecture of the DAW and the digital tools within it; and vitally, the music that producers imagine and create. Here, as observed elsewhere in my fieldwork, my informants discuss the relationships between specific technologies and their own perceptions, both as listeners and as producers of music within a particular techno-cultural context. In such a context understanding how networks of human and

¹ The most famous in hip-hop being the Akai MPC, used in countless canonical productions (see <https://www.vox.com/culture/2018/4/16/16615352/akai-mpc-music-history-impact>).

nonhuman actors construct experimental hip-hop is challenging, as an array of objects² are combined in extremely intricate ways. To unravel these gordian knots of musical practice theoretical approaches are required that help researchers examine these networks, and their relationship to the kinds of compositions and practices they produce. This chapter might be understood as a kind of ‘literature review’ or ‘theoretical underpinnings’ chapter, as might be expected in a PhD thesis. However it differs somewhat from the typical literature review in integrating a considerable amount of ethnographic material, which helps to make the case for the theoretical apparatus I weave together in the pages that follow. In this chapter I introduce the theory of affordances to examine the relationships between perception, technology, and action as part of a threefold theoretical approach to investigate the thesis’ central site of study, the intersection of human actors and the DAW.

Although DAWs are deeply intertwined with contemporary recorded music and performance, the use of digital tools can still be somewhat of an under-theorised area of ethnomusicology. While older works of ethnomusicology engaged with music making largely untouched by recording technology (such as Feld 1988 and Seeger 2004 among many others), modern ethnomusicology must now contend with music technology’s varied roles across a range of musical practices (see for example Greene and Porcello 2005, Greene 2001, Bates 2010). An immense amount of the music we hear today is mediated by digital recording technology, and this is as true of ‘acoustic’ and ‘traditional’ musics as it is of dance musics that employ obviously electronic sounds. In some cases these mediations are intentionally ‘transparent’ and difficult to discern, while in others they are opaque and the obvious focus of musical practice (Brøvig-Hanssen and Danielsen 2016). However, whether the use of digital tools *is* or *is not* clearly perceptible to an audience, it can have a major impact on musical practices, recordings, performances, discourses, and aesthetics (see Bates 2016, Zagorski-Thomas 2014). Considering this, I believe it is crucial in this thesis, and in ethnomusicological research more broadly, to develop framing devices that enable scholars to respond to, and interrogate the role of, technology in musical practice. This belief arises from my

² While I use more colloquial terms than nonhuman, such as object and tool, throughout this chapter and the rest of the thesis it is important to remember these are agentic, nonhuman actors, and I only deploy these colloquialisms to make the text easier to parse.

ethnographic research, and my observations of the central position of music technologies in the way that musicians discuss, conceptualise, and engage in music making. This process involves understanding technologies as nonhuman actors deeply rooted in specific musical, social and historical contexts that they themselves help to constitute.³ In this chapter I employ affordances theory, alongside other approaches, to explicate the ways that technology is implicated in music making. In doing so, I seek to avoid two potential pitfalls: one, simplifying the role of technology, and two, suggesting that it determines musical practice. I also seek to bring together the three central aspects of my theoretical approach, namely the work of Pierre Bourdieu, actor-network theory (ANT), and affordance theory. Using this rubric, I explore how these theories⁴ may be used together to examine networks of human and nonhuman actors, to understand how and why the human actors involved make certain decisions, and to consider the ways nonhuman actors shape the musical objects produced by these networks.⁵ Here I follow in the footsteps of a number of recent scholars who have sought to bring together these disparate theoretical tools, as Eric Drott notes:

While the coupling of Bourdieu's theories with those of ANT... may seem jarring, given that they are widely taken as representing two antithetical poles in

³ There is a broad scholarship on the relationships between technology and music making, in particular recorded music; these include, but are by no means limited to: Bates (2004, 2010), Butler (2014), Collins (2012), Demers (2010), D' Errico (2015b), Fales (2005), Garcia (2005), Katz (2004, 2012).

⁴ I refer to ANT as a theory throughout this thesis, although I am aware that key ANT scholars such as Mol and Callon do not consider it as such (see Mol 2010). However these discussions are beyond the scope of this thesis, and referring to it as a theory, rather than a tradition (Mol 2010), makes the text easier to parse.

⁵ Even scholars who are more critical of ANT have noted potential relationships with the theory of affordances, as Whittle and Spicer suggest:

ANT... relies on the idea that natural objects and man-made artefacts have certain 'real' properties that explain the relative durability or weakness of the network... This leaves ANT closer to the critical realist approach, where the 'content'... or 'affordances'... of objects such as machines are allocated an explanatory role (Whittle and Spicer 2008: 614).

recent French social theory, I would contend that the divergent perspectives they offer have the potential to disclose each other's blind spots. ANT's emphasis on the performativity of social ties provides a useful corrective to Bourdieu's tendency to assume the existence of relatively stable social fields that stand above individuals and shape their conduct. On the other hand, Bourdieu's emphasis on socialisation and the symbolic dimension of power relations provides an equally useful corrective to ANT's rather thin account of the interests and motives that animate actors (Drott 2013: 3-4).

In this sense this research is part of recent music scholarship that draws on these multiple academic traditions in an attempt to more holistically explicate a broad range of music making practices (see also Zagorski-Thomas 2014), as Nick Prior explains:

One could conceive of theoretically-grounded empirical studies of music that, at one and the same time, look for dynamic relations between musicians, genres and bands à la Bourdieu, but do not discount how these relations are also joined by other types of materials coming into play. This would adhere to Latour's call to increase 'the type of actors at work' (Latour 2005: 64) at the same time as recognizing the historically-developed space of relations in which actors struggle (Prior 2008: 316).

This notion of increasing 'the type of actors at work' is one of ANT's core insights, helping define an approach that Piekut sums up succinctly, noting that "ANT is a methodology, not a topology; it does not go looking for network-shaped things, but rather attempts to register the effects of anything that acts in a given situation, regardless of whether that actor is human, technological, discursive, or material." (Piekut 2014: 193). ANT therefore suggests an expanded ontology, in this case for the production of music, one which "does not limit itself to human individual actors, but extends the word actor - or actant - to non-human, non-individual entities" (Latour 1996: 369). Within this expanded ontology an actor is "something that acts or to which activity is granted by others. It implies no special motivation of human individual actors, nor of humans in general" (Latour 1996: 373). While it can be difficult to define ANT, as some of the tradition's key scholars note (see Mol 2010: 257), it does suggest a *repertoire* of techniques (Mol 2010: 261) to approaching research, of which this ontological insight, in addition to the process of depunctualization (which asks scholars to examine the construction of

actors within a network see Bates 2019: 46), are most relevant to my work. Additionally, ANT also suggests that scholars consider actors as fluid and in flux (see De Laet and Mol 2000: 227, Knapett 2005: 75), an idea that is also central to my work, specifically in the ways I examine the process by which human and nonhuman actors are transformed by each other over time.

By bringing these theories into dialogue, previously unnoticed overlaps and resonances become apparent. For instance, Bourdieu's concept of habitus and ANT's perspective on the role of nonhuman actors may not be incongruent. Here I turn to Maton, who neatly summarises Bourdieu's definition of habitus:

Formally, Bourdieu defines habitus as a property of social agents (whether individuals, groups or institutions) that comprises a "structured and structuring structure" (Bourdieu 1994: 170). It is "structured" by one's past and present circumstances, such as family upbringing and educational experiences. It is "structuring" in that one's habitus helps to shape one's present and future practices... This "structure" comprises a system of dispositions which generate perceptions, appreciations and practices (Bourdieu 1990: 53) (Maton 2008: 51).

Seen this way it becomes clear that habitus⁶ is deeply intertwined with technology, due to the way technology is involved in many 'structuring' processes such as education and socialising (for example via social media), let alone music making. As Sterne notes, "understood socially, technologies are little crystallized parts of habitus. At a basic level, a technology is a repeatable social, cultural and material process (which is to say that it is all three at once) crystallized into a mechanism or set of related mechanisms" (Sterne 2003: 376). Technologies are therefore agents of the past acting to help structure the dispositions of human agents in the present, as they too were shaped by the dispositions of human agents in the past, underscoring technology's role in iteratively shaping the context in which compositions are produced and valued. I explore this process in more detail in the next section when I examine the relationships between historic and modern music technologies.

⁶ Additionally there are profound connections between the habitus and other relevant parts of Bourdieu's work, as Moore notes "capital is objectified as habitus, and... embodied and realized in practice" (Moore 2008: 111).

By bringing these two theories together I hope to understand the actions of nonhuman and human actors as deeply implicated in the ‘structuring’ of successive actors. In this way, seeing nonhuman actors’ role as a form ‘crystallised habitus’, brings together ANT and Bourdieu’s work on the construction of the social. I see this theoretical approach as useful for explaining music making at a number of different scales, with Bourdieu helping to explicate human-to-human interactions and the motivations that drive them, and ANT framing the networks of actors in which musical performances and objects are produced. By combining these theories with affordances theory, as I do in more detail later in this chapter, one can go further and examine specific nodes in these networks and the particular ways humans and objects interact. It is therefore by examining the broad networks involved in the production of electronic music, the social and discursive context in which musicians act, and the ways human perception shapes human-nonhuman interactions, that I hope to comprehensively explicate musical practice and knowledge transmission in the experimental hip-hop scene.

The next section starts with a brief appraisal of DAWs (and related musical technologies) and the particular social context and historical technologies from which they arise. This process of contextualisation enables me to then examine the theory of affordances, and interrogate its relevance to the DAW in the subsequent sections. From this broader discussion I focus on one aspect of music making using the DAW; namely mapping, in which interconnections are made between different objects during the process of production.⁷ I study the role of mapping in particular as way of exploring the efficacy of this theoretical approach in understanding a variety of musical practices, helping to frame the discussion of specific uses of musical tools in later chapters. In the final section I expand on the study of mapping to consider how specific aesthetics and notions of distinction, skill, and virtuosity can be shaped by the particular affordances of the DAW and the digital tools within it.

3.2 The DAW in Context

⁷ A good example of mapping that I explore in more detail later in the chapter is the myriad and customisable connections that can be made between external MIDI controllers and sound-producing software objects, allowing human actors to control musical parameters in real time (see Magnusson 2010).

To begin this discussion I suggest a useful way to begin thinking critically about the role of nonhuman actors in musical practice is to recall Bruno Latour's⁸ statement that:

Every time you want to know what a nonhuman does, simply imagine what other humans or other nonhumans would have to do were this character not present (Johnson 1988: 299).

What this suggests is that one way of approaching digital tools is to see them as arising from roles formerly played by human actors. While this statement has some limitations that I will expand on this later in this chapter, a clear example of this is a digital drum machine that takes the place of a human drummer. While these two actors, human and non-human, differ significantly in a number of ways, it is clear that digital drum machines emerge from the historical practices of human agents. In addition, modern drum machines are related to not only human agents but also historical non-human agents. In fact, modern digital drum machines can trace their sonic signatures, structures, and logics back through classic analogue drum machines (Butler 2005, 2014) to early percussive accompaniment tools for organs. In this sense, understanding a contemporary tool requires an understanding of how technological developments and human practices are interlocked in iterative patterns as they evolve (see Zagorski-Thomas 2014 for a detailed discussion of this in the context of music technology), as Latour notes:

If, in our societies, there are thousands of... lieutenants to which we have delegated competences, it means that what defines our social relations is, for the most part, prescribed back to us by nonhumans. Knowledge, morality, craft,

⁸ Johnson (1988) is a paper written by Latour under a pseudonym.

force, sociability are not properties of humans but of humans accompanied by their retinue of delegated characters (Johnson 1988: 310).⁹

In short, DAWs, and the tools within them, take on some of the roles previously held by human actors (for example instrument makers, conductors, and other musicians), yet at the same time ‘prescribe’ back to contemporary human actors logics and practices that were previously contained in the work of historical human actors.¹⁰ A good example of this is the MIDI-controlled instruments that are contained within DAWs, such as Ableton’s Collision (pictured in figure 3.1). Collision allows users to control parameters in real time that are modelled on the physical parameters of acoustic instruments. These parameters include the kinds of resonant objects that are ‘struck’, such as tubes, plates, and membranes, and the nature of the ‘mallets’ used to strike them. Once these parameters have been set, these objects can then have their overtones tuned and be combined with different noise sources so as to simulate a wide range of real and imagined metallophones. These tools, when programmed, therefore take on the role of both instrument maker and player, and while they may not precisely imitate the actions of these human agents in either regard, they help to ‘prescribe back’ to the users of Ableton certain forms of knowledge and craft that were once the purview of human agents.



⁹ To nuance this statement it is worth remembering that while these actors are granted agency by ANT, it is not an agency distinct from human agency, as Sales notes, “nonhumans do not have agency *by themselves*, if only because they are *never* by themselves” (Sayes 2014: 144). In this sense “actors are afforded by their very ability to act by what is around them” (Mol 2010: 258) and within their network, meaning that agency is “not something we confer on objects in a one-way relationship; it emerges reciprocally as humans and nonhumans merge” (Knapett 2005: 28).

¹⁰ An example of the crystallisation process referred to earlier.

Fig 3.1 Ableton's Collision synthesiser, which models the impact of mallets on a range of different materials.

In this context DAWs can be seen as tools that “represent, first and foremost, a quantitative leap in the ability to perform operations that were in principle also possible with previous technology” (Brøvig-Hanssen and Danielsen 2016: 104).¹¹ While this is true, it is worth noting that they also have the potential to subtly transform these operations. In this sense digital tools do not merely aggregate actions performed by previous human (and nonhuman) actors, but in addition combine actions in ways that enable new musical possibilities. As the collision example shows, digital instruments can amalgamate simulations of different acoustic instruments into a single object, allowing a producer to move seamlessly between resonators while retaining other parameters, such as the size of the simulated object. These technologies enable new actions that were previously almost impossible (in this case seamlessly changing the type of object one is playing while playing it), while retaining a link to kinds of action engaged in by historical human agents (albeit over radically different time scales).

At this point, it is worth noting that I do not mean to suggest that technologies, while embedded in the actions of historic human actors, define the actions of contemporary human actors. Such determinism lacks explanatory power and removes from human actors an agency that they clearly demonstrate. This suggests that what is required is a theory that resolves this tension: namely, the extent to which a nonhuman's properties are conceptualised as either ‘constructed’ through discourse and practice, or on the other hand, intrinsic and ‘real’, shaping the world around them. Such a model would need to navigate tensions between the agency of human and non-human actors in ways that are not overly instrumental or deterministic. Here I turn to Hutchby (2001) who proposes an “approach to the study of technologies and social life which offers a reconciliation between the opposing poles of constructivism and realism. This involves seeing technologies neither in terms of their ‘interpretative textual’ properties nor their ‘essential technical’ properties” (Hutchby 2001: 444). The solution I suggest in this chapter is one that builds on scholarship across the social sciences on affordances, here defined, following Hutchby (2001), as “the possibilities that they [technologies] offer for

¹¹ In particular hardware devices found in historical studios such as mixing desks, effects such as reverb, synthesisers, and drum machines.

action” (Hutchby 2001: 447). This approach considers specific technologies and their construction, the cultures that surround them, and how they are connected to other technologies through ‘mapping,’ reserving a central role for ethnography in exploring the interaction of nonhuman and human actors in practice. By bringing together affordances, ANT, and Bourdieusian theorising I will explore the diverse and complex ways that humans and nonhumans can act together, and in doing so address some of the criticisms directed at both ANT and Bourdieu.

In the next section of this chapter I will lay out how my work builds upon relevant scholarship on affordances. While Georgina Born (2005) and Tia DeNora (2000) have used the explanatory power of affordance theory to examine the effects of digital technologies on the nature of creative agency, authorship and collaboration, I employ the theory in a particularly practical way to help explicate the role of networks of human and non-human actors in the production of electronic music.

3.3 Affordances and the DAW

My work builds on an approach pioneered by American psychologist J.J. Gibson (1979) in his work on perception, which provides an acute optic for studying the interplay of nonhuman and human actors. For Gibson, the concept of affordances describes the ability to perceive the possibilities for action that objects enable, allowing animals and humans to orientate and adapt to the world around them, a vital aspect of survival (for a more extensive summary see Hutchby 2001: 447-448). For example a rock may *afford* a safe place to sleep, somewhere to find shade away from the heat of the sun, or a number of other more advanced functions depending on an animal’s cognitive abilities. For the vastly more complex technologies humans employ, perception remains key to the myriad ways these objects may be used, and the way that the agency of nonhumans and humans arises together. Understanding how this occurs requires a deep examination of human actors through ethnography, and of nonhuman actors through studies of

¹² It is worth noting here the differences between agency and intentionality, as Eliot Bates notes, “one of long-standing critique of ANT and related approaches is that it ascribes intentionality to inert matter, but this is a misreading of the theory of agency as it conflates intention with effect” (Bates 2012a: 373).

technologies and their affordances.¹²

As noted earlier, scholarship that uses this theory seeks to model technologies in a way that avoids two pitfalls of discourse, either that their properties entirely determine practice, or that they are entirely discursively constructed. In this sense an object's affordances shape its usage but are also relative, offering different possibilities for action to different actors. This suggests that networks of nonhuman actors change their outputs depending on *which* human actors they interact with.¹³ As Brøvig-Hanssen and Danielsen note, an affordance is “relational: it may offer a function to one group... but not to another. It might also offer one function in one context but not in another context. However, although an object's affordances might differ in these ways, they are not *freely* variable –there are things, in short that an object does not afford, no matter what” (Brøvig-Hanssen and Danielsen 2016: 16). Technologies are therefore neither entirely indeterminate nor determinate (Brøvig-Hanssen and Danielsen 2016: 16); they *afford* certain actions to particular actors, but do not allow others. Consider a network of a clarinet and a skilled musician; while together these two actors may be able to explore a large set of musical possibilities, they are unable to enact the same set of possibilities that a pilot and an aeroplane would allow. In addition, both the clarinet and the aeroplane may not offer many possibilities for action if their human actors are swapped. While this point may seem both banal and obvious, it is in fact vital when thinking about the ways musicians and music technologies interact, enabling one to plot the various actions that specific units within DAWs allow a musician to perform, dependent on their knowledge of a specific unit, its place within the DAW, and the musician's positionality. This example also helps to demonstrate the three key aspects of affordances; they

¹³ In addition, it is not only outputs that are transformed by changes in networks. As Piekut notes, “the network affords an actor certain ways to work; change the network, and you change the actor” (Piekut 2014: 194).

enable, constrain and are relational (Hutchby 2001: 448).¹⁴ The interplay of these factors is what allows an object, or networks of nonhuman actors, to change properties between human actors.

In addition, as is often the case with music technology, the affordances of a technology allow its use to diverge from that originally intended by its creators.¹⁵ For example, as Grint and Woolgar note:

“Telephone technology was used originally to broadcast concert music. It was not axiomatic to its design that the telephone system would ultimately be restricted primarily to two-way personal communication, nor serve as a communication channel for students undertaking distance education, nor carry faxes, nor act as an electronic surfboard for the internet” (Grint and Woolgar 1997:21 in Hutchby 2001: 449).

In this case, and in others therefore, “technological artefacts do not amount simply to what their users make of them; what is made of them is accomplished in the interface between human aims and the artefact’s affordances” (Hutchby 2001: 453). In this sense musical practices, such as extended techniques or improvisation, help demonstrate that the ways an instrument may be used depend greatly on the perception of the human agent(s) using them, a factor that is greatly increased when multiple objects are connected and the affordances of different objects are combined.¹⁶ When musicians learn an instrument they are therefore also developing their own abilities to perceive a wider range of affordances,¹⁷ meaning that these nonhuman actors are essential to the

¹⁴ While Magnusson (2010) argues for a clear delineation between affordances and constraints, Hutchby’s (2001) theory of affordances subsumes his distinction into a single model, and while Magnusson’s work will be of great relevance later in this piece, it is Hutchby’s model I will be using here.

¹⁵ Consider King Tubby’s innovative and eccentric use of various hardware devices such as echo and reverb for example (Veal 2007, Williams 2012).

¹⁶ As I discuss later in this chapter, I think of these combinatorial affordances as creating a probability space through which the musician navigates.

¹⁷ See Clarke (2005) for the broader connections between affordances and the environment of nonhuman actors or ecology in which human actors learn.

development of musical practice (see Bates 2012a). Indeed, as I will argue later in the thesis (for example in chapter four), the ability to develop one's perception and interact with nonhuman actors in idiosyncratic ways is a vital aspect of demonstrating high degrees of competency, skill, and virtuosity to other human actors.

When considering the role of affordances in electronic music making, a wide range of technologies are important; these include audio and MIDI interfaces, DAWs, software synthesisers, and audio units within DAWs, suggesting that we need to consider a musician as an “agent inhabiting and navigating an environment” (Butler 2014: 93) in which nonhuman actors with complex, interlocking and overlapping affordances interact.¹⁸ In this context musicians both manipulate the network or environment and react to it, as my informant TGL makes clear:

TGL: Nowadays I kind of really see it as like fitting puzzle pieces together and it becomes kind of an entertainment for myself as well because I'm kind of a listener in this, as this thing is building, and then tweaking with parameters and stuff that I know, and then ideas and directions will kind of stem from that.
(Roundtable interview, London, 11th December 2017)

Modelling this network is difficult as these different objects do not necessarily possess similar kinds of affordances or interrelationships (see Latour 1996: 370 for more on the complex structure of networks). Additionally, different DAWs have their own particular architecture, aesthetic, and design, which leads to subtle variations of fundamental functions such as recording, copying and pasting, manipulating audio and MIDI data,

¹⁸ Some scholars, such as Butler (2014) and Clarke (2005), in building on the work of various ANT scholars have eschewed the term network in exchange for the notion of the environment or fluid (see De Last and Mol 2000). For the most part I continue to employ the term network as I believe it is a clearer way of describing not only single human actors surrounded by their nonhuman counterparts, but additionally disparate groups of both nonhuman and human actors.

and controlling fundamental parameters such as meter and tempo.¹⁹ My informants are all too aware of the impact that the architectural affordances of different DAWs can have on musical practice, as BH notes:

BH: But in terms of like other tools, I think it is really interesting, the relationships between DAWs and the sort of music that is made in them and how they affect the way people create, how that even feeds outside of the production process into the other music they do. I mean when I first switched to Ableton from Logic, it took me a while to get used to this session view,²⁰ this way of thinking about music, but it has definitely made my approach to creating electronic music a lot more fluid, a lot more playful as well. You are encouraged, try that with that, what if I do that, what if I start this thing half way through the bar? And that has definitely bled out to the way I rehearse with other musicians, so I imagine pretty much any major DAW manufacturer is really really important, and has almost definitely kind of defined the sound of a generation. Like Fruity Loops with trap and grime: it makes it so easy to make those hi-hat fills.²¹ (BH interview, London, 2nd September 2017)

¹⁹ See Bates (2016) for more on how the architecture of the DAW (particularly Pro-Tools in combination with other technologies such as microphones) shapes musical practice, in his case the nature of studio performance and arrangement in recorded Anatolian traditional music. For example, he notes that “although is easy to change to a different time signature or tempo, it is exceedingly difficult to implement an *accelerando* or *decelerando*... most studio productions, therefore, end up being fixed-tempo and feature quantised metrical subdivisions” (Bates 2016: 180). For more of a general discussion on the ways that DAWs’ graphic representation of sound have impacted on music making and production see Zagorski-Thomas (2014: 134-137).

²⁰ One of the ways Ableton differs from many DAWs is that as well as the side scrolling arrangement view common to many DAWs (see Bates 2016), Ableton has a vertical ‘session’ view in which MIDI and audio loops can be triggered during live performance.

²¹ Common to both trap and grime production is the use of extremely rapid hi-hat fills.

As my informant explains, the structure of the DAW can not only inform specific types of creative decision making, but in addition, the affordances of particular DAWs can be aestheticised, leading to the production of certain sounds that can become essential in styles in which these particular DAWs dominate the production cycle. In addition my informant also notes that these affordances can also have effects on interactions between musicians in other settings, meaning that the architecture of the DAW can have wide-reaching impacts on musical practice (Bates 2016).

Within these varied DAW environments sit audio effects, software synthesisers, and a variety of external programs. These objects can be connected to audio interfaces, MIDI-controllers, and acoustic instruments. Understanding the production of electronic music therefore requires an understanding of the DAW's affordances as a central actor, the affordances of individual units inside the environment, and how networks of nonhuman actors can enable and constrain human actors relative to their specific competences within a number of culturally-specific fields.²² Combinations or networks of these different musical technologies therefore create huge probability spaces of possible actions through which human actors plot musical paths that depend on their cultural knowledge, perceptual sensitivities, and technical competences. It is perhaps the size of these probability spaces, and the fact that they may be traversed by a single human actor in combination with a number of nonhumans, that marks the affordances of digital technologies as significantly different from their analogue predecessors, which required greater numbers of human actors to explore similar possibilities, if it all. In the next section I consider an example of combining the affordances of two simple objects within the DAW to help illustrate the probability spaces that they generate, and the way the theory of affordances and ANT can help attune scholars to crucial interactions within networks that are central to electronic music making.

3.4 Affordances in Action

To understand the interactions of human actors and a network of nonhuman actors more clearly, I employ an example that examines the interlocking affordances of two

²² In addition the extent to which human actors can customise the DAW supports De Laet and Mol's contention that "not only can actors be non-rational and non-human; they can also... be fluid without losing their agency" (De Laet and Mol 2000: 227).

simple audio effects units.²³ The first object that I will consider is Ableton's 'utility' audio unit (see fig. 3.2), which has a number of basic properties.²⁴ Firstly, it allows a user to silence either the entire audio flowing through the unit, using the mute button, or just extremely low inaudible frequencies using the 'DC' button. Secondly, it has a gain control to boost or decrease the volume of the audio signal flowing into the unit. Thirdly, the source of the audio may be selected: from the entire stereo field, the left or right channels, or an inversion of the original stereo field. Fourthly, it has functions controlling the panning of the sound in the stereo field and the stereo 'width' of the signal.²⁵ These functions control some of the most basic aspects of signal processing, from the volume of the source to its position in the stereo field; therefore at first glance it appears an object with fairly limited agency, which, in combination with a human actor, facilitates the adjustment of parameters that are usually thought of as part of the mixing and mastering phases of production, rather than as areas for more creative expression.²⁶

²³ This example points towards the kinds of detailed explorations involved in my fieldwork and analysed in later chapters, such as the examination of the DAW's affordances and the production of valued rhythms in chapter seven.

²⁴ At the time of writing both these objects have been updated slightly with some expanded functionality, however for the purposes of this discussion I will continue to use these slightly outdated version as their more limited functionality allows for a more streamlined argument.

²⁵ Additionally it has more complex phasing functions that are beyond the scope of this chapter.

²⁶ For an in-depth consideration of mixing from an ethnomusicological perspective, consider Bates (2010, 2016)



Fig 3.2. Ableton's utility audio unit.

The second object is a Low Frequency Oscillator or LFO (see fig. 3.3.); this is a device that uses waves to modulate the parameters of another device or object. This device does not impact on the sound signal on its own; rather it can be used to change the parameters on another device, thereby producing changes in sound. For the purposes of this discussion I will only note a small number of the unit's features: firstly, that a number of different wave types may be generated by the LFO to modulate an external parameter; secondly, that the rate of modulation, measured in Hz, may be changed; thirdly, that there is a jitter function which introduces random noise into the control wave; and finally, that there is the map function which enables a user to select which parameter they wish to control in another object.



Fig 3.3. Ableton's low frequency oscillator displaying a sine wave.

These two objects – the utility audio unit and the LFO – despite their limited affordances, can in fact be combined to create a wide range of creative effects. One basic one, as pictured below, is to use the LFO to control the utility’s gain, so that the incoming signal swells in a periodic fashion, creating varied effects depending on rate. A low rate, as pictured (in fig. 3.4), leads to an effect redolent of the sound of the sea as the volume gently increases and decreases; at a medium rate the effect appears to chop the sound into small chunks creating an effect like that of the blades of a helicopter; while at extremely high rates towards 40Hz, the volume is changing so quickly that the sound appears to be ‘glitching’ (see Brøvig-Hanssen and Danielsen 2016, Bates 2004) or stuttering.



Fig 3.4. The LFO controlling the gain parameter of the utility unit.

What this example suggests is that by combining two simple aspects of the affordances of each object a wide array of creative signal processing effects may be created.²⁷ While extensive further elaboration of the combined affordances of these objects is beyond the scope of this discussion, an example of another simple processing effect that could be created is if the LFO is set to control the audio source parameter of the utility unit. Applying this effect to audio that had distinct material in the different parts of the stereo field, for example a stereophonic recording of an ensemble, would create an effect almost as if one was switching different parts of the ensemble on and off (by selecting them in the stereo field), or browsing through channels on a radio.

²⁷ To take this process one step further the introduction of a second LFO to control the rate of the first would enable a musician to cycle through all these effects periodically, creating a complex sound world from a single input.

As these examples demonstrate, the utility object, primarily an actor designed to facilitate control of the core functional aspects of the recording and mixing process, can in fact be used as a tool for creative experimentation. The possible complexities inherent in even this two-object network, and the ability of human actors to creatively affect complex and substantial changes with minimal effort, demonstrates the need for scholarship that explores the effects of combining different objects together, and the different probability spaces these combinations create. In the next section I focus on these combinatorial practices, or mapping, as a way of understanding interlocking affordances and their impact on musical practice.

3.5 Mapping, Affordances and the Construction of Digital Virtuosity

TGL: There was one thing that when I went to a few producers' houses that they would be like, "Oh, that D'vo sound," and basically it... it's to do with pitching and using a filter. Those are like my favourite things, and I would use that to... kind of heighten some of what is already there.

Interviewer: So this is this octave thing that you were talking about earlier?

TGL: Yeah. Even... do live to some extent, yeah... There's different ways that you can do it, of course. Whether I was just controlling it myself, again, assigning it to... to a knob... Or for instance using a gate or side chaining the filter.

Interviewer: So that might be like when the kick hits, the pitch jumps, you're making these octave jumps happen?

TGL: Yeah.

Interviewer: Against one of the other instruments?

TGL: Yeah, exactly, exactly... And ... to the filters as well, and then sometimes I would do it even to the kick drums or something

like that, but then sometimes... I would follow the pattern of the kick drum, or whatever it is, and add a bit more by using a silent instrument which would be a trigger which only sends to a bus, [so] you don't hear it, but it opens up the filter... And then it becomes the instrument within itself. (TGL Interview, London, 3rd December 2016)

In this exchange my informant TGL describes how central a particular form of mapping (in this case the control of a sample's octave or register by the volume of the kick drum) is to the production of a form of distinction, his 'signature sound.' This is a perfect example of how mapping, the interlocking affordances it engages, and other ways of shaping the environment of the DAW, can be central to musical practice. In this section I will examine this process through the framing of the theory of affordances, and explore how this theory can inform scholarship that investigates the production of virtuosity and distinction within electronic music.

Mapping is a process in which different hardware and software tools can be used to control the parameters of different parts of a DAW's environment, or of units within (or without) it. In this sense it is a term that describes the intermeshing of the affordances of objects within (or connected to) the DAW, at the behest of the producer. The connections forged between the utility object and the LFO, described in the previous section, are examples of internal mapping where objects within the DAW are connected together and their combined affordances enable a particular set of possibilities to be explored. Similar processes can also enable parameters to be controlled by actors that are external to the DAW, such as MIDI controllers or the computer keyboard as depicted below.



Fig. 3.5 Depicts keyboard keys being mapped to audio clips in different channels in Ableton; pressing a certain key will then trigger the relevant audio clip.

To begin the process of scrutinising the role of mapping, it may be useful to consider the affordances and mapping involved in traditional acoustic instruments. For example, the piano, a non-digital nonhuman actor, may seem to provide a relatively simple array of affordances, the central one being that each key is ‘mapped’ to a single hammer that strikes a string that produces a note with a particular sonic profile, shaped by the way in which the key is pressed (for more on the piano’s evolution and mechanics see Isacoff 2009, 2012). Although the piano’s construction affords a human actor a large number of possible actions, certain actions are impossible; for example notes may not be held indefinitely to produce continuous sound.²⁸ Additionally, the piano is generally intended for a performance in a particular cultural context, one that for example uses equal temperament,²⁹ but its affordances are such that a wider variety of creative practices may in fact be possible. These may include retuning the piano to any number of microtonal systems, or introducing other objects into performance when ‘preparing’ a piano (see Isacoff 2012). While the constraints of a piano may seem to enable a specific set of creative practices, it actually affords an even broader range of possible practices, particularly when combined with other objects.³⁰ This example draws attention to an important issue: the extent to which the varying affordances of acoustic and digital instruments shape their fundamental similarities and differences. Attempting to unpack this relationship can help scholars understand the changes that digital actors have brought about in musical practice, changes to which I believe mapping is central.

When considering the distinctions between acoustic and digital musical tools and instruments, one crucial focus might be the extent to which different affordances and forms of mapping are possible. For example, as Brøvig-Hanssen and Danielsen note, a DAW’s affordances, such as the ubiquitous cut-and-paste tool, or the undo function that

²⁸ Unless additional objects are employed such as an e-bow.

²⁹ See Rehding (2016) for more on the interconnections between instruments, tuning systems, and pedagogy.

³⁰ Consider for example the prepared piano work of Hauchka (<https://www.youtube.com/watch?v=HYsvlJgtAgY>).

allows DAW users to scroll back through their actions, while being analogous to the kinds of practices that tape manipulation enabled, are *fundamentally* different, and lead to new kinds of musical practice:

The digitization of sounds... enabled music makers to undo what was done... This ‘undo’ ability made mistakes considerably less momentous, stimulating the creative process and encouraging a generally more experimental mindset (Brøvig-Hanssen and Danielsen 2016:13).

As Brøvig-Hanssen and Danielsen highlight, the affordances of different digital tools not only allow human actors and their nonhuman counterparts to accomplish tasks related to historical tasks at significantly different speeds and in different ways, but in doing so enable (but importantly not define) the exploration of certain parameters of music making. For example, the type of control that digital tools enable allows particular musical parameters, which historically might not have been the focus of musical practice, to become central to whole styles of music making. Among examples we might consider are the focuses on subtle shifts in tone, reverb, and timbre in genres such as ambient (Demers 2010), the exploration of time on a microscopic level in glitch (Collins 2012, Nye 2013, Prior 2008) and certain types of grooves within experimental hip-hop (D’Errico 2015).

While acoustic instruments usually have largely fixed forms of mapping, digital tools are more flexible and can be re-mapped in a myriad of ways, a feature that is “perhaps the most integral feature of new digital musical instruments” (Magnusson 2010: 65). In comparison, acoustic instruments’ more static affordances mean that the same physical actions have similar outputs each time, accounting for some chaotic factors; e.g. hitting a note on the piano with the same velocity twice leads to two outcomes that are largely indistinguishable. In comparison, mappings in digital tools may be changed with ease, meaning that digital instruments and the DAW environment they exist within may be constantly changed during performances, rehearsals and recordings. In this sense an equivalent action, such a striking a key on a MIDI keyboard, can have radically different outcomes that depend on the mapping formed between the MIDI instrument and internal objects. As figure 6 details, producers can set up interconnections between external controllers and the DAW that create loops of feedback that help to shape forms

of virtuosity.

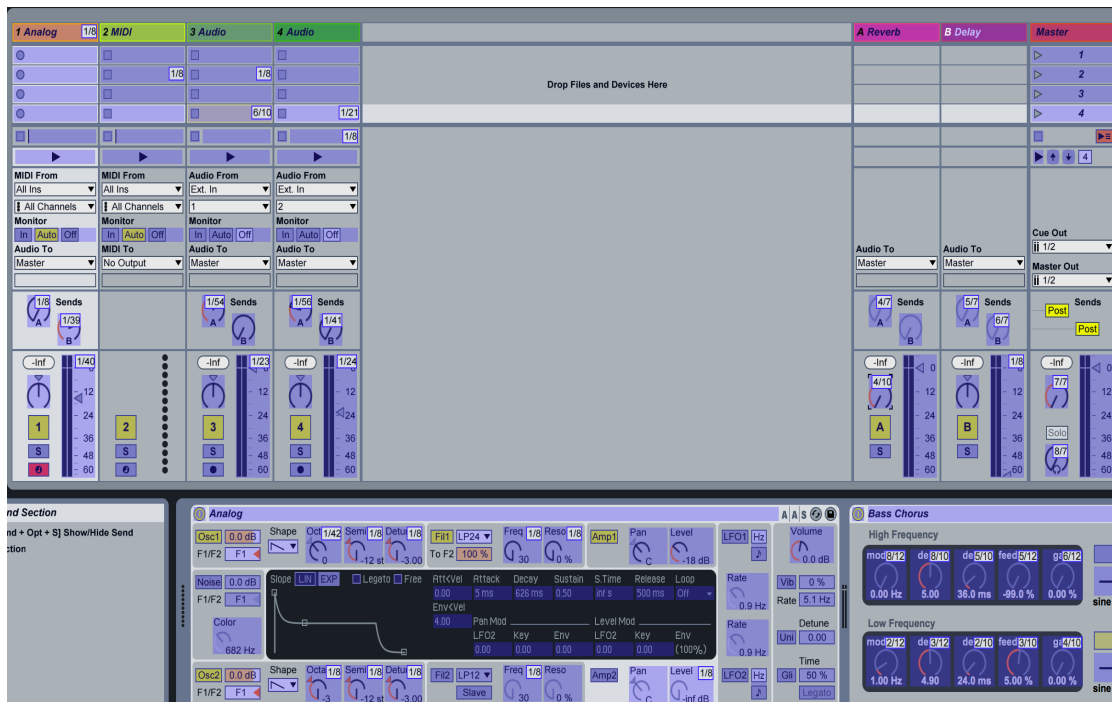


Fig 3.6. Here external components of MIDI controllers, such as knobs and dials (represented in this image by numbers on the top right hand corner of different parameters, such as the dial controlling the volume of channel 1, labelled 1/40), can be individually mapped to control almost any parameter within a performance or composition via the mapping engine; the changes a musician instigates leads to sonic changes, impacting on subsequent creative decisions.

Building on the work of scholars such as Joti Rockwell (2009), whose work grounds notions of musicality and virtuosity in the affordances of the banjo and the physical and gestural aspects of instrumental practice, studies of digital music making need to engage with mapping and the affordances of MIDI controllers to understand how these tools shape virtuosities and forms of valuing. This means that understanding forms of musical practice requires an understanding of how musicians interact with nonhuman actors, and in doing so demonstrate a command of the interconnected affordances of the DAW and the other tools involved in music production. This leads to forms of digital virtuosity based on “the habituated incorporation of the system’s constraints achieved through a knowledge of its material, its mapping engine, and the exploration of its expressive limits” (Magnusson 2010: 70). What I believe this suggests, as I will explore later in this thesis, is that actions that are difficult to achieve within a system of digital tools may be aestheticised as demonstrations of forms of virtuosity. In regards to experimental hip-

hop this arises as the construction of a form of liveness that engages certain kinds of complexity to create a sense of constant flux. This is not only an aestheticisation of the ‘expressive limits’ in which musicians operate (a DAW environment in which it is easier to create music that is extremely ordered and quantised), but also a way of marking distinction with respect to historical forms of hip-hop, which were usually made with hardware tools that did not easily lend themselves to creating similar kinds of complexity. For the DAW then, like acoustic instruments, virtuosity (and by extension liveness) is constructed within a very particular socio-technical and musical context (analogous perhaps to the ways authenticity is constructed; see Moore 2002), and grounded in human actors’ command of the very particular affordances of musical instruments or tools.

Again, I do not mean to suggest that digital tools determine the ways in which they are combined, or the kinds of virtuosities that arise from their use. In fact technologies, and their mapped affordances, facilitate certain practices that are shaped by pre-existing notions of musicality and musical practice, musicalities that themselves have been shaped by the affordances of historical technologies. Contemporary musicalities are therefore in flux, changing as digital affordances and particular forms of mapping become naturalised.³¹ In turn this helps to shape the next generation of technologies that themselves ‘prescribe back’ certain values shaped by the preceding techno-cultural milieu, underscoring the iterative, symbiotic relationship between music and technology, and the importance of deploying theoretical framings that examine the varied socio-technical dynamics of music making.

³¹A good example of this is the relationship that Fouché (2012) outlines between hip-hop and iconic technologies such as the turntable, which although initially were used in ways that were considered extremely radical (i.e. exploiting their affordances in previously unforeseen ways), have become intrinsically linked to certain musical practices, such as scratching, that are seen as constitutive of tradition. These musical practices have become naturalised to such an extent that new technologies, such as Serato, are created that allow DJs to ‘replicate’ iconic and traditional performance practices, albeit using digital tools with affordances that are distinct from their analogue precursors. Controllers like this can now in fact be mapped to a whole range of parameters in the DAW, continuing a new chapter in the iterative construction of virtuosity.

3.6 Conclusion

In this chapter I have sought to bring together three areas of theory which have sometimes been seen as incompatible due to the varied ways they examine the social, and in addition due to the fact that they place differing levels of importance on the role of nonhuman actors. This chapter therefore builds on the work of a number of recent scholars (Prior 2008, Drott 2013) who have sought to combine these theories in ways which buttress their strengths and mitigate some of their weaknesses. Like those scholars, I do this by centering not only the role of nonhuman actors, but the complex social worlds in which iterative relationships develop between historical and present-day actors (Sterne 2003: 386). By bringing ANT and Bourdieu's work into dialogue with affordance theory, which privileges the perception and positionalities of individual human actors, and the imaginative and improvisatory ways they engage a plethora of changing nonhuman actors, a more comprehensive picture of music making emerges. Additionally, deploying a theory of affordances alongside Bourdieusian theory enables the latter to overcome some the challenges it faces, such as its perceived difficulty in dealing with human agency (see Born 2010: 181).

In combination, these theories help one examine the specific relationships between different human and nonhuman actors, and the social world in which they are situated. This approach provides a critical way of understanding the ways varied actors are involved in how musicians learn, develop, and express notions of musical value and virtuosity, due to the fact that it facilitates an examination of music making at different levels of lived experience. Taking each theory in turn, Bourdieu's work helps examine the interactions and wider social context in which people act, the role of these social conditions in the production of nonhuman actors, and their subsequent role in shaping human actors. Focusing in, ANT considers this social world as constructed by a plethora of actors, and forces scholars to examine the complex topologies involved in these networks. Finally, and at the most granular level, a theory of affordances allows an analysis of the ways different parts of these networks intersect, how these intersections work, and the manner in which these networks are implicated in the ways human actors' socially-situated motivations are realised (Clarke 2005: 38). Within this context, mapping exemplifies how producers trace networks and form connections between nonhuman actors, a process crucial to the production of important in-group sonic practices and sounds.

While this threefold theoretical approach seems particularly suited to the examination of music making in the digital era, this chapter has pointed towards a continuity of scholarship that examines the interactions of human and nonhuman actors within the context of acoustic music making, highlighting the ways in which the affordances of *these* actors are crucial to the specific ways in which more traditional forms of music are produced. This can be seen across myriad traditions in the ways in which the affordances of older instruments are gradually normalised and aestheticised over time (and then in some cases explored in instrumental practices with more modern instruments). However, the nature of mapping and digital affordances point towards disjunctures with these more established forms of music making. This is vital, as digital tools enable fine-grained control over such varied parameters, and at such different time scales than human agents can usually retain precision over, that perhaps they should be considered qualitatively different.³² In much the same way that we understand the affordances of the piano as helping to centre harmony as a key area of musical practice in Western art music (Rehding 2016), contemporary musicians explore specific sonic realms in ways that are shaped by the affordances of the networks of actors they engage. In this sense, we can imagine networks of nonhuman actors as creating the probability spaces within which human actors employ their own agency to create compositions and performances.

In conclusion, while simplistic framings of the human-nonhuman networks that produce music may fail to fully elucidate the complex and iterative relationships between these actors, the threefold theoretical approach I have proposed, in combination with close readings of musical texts and technologies, and ethnographic research of these networks, enables me to comprehensively explicate knowledge transmission in experimental hip-hop (in ways that are perhaps relevant to the study of music more broadly). The next chapter builds on this theoretical examination to explore the ways in which DAWs and other digital tools are implicated in practice, research, and play in the day-to-day lives of my informants.

³² Although exceptional human actors can demonstrate impressive feats of precision, see for example the studio performances of Turkish musicians in Bates (2016).

The DAW as an Instrument and its Role in the Practice of the Everyday

4.1 Introduction

MG: Most music technology – at least in... schools and things – is taught – well, first of all, you rarely get it in a school. If you want to get into electronic music making it's usually either through your own volition and using – basically you've got to have some source close to you. Either that's going to be a friend who already does it, or it could be... the internet... A lot of music technology is taught by people who aren't music technologists. But happen to, you know, they know about music. They know how to track on Logic, but they don't necessarily have the correct insight. (MG interview, London, 27th March 2017)

As this interview excerpt suggests, producers sit largely outside of the formal pedagogies in which other types of musician learn¹ (as also suggested by other hip-hop researchers such as Macdonald 2016, Schloss 2004). As a result, practice – I use the word in the sense of 'practising clarinet' in this chapter, designating a repeated activity whose goal is the honing of craft – is vital for these autodidactic musicians in improving their musical and technical skills (similar to the findings of Green 2002). Despite this, practice, and the ways that producers construct this space in their lives, appears to be a relatively unexplored area of research in electronic music (although Schloss 2004 and Butler 2014 do examine this area to some extent). This may be because producers develop their largely ad-hoc practice routines informally, and that the broad affordances of the DAW can make these routines more difficult to conceptualise than the kinds of technical exercises that many instrumentalists undertake (as outlined by Miksza and Tan 2015).

¹ These may be formal contexts such as those described by Wilf (2012), varied teacher/student relationships explored by Baily (2001), and more communal examples of expression and group learning such as might occur in the jazz scene (see Monson 1996), which are perhaps closer to communities of practice (Wenger 1998). Producers learn to use the DAW in the context of a social topography which is fractured and complex, involving multiple mediated and non-mediated actors.

This chapter explicates the challenges that musicians face during the learning trajectory, and analyses how they overcome these challenges by means of forms of daily practice. Vital to this process seems to be a deep engagement which a number of music scholars, building on the work of Csikszentmihalyi (1990, 1975), have termed a ‘flow state’ (see Bakker 2005, Diaz 2011, Sinnamon et al. 2012, Hesmondhalgh 2013, O’Neill 1999, Miksza and Tan 2015). The development of these states is important as they enable producers to overcome increasingly difficult problems (O’Neill 1999: 130) and control growing levels of complexity.

In this chapter I will explore the role of practice in the lives of producers, the way it intersects with composition and peak performance, and how it is shaped by the DAW’s affordances (see Strachan 2017). Throughout, I will probe in detail at parts of producers’ musical lives that, while often overlooked, form a crucial aspect of their creative work, social world, and internal mental life.² To begin, I will examine the concept of flow and its relevance to my work, before moving on to discuss the central role of the DAW in the learning trajectory, and then explore a number of specific areas of practice and their broader role in music making.

4.2 Music, Practice, and Flow

Observing my informant LA during one of our production sessions was a great opportunity to see flow in action. Although this session began with LA talking me through the process of producing a beat using one of my samplepacks,³ gradually we fell silent as we both became engrossed in the production process. In this flow state LA switched rapidly between controlling instruments using his MIDI controller, improvising short pieces of rhythmic and harmonic and melodic material – such as basslines – and manipulating units in the DAW, in which he was extremely well-versed, to make these disparate elements fit together aesthetically. During this time he altered parameters mapped to his controller and used his mouse to make subtle changes to the sound design and structure of the piece, his fingers flickering rapidly between the different keyboards, employing short cuts and presets he had constructed in quick succession to streamline the process of composition and maintain inspired decision making. Some of these decisions

² My work therefore can be seen as part of scholarship in ethnomusicology which considers the relationships between organology, practice and the internal life of musicians (such as Bates 2012a and Racy 2000).

³ See the chapter five for more on this process.

were so swift they were hard to follow (and required discussion after the session to examine), such as the selection of drum sounds, where LA would cycle rapidly through vast sets of sounds, only hearing them for but a fraction of a second, and dismissing all but the most appropriate. The selected sounds were then dropped into his drum machine set-up, a customised version of a core unit within the DAW, combined with multiple effects (such as compressors and tape emulators), and honed over many hours of practice to give his compositions a distinctive and cohesive sound. Although this session took far less time than many of his productions, we were still both surprised at how rapidly a number of hours had passed (all in service of the creation of short piece of under two minutes). During these flow states one can lose track of time, so immersed is one in the creative process.

This ethnographic episode describes an experience of ‘flow’ during one of my field work sessions, a phenomenon of optimal performance first named by the Hungarian-American psychologist Mihaly Csikszentmihalyi (1975, 1990). Over the last couple of decades a number of scholars have built on his groundbreaking work to examine the relevance of this idea to the field of musical performance, practice and learning (including Bakker 2005, Diaz 2011, Sinnamon et al. 2012, O’Neill 1999, Miksza and Tan 2015). As O’Neill notes, “according to Csikszentmihalyi’s flow theory, ‘flow’ is achieved when an activity challenges the individual to fully engage his or her capacities for action; as these capacities grow, staying in flow requires taking on increasingly greater challenges” (O’Neill 1999: 130). Flow is therefore a “highly coveted... state of mind that is characterized by complete absorption in the task at hand as well as by enhanced skilled performance” (Sinnamon, Moran and O’Connell 2012: 6). Practice is a central musical site of challenge, focus, and optimal performance, and achieving flow during practice is therefore an important part of developing as a producer, and ultimately moving through the learning trajectory. Additionally, building on Miksza and Tan’s assertion that “flow can be interpreted as an ideal state for perceiving the self in the moment” (Miksza and Tan 2015: 175), it appears that that flow states are central to the kinds of self-reflection that improve practicing (see Sloboda et al. 1996: 288). This kind of self-reflection is central to not only the evaluation of optimal performance, but also the examination of the relationships between experimentation, improvisation, and play, and how these different phases of practice can support a producer’s composition and performance. While much of the research on flow in music making has focused on traditional instrumental practice (such as outlined in Miksza and Tan 2015: 175), I explore the relevance of these ideas to the human-DAW system and the experimental hip-hop producers I study.

Crucial to understanding how optimal performance occurs is identifying the factors that enable flow to take place. Building on Csikszentmihalyi's work, scholars have sought to examine these in a range of fields (such as sport; see for instance Jackson and Kimiecik 2008). In my work, I consider how the practices of human agents, and the affordances of the DAW, enable producers to 'flow', and how they augment their environment and the DAW to help facilitate this process. Here I build on the work of Martin and Jackson (2008) who point towards a number of key factors for achieving 'flow' states; these include:

Challenge-skill balance (feeling competent enough to meet the high demands of the situation), action-awareness merging (doing things spontaneously and automatically without having to think), clear goals (having a strong sense of what one wants to do), unambiguous feedback (knowing how well one is doing during the performance itself), concentration on the task at hand (being completely focused on the task at hand), sense of control (having a feeling of total control over what one is doing), loss of self consciousness (not worrying what others think of oneself), transformation of time (having the sense that time passes in a way that is different from normal), and autotelic experience (feeling the experience to be extremely rewarding) (Martin and Jackson 2008: 146 in Sinnamon, Moran and O'Connell 2012: 7).

The factors Martin and Jackson outline are central to the kinds of behaviours I observed during my fieldwork (especially as I often lost many hours to watching my informants deeply immersed in practices they enjoyed). My research suggests that it is particularly crucial for producers to achieve 'action-awareness merging' in which they are gradually able to gain a greater 'sense of control' over the affordances of the DAW. Maintaining these flow factors is therefore crucial to attaining efficacious practice; this is achieved using a variety of methods, as I will detail, but in particular by customising the affordances of the DAW to remove impediments to flow. In this way, producers are able to reduce complexity to retain 'challenge-skill balance', construct a creative environment with the right 'vibe' using various sonic materials (such as field recordings) to stay 'concentrated on the task at hand', and experiment and play without boundaries so as to experience a 'loss of self consciousness', all of which often lead to deep 'autotelic experiences'. The DAW is therefore central to the structure and experience of practice,

and in the next section I explore these interconnections, before, in the rest of the chapter, examining the different aspects of music making producers seek to master throughout the learning trajectory.

4.3 The DAW and Practice

To develop crucial musical competencies producers are required to expand their understanding of how they interact with the DAW; these interactions are what allow them to manifest the music they audiate, an internal aural world of the imagination shaped by producers' perception, the music they have heard, and the tools they have used.⁴ What this means is that the more producers learn how to use different tools within the DAW, the more they are able to construct musical sounds crucial to the production of idiomatic music, and perceive how particular sounds they have heard may be recreated. These *vocabularies* take many forms, and include, for example, rhythms, different timbres, specific types of harmonic and melodic language, and sound design. This vocabulary is constructed via a musician's ability to engage with the various actors within the DAW such as audio effects, MIDI clips, software synthesisers and samples of recorded sound (see Harkins 2010, Ratcliffe 2014 for more on sampling, and Duignan, Noble, and Biddle 2010 for more on these different processes). The process of gaining competency over these tools may be compared with learning an acoustic instrument, for example the violin, where the musician learns bowing, fingering, and other techniques (see Sloboda et al. 1996 for more on instrumental practice, and Bennett 2017 for mastering different types of musical technologies), enabling them to develop the 'sense of control' and 'action-awareness merging' central to maintaining flow.⁵ However, learning to use the DAW requires the development of competencies that can be contrasted with more traditional forms of musicianship,⁶ as Strachan notes:

⁴ For more on the connections between production, creativity, and the perception of sound see Strachan (2013).

⁵ These processes are iterative, as improved command of the DAW may enable producers to maintain flow states more efficiently.

⁶ For example, it is worth noting that in comparison to an acoustic instrument the DAW is constructed in a far more modular way, with different units sitting inside the DAW's infrastructure, meaning that learning to use the DAW can be far more easily segmented than learning to play traditional instruments.

Computer-based music production enables and demands that the user work directly with captured and generated sounds that are at a remove from the processes and competencies of performance traditionally associated with musicianship. This is not to say that traditional modes and skills of performance are always sidestepped within the... modalities of computer-based music production... The computer environment needs to be interrogated for the way that it allows, encourages and facilitates the making, processing and manipulation of sound. In other words, the computer environment should not be understood as a neutral way of recording, capturing and presenting sound but as highly influential to the creative process in its design, construction and capability which in turn have a central influence on the sounds and eventual recordings that are produced. (Strachan 2017: 7)

Building on Strachan, I argue that understanding the intersection of the human-DAW system helps researchers to comprehend the mutual relationships between practice and the affordances of the nonhuman actors involved. This means that by studying the learning process, the DAW, and practice, one can perform a digital version of the kind of work of John Baily (2001) suggests is essential in examining musical traditions. He notes that the “technical problems that arise in learning to perform may also be very revealing about the ‘ergonomics’ of the music, showing how it fits the human sensorimotor system and the instrument’s morphology” (Baily 2001: 94). In the context of my research, observing the problem solving process and the way it is shaped by the ways producers use the DAW, can help uncover insights about the broader nature of experimental hip-hop music making.

Like other areas of scholarship that consider practice as a key part of understanding musical performance and musical life more broadly (such as Baily 2001), my work suggest that musicians practice to improve their skills, understanding and musicality. This is a process shaped by the tools producers use, and one that evolves as these tools are upgraded⁷ and musicians develop deeper and broader competencies. Thus practice is in flux, as the way producers learn is shaped by changes in the market, as companies

⁷ See Prior (2008), McIntyre (2015), and Walther-Hansen (2017) for more on change and continuity in the digital tools used in music production.

and users reprogram, modify, and invent hardware and software, shaping the affordances of these different technologies, and in turn shaping the ways producers conceptualise, visualise, and audiate music.⁸ The following exchange with my informant BH underscores the importance of practice as a focus for research and its somewhat overlooked position in the social life of producers:

BH: There's practice... in the sense of just doing something through... time, and there's practice in the sense of like very focused, deliberate, methodical, incremental improvement in one's skills by that repetition, and... well-designed exercises, and I feel... with production more so than playing an instrument, say, because it's so based on creating a product, creating like a result. Like, you work on a track, or a beat, or whatever... the latter form of practice... isn't the default, and is often easily ignored.

Interviewer: It's unformalised, sort of?

BH: Yes... So, I've sort of reached this roadblock where I have quite a lot of intellectual knowledge about sort of what tools would result in what sounds, and what I have to do, but when it came to practice... the subtle relationships between say different parameters of synthesiser, or different sonic elements... in a track, they just take sort of intuition and very sort of in the moment sort of flow-like approach to, to really get, get to work together, and I was finding myself very frustrated that I knew how to achieve stuff, but when it came to actually doing it... the results didn't live up to what I felt I should be capable of... Which is why I designed...these sort of practice things... (BH interview, London, 6th April 2017)

⁸ Staying up to date with these changes is therefore vital to maintaining a 'sense of control' during practice and not being overwhelmed by new forms of complexity.

As BH explains, because the central focus of production is completed compositions, the notion of practice as a form of lifelong study can be de-centred, at least discursively between producers. Despite this, I observed that many producers conduct forms of practice, even if they may not talk about them as such to their peers, preferring terms such as ‘experimenting’. These activities sit within the framework of both ‘conscious’ and ‘unconscious’ learning that Green outlines:

Learners are aware to differing degrees of the nature and even the mere fact of their learning practices. At one extreme, ‘unconscious’ learning practices occur without any particular awareness that learning is occurring; they lack goal-directed design, are unfocused and may not be considered, named or otherwise conceptually isolated by the learner. At the opposite extreme, ‘conscious’ learning practices occur when learners are aware that they are learning, or attempting to learn, have explicit sets of goals combined with procedures for reaching them, such as a structured practice routine, and are able to consider, name or otherwise conceptualize and isolate their learning practices. (Green 2002: 59)

Producers therefore engage with a wide range of processes in lieu of more formal methods of learning, with some in particular attempting to develop more conscious learning practices, particularly if they themselves have received more formal learning either of an instrument or of music within the academy.⁹ This means that my research supports Green’s contention that “informal popular music learning stretches between the two [the ‘conscious’ and the ‘unconscious’], varying in the degree of awareness on the part of the learner from virtually unconscious learning by enculturation to highly conscious autodidacticism” (Green 2002: 59).

I frame the process of change and development through practice as a learning trajectory, which although different for each producer, seems to contain a number of common elements. This learning trajectory involves the acquisition of range of

⁹ As Green explains, this is because most formal education emphasises conscious learning, noting that, “musical enculturation is likely to involve relatively unconscious learning practices of the former type. Formal music education places emphasis on relatively conscious learning practices.” (Green 2002: 59)

technical, musical, linguistic and social competencies that enable musicians to produce music that is both idiomatic and original. Unfortunately for producers, unlike acoustic instruments, the DAW does not necessarily present clear connections between physical action and sound production. This means that producers, despite possibly having observed a number of laptop-based performances or over-the-shoulder style production videos online, may not have a clear idea of the inner workings of the DAW before they begin their musical careers.¹⁰ When this is combined with the fact that pedagogy within electronic music styles is still emerging, and that the DAW presents the musician with direct control over a vast number of tools and parameters (see Strachan 2017, Brøvigh-Hanssen and Danielsen 2016, Kvifte 2010), this suggests that the initial stages of the learning trajectory can be full of challenges. These include where and how to access knowledge, how to access tools and idiomatic music, how to access building blocks or tools to act as musical shortcuts before fundamental knowledge is acquired, how to listen critically (see Strachan 2013, Horning 2004),¹¹ how to use the DAW architecture, how to use specific tools, how to organise tools and materials, how to facilitate flow states, and how to develop improvisational skills. It is therefore pertinent to consider these initial challenges, how they are shaped by the DAW, how producers develop processes to overcome them, and how, in doing so, they develop methods of practicing that shape their development throughout the learning trajectory.¹² My research therefore reflects currents in broader scholarship which suggest that “learners begin as unsophisticated practicers and slowly acquire a broader repertoire of practice strategies and meta-cognitive or self-reflective tools as they mature and gain experience” (Miksza and Tan 2015: 163, see also Nielsen 2001). In the rest of the chapter I will focus on three key areas: play and experimentation, organising and deploying tools and materials, and improvisation, and in each seek to explain how these specific parts of practice allow producers to overcome challenges in the learning trajectory.

¹⁰ Especially with the democratisation of digital tools and the collapse of historical engineering pathways in which musicians could learn production skills, see Strachan (2017) and Anthony (2017).

¹¹ By this I mean the process of developing listening skills that allow one to uncover, or guess at, the musical and technical practices involved in the piece one is listening to.

¹² This is demonstrated by the ways in which the early tools that producers learn to use may continue to shape later practices.

4.4 Play and Experimentation

This section explores playful aspects of producers' routines in which outcomes are non-specific. These activities form a space where producers are able to work without the pressure of compositional outcomes and the expectations of peers and listeners, and creatively explore the affordances of the DAW. As in other forms of music making, this is an area that is not directly focused on the development of formal techniques. As Sloboda et al. note, "playful exploratory musical activities are likely to encourage the development of expressivity in performance, whereas formal practice is likely to be more directly influential with respect to the development of technique" (Sloboda et al. 1996: 289). This is therefore an area of practice where producers develop skills that enable them to express themselves and retain a 'sense of control'. Throughout this section I will examine the role of playful and experimental practicing, how it helps producers overcome challenges in the learning trajectory, and its role in helping maintain flow during composition.

Taking into account the extensive time musicians spend on these activities it is worth considering the function of play in the broader musical activities of producers. In much the same way that improvisation and play enable instrumentalists to expand the range of sounds they can make with their instruments (and therefore their expressivity), these activities allow producers to freely explore production so as to broaden the palette of sounds they can employ in improvisation, recording, and performance (see Duignan, Noble, and Biddle 2010). The metaphor of a palette may in fact be useful, as producers often invoked the visual arts in their attempts to explain the importance of musical play:

MG: I've got like drum folders, I've got... ambient sound folders... and just lots of little clips of just – and it's almost... it's like the point really isn't to go back and use them although I can. It's more like having a sketchbook.

Interviewer: Yeah.

MG: So, the whole point of any artist having a sketchbook is not to necessarily develop those ideas, it's more about training. (MG

interview, London, 27th March 2017)

Creating such a ‘sketchbook’ enables ideas to be worked through without pressure, developing specific materials to be deployed later, and ultimately enabling producers to develop control over a broad range of the DAW’s affordances so that they can maintain flow states during the composition process. Play therefore facilitates solving certain problems outside of the context of composition, when there is less anxiety around finishing tasks, and fewer limits on experimentation due to the constraints of computer processing and the kinds of inflexibility that composition can impose on the creative process.

These types of playful activity can come in a number of forms such as exploring the changing of certain parameters, devising creative problems to solve (with an appropriate ‘challenge-skill balance’), free experimentation to make sounds for the future, creating audio effects, and the investigation of conceptual ideas. My informant MG points towards a good example of these sorts of activities:

MG: Sometimes I’ll... say I’ve got like a whole evening free... even a whole day free, I’m just going to sit on Logic, Ableton, whatever, the entire day. I may not make any music... but it will still be very productive, because all I could have done was I had one 808,¹³ and I had a stock EQ. and I’ve just been ... [trying] all the possibilities and like kind of gradations of like .5... of a .db, just kind of like, “What happens if I remove all of the sound up to this point, and then raise this thing by ...” I just literally sit, and it’s all – very play like, so there’s not – I’m not running through a methodology for that... the methodology is, “What happens when I press this? What happens if I turn this up?” (MG interview, London, 27th March 2017)

¹³ In this case my informant is referring to a kick drum sample from the classic Roland TR-808 drum machine.

As MG explains, even exploring the equalisation of generic drum sounds can be a deeply involving form of play, one in which producers develop vital skills and tools. This is an example of play that mirrors instrumental practice in which “specific tasks are invented to overcome weaknesses” (Sloboda et al. 1996: 288).

These playful activities may also take other forms. Some of these may involve setting different kinds of musical challenges to limit decision making, forcing producers to explore new avenues of musical practice within these guidelines. This process is particularly useful due to the very extensive affordances of the DAW and the potential difficulties in navigating this complexity, as MG remarks:

Interviewer: So, the question is, is setting limitations not only part of a creative process but part of a kind of learning one as well?

MG: Yeah, 100%. Definitely. Which wasn't, it wasn't interestingly it wasn't my initial intention – it wasn't my initial reason for doing that, you know, I'd say, “I'm going to subtract the options because I want to learn something about this process”. It was actually because I found, like I know a lot of people say this, but I found – especially when you get to DAW and things and sequencers and whatever ... well, let's say the more sophisticated the technology, I get a bit overwhelmed by the amount of choices, potential choices, right? You know the blank page syndrome.¹⁴ (MG interview, London, 27th March 2017)

By limiting complexity during play, producers can maintain a ‘challenge-skill balance’ in which problems are of a navigable and solvable difficulty, helping to maintain flow within other types of practice and composition.

¹⁴ These findings are supported by other scholars, as Duignan, Noble, and Biddle note: “Option dilemma, a term coined by one of our participants, is the compositional paralysis caused by the overwhelmingly open design space provided by computer-music systems” (Duignan, Noble, and Biddle 2010: 31).

A good example of this kind of playful experimentation within a self-imposed set of limits would be using a field recording to create a set of drum sounds (often referred to as a kit), which I observed during my fieldwork. If we consider a hypothetical field recording, for the purposes of this example a cityscape, then we can imagine the kinds of sounds this will involve: the low thrum of buses going past, the chatter of pedestrians, birds singing, the blowing of the wind, the abrasive mechanical sound of road works, or the rumble of planes overhead. These sounds may at first not appear to sound like, or share musical functions with, the classic drum kit sounds of toms, hi-hats, snares, and the kick drum, however within the context of this challenge a producer has to employ a form of critical listening to perceive how they might manipulate these sounds to transform them into useful percussive hits. During this process I observed that particular sounds may suggest specific uses, for example those with short duration and high frequency may be selected as the starting point for hi-hat or shaker sounds. This observation buttresses Strachan's understanding of sonic affordances:

the sonic make-up of... sounds can be understood as providing a set of invariant properties (in terms of texture, frequency, tone, pitch, length, timbre, etc.) that... [provide] a necessary starting point for creative action... sounds clearly have actionable properties outside of the structural context of music. Particular sounds have distinct physical qualities that are perceived as meaningful or actionable depending on where, and by whom, they are experienced (Strachan 2013: 10).

Creatively manipulating these sounds and their attendant sonic affordances may be done in a variety of ways but a common starting point might be to work out the main frequency ranges for the traditional drum sounds, and then use spectrum analysis to identify sections of the field recording that fit these frequencies.

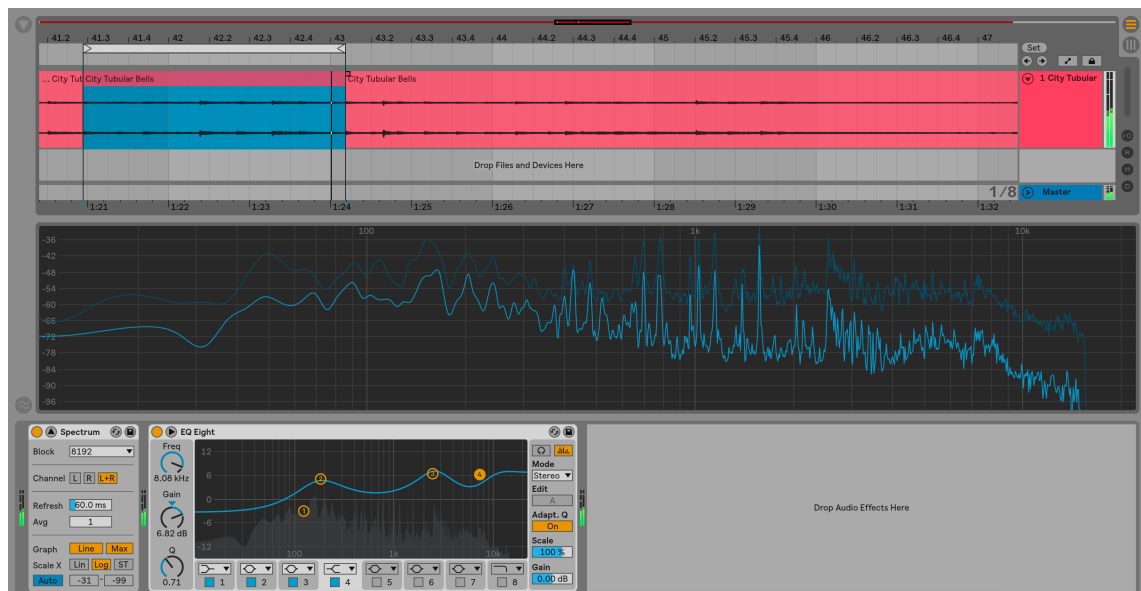


Fig 4.1. This image depicts the first part of a process of analysis and equalisation to repurpose a section of field recording for a particular percussive function. In this figure we can see both the frequency of the incoming sound, and below it an equaliser (EQ) module to shape the frequency range in such a way that its sonic affordances may be exploited to produce a sound with a particular function. In this case the boosts to the frequency at around 250 hertz and at the top end of the frequency spectrum allow the sound to be repurposed as a snare-type sound.

Following this, producers may use effects to boost appropriate frequencies or change the timbres of these sounds so that they more readily fit their specific percussive function (see Fig. 4.1).¹⁵ By forcing themselves out of their comfort zones in an activity like this producers are able to gain new knowledge of the affordances of specific actors within the DAW.¹⁶ Understanding how to manipulate timbre can also be useful at more advanced stages of the learning trajectory, when attempting to develop more sophisticated sound design involving complex musical objects (see Fig. 4.2). In this way,

¹⁵ Skills they have often developed during different kinds of play, such as those described earlier by MG during his exercise of shaping the sounds of different drum hits.

¹⁶ This kind of musical game is one of many, and others may include trying to make a whole composition with just one tool – for example creating multiple versions of a particular software synthesiser, developing the sketch of a composition using just one sound source (for example a single synthesiser where a great deal of the parameters are mapped to an external MIDI controller or internal parameter controllers), or looping a simple piece of material and controlling an array of audio effects in real time to experiment or create samples for further use.

playing with simpler musical objects earlier in the learning trajectory allows for the development of more challenging skills. Practices like this also allow producers to overcome specific challenges within composition, for example how to keep a looped piece of material interesting, or how to create complexity if computer processing power will only allow them to employ a limited number of audio units within the DAW (see Duignan, Noble, and Biddle 2010).



Fig 4.2. Here an array of internal units control the parameters of a software synthesiser to create complex, unconventional timbres. In this particular set-up, envelopes and LFOs are used to create periodic, unusual or rapid changes in the parameters of the ‘operator’ synthesiser, creating unfamiliar timbres and effects that might be difficult to create if one was inputting the parameter data by hand. Creating these sounds may not have a useful output in the moment, but may become useful during future composition.

In addition to skill acquisition the kind of playful activities I outline above also lead to other useful outcomes for producers, one of the most important being the creation of pre-composed materials and tools, part of a musician’s palette. My informant speaks to these processes, in particular highlighting how these tools can ultimately impact on the creative processes:

BH: The use of the first set of things¹⁷ is... I mean, inherently useful. I’m doing them to solve a problem.

Interviewer: Okay.

BH: The use of the second set of things is primarily like just satisfying my own curiosity, and scratching an itch, and having a bit of a geek out. But secondarily, like quite often I end up

¹⁷ By ‘things’ my informant is referring initially to more formal types of practice, and in their second usage of the word to forms of more playful experimentation.

creating like pretty interesting little sound design tools, or control tools, or something. But-

Interviewer: So, it's like chasing the unexpected, right, to some extent?

BH: Yeah, exactly. It's a little playground! (BH interview, London, 25th March 2017)

These pre-composed materials can then be used in further play contexts or in composition:

BH: If I can't [find a musical solution], I will click something and hope for the best, and... I'll just sort of dig into my personal library of things that I've made and used. And, with little snippets of audio, like, yeah, they're jumping off points; sometimes, if I'm feeling a bit stuck, I'll just sort of throw something in there and listen and go like, "That sounds terrible! Is there any way it can like relate to the context?"

Interviewer: Okay. So, you're sort of create a sort of dissonance, or a challenge, so that it's a problem to solve?

BH: Yeah, yeah. Exactly. (BH interview, London, 25th March 2017)

In this way musicians can deploy pre-composed materials to act as agents they can work with to maintain flow states and spark creativity. The creation of pre-composed materials during play can therefore help producers with decision making, and the feeling of being overwhelmed by the range of possible decisions available when they transition from play to composition. Additionally, these tools allow producers to combine musical objects so as to incorporate multiple incidences of best practice. These elements can therefore act as more than just generators of specific sounds: their affordances can help facilitate flow states and inspiration when ideas have 'dried up'.

These different types of playful experimentation help producers uncover some of the DAW's vast range of controllable affordances. This process is shaped by the DAW's modular structure, which invites users to master different units function by function. In addition, the ability to save different versions of sound-producing objects during the course of play and experimentation means that knowledge gained in the moment can be retained directly (Duignan, Noble, and Biddle 2010: 30). This marks a break with the connections between retention and play in acoustic instruments, where crucial technical and idiomatic knowledge gained needs to be continually re-embodied during the process of practice so that it is not lost.¹⁸ The affordances of the DAW thus help guide the producer towards mastering a range of sound design effects rather than melodic or harmonic content,¹⁹ and the ability to save and endlessly tinker with pre-composed materials means that objects and the knowledge they contain can be saved directly, rather than being left to the human agent's memory. In the next section I'll explore the ways that producers manage these resources, and seek to understand how organisational practices can shape composition.

4.5 Organising and Deploying Tools and Materials

BH: My folder structure... it's just this nested testament to how good my intentions are! But (laughter) how terrible my actual execution is... You know, you'll have like drum samples, sound effects, foley... and... sub-categories, and sub... But, you know, they'll be nesting in a big folder, yeah. So, yeah... if I make something and I would just... by chance, stumble across a sound that is, you know, a perfect combination of layers or like a chance meeting of like two LFOs... Just something that I dig, in its exact present format, I'll render that as audio and chuck

¹⁸ See Miksza (2011) for a review of the literature on instrumental learning and the connections between memory and repeated, regular practice.

¹⁹ Returning to Duignan, Noble, and Biddle (2010) again, they note that their research "participants voiced strong feelings that computer-music systems encouraged endless experimentation and fine-tuning of the minutiae of sound design, in conflict with pushing forward and working on higher-level compositional decisions and creating finished works." (Duignan, Noble, and Biddle 2010: 31)

it in a folder... If I've built like a sound instrument, or I've been playing with a synth or something, and I'd created a preset, or a patch, like, you know, I'll save that as a patch. Or, you know, say there was an effect rack, sometimes I'll save that, and some output from it, and just try to be really organised. Actually, one thing I've found has really helped with organising is rather than trying to categorise sounds by what they are, except on very rearranging level... like labelling maybe like drums, or this is a bassy thing, or... It's just labelling a folder by the month and the year. (BH interview, London, 25th March 2017)

As this quote helps to demonstrate, there are parts of practice, ones that might be seen as extra-musical, that have an important part in the musical life of many producers. One of these is the organisation, sourcing, and evaluation of pre-composed materials and tools that are crucial to the production of electronic music. This shapes how producers access musical materials during composition and performance. Organising pre-composed materials can therefore be an important part of developing fluency with the DAW and helping to maintain flow states, and is central to the way in which producers customise the affordances of the DAW. My work builds on the research of Duignan, Noble, and Biddle (2010) who observed that their research participants spent large amounts of time on various forms of digital housekeeping such as:

archiving files, moving and cleaning up project content, naming material, taking notes, bouncing tracks, and organizing library content. As many of these actions were based on manual and improvised abstraction techniques rather than being directly supported in the user interface, it seemed that success as a producer is concerned almost as much with developing a robust repertoire of time-consuming techniques to work around the limitations of software as it is about creative composition (Duignan, Noble, and Biddle 2010: 31).

So that pre-composed materials can be usefully deployed, my informants reported using different methods to organise these tools. These included organising files chronologically, developing a sonic taxonomy to sort sounds by type, or even chaotically ignoring filing systems. These different methods facilitate different kinds of engagement with pre-

composed materials. Chronological organisation allows producers to keep track of one's evolving practice and deploy particular sounds in the moment, while a more chaotic organisation allows a producer to increase the number of chance events that occur in the production process, which in turn may inspire unusual creative decision-making. In this section I'll explore the role of pre-composed materials and how producers source and evaluate them. I will also seek to elucidate how the affordances of the DAW shape the way that they are organised and deployed.

What I am calling pre-composed materials can be broadly divided into two categories: materials that are internal to the DAW, such as the preset effects that come with Ableton, and those that are external, such as samplepacks. Within these categories we also might differentiate between those materials created by the producer and those by other actors, whether they be individuals, communities, small companies, or larger corporate entities. Although many pre-composed materials arrive with the purchase or pirating of the DAW, producers tend to continue to keep accumulating them rapaciously throughout the learning trajectory. This is a practice that seems to be related to acquisitive discourses around pre-composed materials in hip-hop more broadly. The continual search for additional pre-composed musical materials may be seen as an extension of the practice of earlier producers, who spent vast amounts of time 'digging in the crates'²⁰ for valued vinyl recordings (and subsequently organising their record collections). It also reflects how beat making has partly grown beyond its sample-based roots (see Marshall 2006). Similarly, as in previous forms of beat making, familial relationships and close friendships are a key source for pre-composed materials in the early phases of the learning trajectory.²¹ This is borne out by the fact that producers often reported more experienced musicians helping them when they were just starting out by giving them collections of these sorts of materials, particularly drum samples, helping to initiate the process of composition and of further acquisition. Such a process helps guide producers to valued sources of pre-composed materials, enabling them to

²⁰ 'Digging in the crates' refers to searching through LPs in personal collections and record stores for useful musical material to be used in sampling (see Schloss 2004, Chang 2009, Zanfagna and Brandin 2014, and Chang 2005 for a more comprehensive contextualisation and the links to historical DJing practices).

²¹ See chapter seven for more discussion of the pivotal role of these sorts of relationships, particularly early on in the learning trajectory.

identify reputable makers of samplepacks, software synthesisers, and other tools. Following this, producers may start investigating other sources of these tools primarily using the internet: finding small companies that make unusual objects, joining user communities,²² and engaging with individuals who sell tools on third party websites. They may also spend a great deal of time personally collecting field recordings and building objects, helping to develop a bank of material that is completely distinctive.

Producers may eventually develop a network of actors whom they consider as trusted sources for pre-composed materials, and as part of their practice check in with these sources or trawl the internet for more recondite materials.²³ These objects flow freely online, where platforms such as the Pirate Bay allow producers to access a wide range of previously protected professional materials (see Strachan 2017). Producers may also on occasion exchange or gift objects, particularly with friends, to help other producers develop particular parts of their practice, or as a way of building social bonds²⁴ and expressing the value of certain tools. TGL helps to summarise the importance of piracy and gift giving²⁵:

TGL: I like to think of myself as an internet pirate. So, yeah, I've downloaded a lot of kits, stuff and multiple different sources. And I've shared kits of my local, my peers... And I was going to say, I do kind of like that to some extent because I like to think of kind of being part of this scene that's going on... everybody influencing each other. (TGL interview, London, 3rd December 2016)

²² Such as <http://maxforlive.com/index.php>, where users can share the devices they have made using Max for Live's modular programming language with other musicians.

²³ As noted previously, developing mastery over specific tools can be a powerful way for producers to accumulate cultural capital, and if these tools are also obscure, this capital may be more secure. See Prior (2008: 313) for more on the relationship between cultural capital and the kinds of tools chosen by musicians making electronic music.

²⁴ I explore the circulation of sounds and tools in far greater detail in chapter seven.

²⁵ See Drott (2010) for an overview on the role of gift giving in music making, particularly in regards to the contemporary art music world.

These forms of exchange can spread pirated materials rapidly, meaning that particular tools, valued due to their role in the creation of specific sounds, may be used throughout peer groups.

This vast array of pre-composed materials plays several crucial roles within producers' musical practice, and although this will be covered more extensively in other chapters, they support producers in two vital ways. Firstly, they create 'shortcuts' to certain kinds of sounds, such as specific timbres, that producers, at least early in the learning trajectory, may not know how to recreate. Secondly, they facilitate the creation of particular musical structures, such as drum loops, before producers are able to make these structures themselves. As producers become more experienced, they too are able to make similar materials, facilitating musical shortcuts by saving specific audio effects or presets, creating drum kits using customised collections of drum hits, recording previous musical ideas to inspire or initiate flow states, and creating banks of material for certain kinds of manipulation – such as short selections of harmonic material (see Duignan, Noble, and Biddle 2010). SF highlights the importance of these sorts of materials, particularly when initiating creative practices:

SF: Yeah, because I can also sit down, when I'm not feeling like creating something interesting or composing stuff, I can just sit down for a day, collecting samples... So sometimes I'm just listening through, you know, browsing through vinyl records or random stuff, and then selecting... cutting those samples up... or recording really – or creating my own samples into my library...

Interviewer: You're not thinking this is for this. It's something that's good that you may come back to.

SF: Yeah. Well, I've got quite a few samples that I can use as loops to start any composition I'd like to. So I've got looping samples that don't really end up in the end of the composition but I use them, you know, as a jumpstart to create something. Does that make sense? (SF interview, via Skype, 25th October 2017)

Importantly, these tools often also help to streamline the recreation of signature or personal sounds. A good example of this would be creating templates for the DAW that are full of presets and materials so that producers can consistently create music that sounds like *them*. TGL captures this notion succinctly:

TGL: I think for the longest time starting up, I've kind of had to stay off getting boxed into a sound, just because that's what I, for some reason like, I thought like that's how you died, that's the decline.

Interviewer: Okay.

TGL: So, I'd always build up stuff from scratch... and then it's now, only now that I've kind of realised that, "Hold on! I should go back, save these. I'm not going to use them exactly the same way I used it anyway..." and use this as building blocks and kind of see it as the labyrinth going deeper and deeper into my own sound. (TGL studio session, London, 17th August 2017)

By saving these sonic shortcuts TGL is able to delve deeper into his own creative practice and maintain flow states while he explores the 'labyrinthine' potentials of the human-DAW system.

Some producers like LA go further than this, retaining vast amounts of saved material that they re-work into each composition. This involves using templates that are constantly refined, saved, and re-used in each new production, a sort of 'sourdough' approach that retains a consistent aesthetic and sound:

LA: Yeah. So, for different projects, I create platforms. So, I create mixing templates and, like, instrument templates, and that helps keep the sound consistent... So, you make the track in this project, and you save the project, and when you start the next song, you load up that old project and you delete all the MIDI information, and you delete all the recorded samples, but you've got all the instrument racks and all the effects, so

that if I take a microphone and I start recording a bag of rocks, or whatever, a bag of coins or keys, or whatever, I've got the same compression, the same EQ, so I've got, kind of, a starting point... I also keep evolving that template. So, I might make ten tracks using that same template, and then, after a while, I start thinking, 'Actually, I could make this better,' and I'll start tweaking it, and I save that, and then it kind of evolves (LA interview, London, 10th July 2017).

In my observations of LA's productions, the materials that make up these templates were crucial to the creation of his particular aesthetic, with the use of a combination of commercial and personal tools helping to give his recordings a certain 'noisy' analogue warmth (see Kaiser 2017). These tools, in combination with the field recordings that are ubiquitous in his work, helped to transform the sound of the digital piano he usually uses from a rather 'dry' preset sound to a 'vintage' one set within a web of field recordings, as if LA had been recorded playing on an old piano outside in the middle of a forest. These kinds of effects can be heard on the track 'Alone in the World' from Kupla's 2016 album 'Owls and Pinecones.' The track starts with a combination of watery field recordings and melancholic harped chords, in which the slightly faded quality of the piano allows the high-frequency details of the field recording to be perceived clearly. When the drum beat arrives at 0.24 the piano and the drums share this same timbral quality, allowing them to sit inside the space created by the field recordings, creating a sense of listening to the composition on a speaker alongside a waterfall.

LA's compositions contain the qualities of his templates hard-coded in the timbres of each track, demonstrating just how important these materials can be. By developing these key aspects of sound design during practice, LA is able to maintain a 'sense of control' over central musical parameters that he explores in his work by attaining a 'challenge-skill balance' in which he is not overwhelmed by the necessity of continually reproducing these key elements of sound design, meaning he is more able to perform at an optimal level during composition.



Fig. 4.3 The cover art for Kupla's 2016 album 'Owls and Pinecones' which visually evokes the same sorts of real world spaces that his field recordings evoke aurally.

As my informants demonstrate, the affordances of the DAW (and the hard drive itself) have had a large impact in perpetuating hip-hop's acquisitive and organisational practices in the digital realm. As noted previously, forms of traditional hip-hop production have been built around the manipulation of samples from recorded music, and the acquisition of these materials is a process that has become mythologised as a key part of being a hip-hop producer (see Schloss 2004, Tabron 2015). However, changes in technology, economics, and musical practice have led to fewer record shops, vast swathes of digitalised music, a legal environment hostile to sampling, and a subsequent shift for producers away from collections of vinyl records towards more varied collections of digital and analogue tools and materials (see D'Errico 2015 and Schloss 2004: 98 for some of the background to these changes).

There are two factors that I see as being particularly important regarding the impact of the DAW on the collection of music materials. Firstly, as DAWs have evolved, they have allowed users to store increasing numbers of presets and effects, i.e. combinations of electronic tools (set with particular parameters) that enable the creation of complex and distinctive musical objects (see Duignan, Noble, and Biddle 2010), which can contain accumulated technical knowledge and vital aesthetic information. Secondly, as samplepacks and collections of pre-composed materials take up large numbers of gigabytes, it is only relatively recently that producers have been able to take such an expansive approach to the collection of these materials (see Strachan 2017 for more on

this process). This is in contrast to earlier production practices using computers and hardware samplers where space was at a premium, meaning that many of these pre-composed tools were confined to successful professionals who had access to expensive hard drives (see Tabron for more on the technologies used throughout hip-hop's history). As internal hard drive sizes have rapidly increased in recent years, and piracy has proliferated, these tools are far more readily available. Producers in fact now need make fewer hard choices about which tools they use due to their extensive availability (as opposed to producers in earlier eras using expensive analogue tools); and it is therefore no surprise that the fetishisation of certain tools, and the creation of one's own specific tools, is a commonplace response to such an overcrowded market place (see McIntyre 2015, Kaiser 2017 for more on the value of certain music technologies).²⁶

As this section has demonstrated, the affordances of the DAW shape the ways pre-composed materials can be organised, managed, and combined, so as to play a vital role in a broad set of musical practices that are central to producers. Building on this, I will now explore the role of improvisation in the practice of producers, and how similar technological affordances shape the sounds that are developed during this practice.

4.6 Improvisation in Practice

The ways that producers organise materials are vital to support other parts of their practice (see Duignan, Noble, and Biddle 2010), specifically improvisation and the facilitation of flow states. In this section, I'll explore the connections between improvisation and flow states to understand how these elements are involved in practice. In particular, I'll consider how improvisation is essential to the production of 'liveness' in composition, and how, by engaging with the affordances of the DAW, producers are able to maintain flow states that support optimal performance.

²⁶ One can observe this saturated market place by exploring Sample-phonics' vast collection of samplepacks. While they may be a major company in the field, their database contains just a fraction of the samplepacks and other digital music tools that can be purchased online:

(<https://www.samplephonics.com/products/sample-packs>).

Improvisation is an essential part of most producers' practice, not only due to its central role in composition, but because it forms a key part of how they develop instrumental facility, cultivate musical language, and create precomposed materials.²⁷ While the musicians I worked with had extremely varied training in more traditional music making, all of them used forms of improvisation to some degree. For many of these producers, writing and arranging, in the more traditional sense of scoring larger structures during composition, was more difficult than deploying iterative processes to create layers, using combinations of small improvisations, in order to construct larger musical structures (similar to the processes described in Duignan, Noble, and Biddle 2010), as SF notes:

SF: Starting... a composition will involve improvisation on my piano or on my keyboard, whatever it is, to actually layer down chords... and stuff. That involves improvisation already. So when that's finished, there's a new stage of improvisation by using new samples and using new layers. So I would say there's different layers of improvisation in different stages of creating the song. (SF interview, via Skype, 25th October 2017)

This means that practicing these sorts of improvisations is crucial, not only for the development of structure, but so that producers can create the right sort of musical language within each section and each layer. This is partly because improvisation is vital in an idiom in which subtle shifts of emphasis, rhythm, and non-quantised groove are an essential part of compositional practice (D'Errico 2015). My research therefore underscores Nettl's point that although "improvisation and composition are frequently regarded as completely separate processes... they are also two versions of the same" (Nettl 2005: 29). This means that sustaining flow was vital for my informants during improvisation, as well as while transitioning between different forms of practice and composition.

Throughout their practice, producers appear to perform many types of improvisation including, but not limited to, melodic improvisation of single lines, harmonic improvisation to create chord patterns, parameter improvisation to change musical

²⁷ Green (2002) explores similar terrain albeit for instrumental musicians.

features of pre-recorded material, structural improvisation using the triggering of loops to create an extemporised musical form, and introducing random elements such as unexpected samples into the music to add something to react to (in the sense of responding to the sonic affordances of such a sound). The process of composition therefore is in part one of arranging and editing these varied forms of improvisation (which may occur long after these improvisations have been recorded during practice). Thus, by staying in flow states and exploring improvisation, producers are able to practice the creative control of both microscopic and macroscopic musical information, from the control of nuanced timbres to the manipulation of large-scale musical structure.

These different types of improvisation or extemporised arrangement are rarely practiced simultaneously (due to the number of parameters that need to be controlled); instead, the DAW affords producers the ability to hold specific elements static while others change. The combination of these static and fluid elements is explored during practice, so that when it comes to creating these elements in composition and performance, producers have developed a high degree of fluency.²⁸ Additionally, this process is clearly one producers think about a lot, spending other parts of their practice exploring and customising the structure of the DAW, creating specific effects, and employing hardware to find increasingly efficient ways to control parameters during improvisation. During my fieldwork I observed producers building specific effects and combinations of effects that enabled them to exploit the very specific affordances of particular MIDI controllers. This process involved a comprehensive understanding of the combinatorial affordances of the network of nonhuman actors involved, the ergonomics of the different MIDI units, and importantly the kinds of physicality needed to produce certain effects (for example structuring the mapping in ways that reflected how quickly certain parameters needed to be changed and what physical movement that involved with dials or sliders). An important part of practice is therefore a form of embodied research that seeks to uncover, usually by trial and error, the affordances of the DAW and how the controllers one connects to it (e.g. mixing boards with sliders and dials, pad controllers, or the Ableton Push) may facilitate comprehensive forms of

²⁸ If, during practice time, producers end up creating material that they think is valuable, they may switch to composing. This means the boundaries between these two phases are very malleable.

improvisation. This process of customisation (or mapping) enables musicians to develop a strong ‘sense of control’ through a deep familiarity with particular hardware and software set-ups, so that optimal improvisations can be performed during composition.

To achieve successful improvisations musicians also spend time in their practice developing tools to help them feel comfortable performing these sorts of improvisations, particularly in the context of solitary practice away from the ‘vibe’ created by interactions with other musicians or an audience.²⁹ While to some extent the sense of ‘liveness’ that arises from the layering of improvisations seeks to simulate communal music making (and its associated flow states), there are also other strategies that producers employ to induce this feeling. For a number of producers I talked to, field recordings played a central role part in this process. These recordings were used to create an ambience within the space of the studio, a background of sound to create music against. They thus help to stimulate and shape improvisation and creativity as MZ suggests:

MZ: I think of it [layers of field recordings] as the sort of foundation of it. And then from that – Because I don’t like working with silence. I like to have at least something just to stimulate your creativity. (MZ interview, London, 7th February 2017)

These recordings may also help to take producers to other imagined spaces so as to facilitate creative practice in the more quotidian sites, such as bedrooms, that many producers work in,³⁰ as LA suggests:

LA: Yeah. The field recordings, I think, usually set the scene. It’s in the background. I like to start... with the ambience, so that

²⁹ A key aspect of historic improvisation according to Monson (1996), and an important part of learning to improvise instrumentally per Green (2002: 82).

³⁰ In addition, efforts may also be made to create a sense of difference from the normal space, for example changes in lighting, the use of drugs, building a creative space with artwork, all to make the space in which music making takes place a different one from its more quotidian functions.

you're in. Straightaway you're in the space, and then play around with the different spaces. I do like rain a lot, and I do like nature. Water, streams of water, birds, nature, foresty sounds, rain. (LA interview, London, 10th July 2017)

As this section suggests, improvisation is a core part of practicing, helping to bridge the gap to composition, and develop material that may be highly valuable and distinctive. It is also essential in the development of pre-composed musical material, and is a process shaped by the affordances of the DAW, and the ways that the DAW is customised by human actors to facilitate flow states. It is a process which, through extensive repetition, helps producers develop skills that are key to moving through the learning trajectory. In the conclusion of this chapter I will draw together the key threads that connect *play and experimentation*, *organising and deploying tools and materials*, and *improvisation in practice*, and look forward to how future research can examine the role of practice in electronic music more deeply.

4.7 Conclusion

Throughout this chapter I have explored the role of practicing in the everyday lives of my informants, and the way its different aspects help producers move through the learning trajectory, picking up the skills crucial to their musical development. In addition, I have highlighted the central role of flow states in achieving optimal performance during producers' daily practice (and ultimately composition). The steps of this trajectory involve the simultaneous development of a range of musical competencies, and while certain core skills seem to need to be acquired, the rates of development in different areas may vary between producers. Additionally, the heterogeneous competencies of producers points to the extent to which their navigation of the learning trajectory is connected to the relative importance of these areas in their own, idiosyncratic musical practices. However, producers do seem to suggest that the ultimate aim is mastery of all of the different competencies, even if their current knowledge and compositional approach means that certain areas are not a central focus of their work. What this suggests is that although producers may not move through the different parts of the trajectory at the same speed, there is some agreement about the overarching shape of the trajectory, with a final aim being able to seamlessly create any set of sounds they audiate by developing the broadest 'sense of control' possible.

Additionally, the shape of the learning trajectory partially reflects the history of hip-hop, with some producers ‘doing their time’ early in their careers, developing sample manipulation skills and composing in a more traditional hip-hop style,³¹ before moving on to developing the more recondite skills required to write experimental hip-hop.³² This shape of the trajectory therefore helps producers ground themselves in the tradition and imbue their more experimental practice with a sense of legitimacy.³³ This means that as they develop more extensive skills through practice, they are able to create the kinds of complexity valued in the contemporary scene while being grounded in the more traditional practices they learnt earlier in the trajectory.

As these skills develop, they help producers build an extensive internal mapping such that, even when not in front of a DAW, they can imagine a set of actions to create certain sounds. In this sense producers’ perceptions of a sound’s affordances and their knowledge of the DAW allow them to manipulate, or imagine manipulating, sounds in ways which are creatively successful. Producers spoke of this process as something that also occurred away from the studio, describing in vivid detail the process of imagining creating music in the DAW, combining and layering blocks of material as though building a Lego model, or planning the creation of sounds by combining different effect units. This means that practicing in the context of the DAW echoes more traditional forms of musical rehearsal in that it helps to alter the internal structures of musicians’

³¹ Often in a ‘Golden Age Boom-Bap’ style see D’Errico (2015: 281)

³² It’s worth noting that some also ‘did their time’ in UK-specific genres such as grime early in the learning trajectory. Schloss also describes this process in his research, noting that “the development of individual producers’ technical ability often mirrors the development of the form as a whole” (Schloss 2004: 42), and that “on a pedagogical level, the most practical educational approach is to recapitulate the form’s musical evolution to ensure that each important technique is mastered before moving on to the next one” (Schloss 2004: 43).

³³ The underground and experimental practices are also seen within the context of hip-hop discourses that have equated alterity and authenticity (see D’Errico 2015: 282).

minds, allowing them to audiate music away from their musical tools.³⁴ However, a key distinction between traditional practicing and that type that producers engage in lies not only in the modularity of the DAW, but in the differing shape of the learning trajectory. Essential here are the varied rates of change of the respective musical technologies, as while for example the piano has stayed largely constant over the last century (see Isaacoff 2012), Ableton is continually being updated. These changes not only bring with them new affordances, but also the need for producers to be perpetually learning so as to both retain the ability to produce sounds they previously could on older software, and be able to produce new sounds. This suggests that the kinds of practice I have outlined in this chapter are in flux as the tools producers use change over time. Despite this, I believe that the key areas I have outlined will continue to be crucial to producers in the immediate future. While I could not hope to explore the evolving learning trajectory within the short lifecycle of this project, I hope further research could uncover the role of technological change in experimental hip-hop.

Despite these constant shifts, practice is central to the development of musical skills and pre-composed musical materials. Pivotal to optimal performance is the maintenance of flow states, and, as I have explored in detail in this chapter, producers manipulate and customise the affordances of the music technologies they engage with during practice so as to maintain the different factors of flow. Achieving optimal performance during practice therefore enables producers to develop skills and materials that are ultimately vital to composition. While this chapter has centred producers as the essential agents in practice and the development of original materials, in the next chapter I turn to focus on the role of commercially made materials – samplepacks – in composition, and more broadly how idiomatic sounds circulate.

³⁴ In this sense non-human and human actors are co-implicated in practice and production and the ways that shape how human actors think, speak, feel and act (see Bates 2012a for further examination of these complex interrelationships).

The Samplepack, Musical Tools and the Circulation of Idiomatic Sounds

5.1 Introduction

This chapter considers particular pre-composed musical materials, specifically samplepacks and software synthesisers, that are crucial to the musical practices of producers. In this chapter, and the thesis more broadly, I use the term ‘pre-composed musical materials’ to refer to objects which to some extent are constructed and determined before being used. Samplepacks are collections of short (usually four bar) loops of melodies, basslines, rhythms, and harmonies, as well as single sounds, such as drum hits, that producers can deploy and manipulate in their compositions. This chapter examines the affordances of these objects and the myriad ways they can be used. It also asks how these tools are created, how they circulate, and what role they play in the learning trajectory and in the reproduction of valued sounds. It highlights the role of these materials as pedagogical tools for auto-didactic producers at the start of the learning trajectory, and analyses the factors that constrain their efficacy in this respect as producers develop. Initially, I will demarcate the types of pre-composed materials that producers use and the ways they can use them, before illustrating how they are shaped by the market. Following this I explore how certain sounds are valued, and the extent to which these are ‘authentically’ reproduced within pre-composed materials. Developing this idea, I will elucidate the ways that producers build on these approximations, and learn how to reproduce key idiomatic sounds and tropes ‘authentically’. To conclude, I will examine the tensions that exist between the use of pre-composed materials and the construction of authenticity, and the strategies producers deploy to navigate these anxieties. Before I review my ethnographic data and findings in detail, I begin with a theoretical examination of musical authenticity to contextualise my work later in the chapter.

5.2 Authenticity, Authorship, and Musical Practice

Although authenticity has recently been problematised within the academy, both popular and scholarly discourse on musical authenticity traditionally situated it in specific practices, peoples, and historic time periods (Nettl 2015). While discourses in more traditional musicology may have been centred on the re-performance of canonical texts (Kärjä 2006), in ethnomusicology and popular music, authenticity has often been

situated in the historical or traditional folk music practices of certain types of communities (see Nettl 2015: 460), usually indigenous, diasporic,¹ or rural, meaning that authenticity was often racialised and essentialised in a number of problematic ways.² However, these notions of authenticity have gradually been complicated by the ways that musicians and scholars, from both outside and inside certain communities, have drawn on a range of discourses to present radically different, and often ironised, pictures of ‘authentic’ music making. We can see these dynamics at play in the varied discourses that have surrounded jazz during its history, from those emphasising the humanity, genius, and virtuosity of musicians within the African-American³ community (Taylor 1986, Brown 2002)⁴, to those presenting jazz and blues as a primitive, ‘hot’ music.⁵ The latter presents an essentialised ‘blackness’ as a sort of animal, primeval expression, a racist discourse that constructs authenticity around the history and *imagined* nature of certain communities, and their perceived ability to communicate certain kinds of emotions (including taboo ones like sexual arousal). In jazz, as in a number of modern cases, the perception that certain performers possessed authenticity (Hollerbach 2004) did not protect them from marginalisation, due to the problematic, exoticising notions informing these constructions of ‘authenticity’. As Toynbee notes:

¹ See Mirzoeff (2004) for a broader examination of the connections between authenticity and diasporas.

² For example, in the ways authenticity and race have often been elided in critical and popular discourse on jazz and blues (see Hollerbach 2004, also Toynbee 2013 for an extensive discussion of these issues in a UK context, and Gilroy 1991 for a broader theoretical and historical context).

³ Other scholars have also critiqued these discourses as excluding other people of colour from jazz’s complex history, such as Brennan (2008), who excavates jazz’s Afro-Latin history.

⁴ See also Solis (2019) for an analysis of Afro-futurism in jazz and the way musicians deploy these discourses in modernity.

⁵ It is worth noting that this is to some degree a simplification as musicians of colour have sometimes made use of tropes of primitivity (in many cases deploying irony to critique the perception of different audiences), while musicians in other communities have sometimes been skeptical of the discourses around ‘hotness’.

As for the position of black musicians, on the one hand they were increasingly marginalized through the color bar and the gentrification of jazz; on the other, authentic “hot jazz” came increasingly to be associated with the idea of black performance, and black players were correspondingly valued as a result. (Toynbee 2013: 6)⁶

Some of the dynamics that Toynbee observes at play in jazz are also reflected in the racial and political complexities of hip-hop, particularly in the “complicated yet deeply implicated relationship between African American expressive culture and American consumer culture... [and] the contradictory processes by which black music simultaneously centers and marginalises African American in national cultural life” (Rollefson 2017: 5). While discourses may form connections between authenticity and positionality or identity, the communities deploying them, the ways they are wielded, and the forms of authenticity that they *construct*, may be radically different.

In response to these issues, recent scholarship has sought to de-essentialise authenticity; examining the ways authenticity is constructed and the different discourses and resources musicians, audiences, and critics, deploy to weave authenticity around them (see O’Flynn 2007). As Allan Moore notes, “authenticity does not inhere in any combination of musical sounds. ‘Authenticity’ is a matter of interpretation which is made and fought for from within a cultural and, thus, historicised position. It is ascribed, not inscribed” (Moore 2002: 210). What this suggests is that authenticity is not an inherent property of people or music, but rather is constructed through complex interactions between musicians, their peers, texts, institutions (Silverstein and Urban 1996), and other actors. This means that musicians may deploy a number of *different* types of authenticity discourse; while these may relate to positionality, identity, and place as suggested above, musicians may also construct authenticity around notions of personal expression and creative labour (or varied combinations of the above).⁷ Moore in fact posits three key forms of authenticity:

⁶ See Waterman (1990) for more on the problems of projecting forms of authenticity onto musical practice.

⁷ Similar dynamics occur in other fields of cultural production see Price (2013: 147).

First person authenticity: Artists speak the truth of their own situation.

Second person authenticity: Artists speak the truth of the situation of (absent) others.

Third person authenticity: Artists speak the truth of their own culture, thereby representing (present) others (Moore 2002: 209)

While for Moore, these forms of authenticity are a largely a “construction made on the act of listening” (Moore 2002: 210), they can also be understood as a construction made in the course of performance, composition, or improvisation for an audience. Musicians look to communicate similar forms of authenticity to those they apply when listening. I posit therefore that while authenticity is largely constructed by audiences, musicians themselves, by their actions (both musical and non-musical), attempt to significantly influence the process. This often involves deploying those same discourses to frame their own work, as they would when assessing the ‘authenticity’ of others. Moore in fact alludes to this process when discussing ‘first person authenticity’, noting that:

Particular acts and sonic gestures (of various kinds) made by particular artists are interpreted by an engaged audience as investing authenticity in those acts and gestures... what I term ‘first person authenticity’, arises when an originator (composer, performer) succeeds in conveying the impression that his/her utterance is one of integrity, that it represents an attempt to communicate in an unmediated form with an audience (Moore 2002: 214).

As my informants are so often the sole creators of their work, they are particularly invested in endlessly nuancing the ‘sonic gestures’ of their music so as to represent themselves in a way that ‘speaks the truth of their own situation’. As Moore notes in his work:

Every music, and every example, can conceivably be found authentic by a particular group of perceivers and that it is the *success* with which a particular performance conveys its impression that counts, a success which depends in some part on the explicitly musical decisions performers make (Moore 2002: 220).

While I, like Moore, am uncomfortable with the notion that musicians are the sole arbiters of the way their work is perceived, I do believe that they are active agents in this

process, and that culturally-situated ‘acts and gestures’ can enable them to ‘perform authenticity’ in particular ways that influence how audiences ultimately ‘construct authenticity’.

For the musicians that I study, the *first* and *third* person forms of authenticity suggested by Moore seem most relevant in this process, reflecting the discourses that producers employ about their own experiences and the emerging tradition they work in. In this sense *first person authenticity* can be seen as a form of personal and creative expression, and authorship,⁸ while we might consider *third person authenticity* as representing, amongst other things, a form of idiomatic authenticity, in the sense of producing in way that is ‘truthful’ to experimental hip-hop. The producers I study attempt to weave authenticity (in the sense of persuading audiences) around not only personal expression and acts of apparently original personal creative labour (see Lindholm 2008: 22), but also ways of producing that are valued in the scene. Authenticity is thus constructed around not only tradition and a canon (see Bohlman 1988), but the sense of speaking as an individual within a cultural context. This said, given the newness of the music and that the canon is still emerging, ‘third person’ authenticity within the scene is somewhat nebulous, at least in comparison to more established traditions, and tensions therefore exist between idiomatic and personal forms of expression and the construction of musical authenticity.

In this chapter I examine not only the role of pre-composed materials in production and learning, but also the ways these tools complicate how producers think about authenticity and questions of authorship. This is due to the multiple human and non-human actors involved in the creation of pre-composed musical tools; the role of these actors creates anxieties for producers who root their authorship and authenticity in acts of personal, creative labour (see Regev 1994). Additionally, I point towards how the positionality of the human actors involved in the production of samplepacks, and the market forces constraining their production, shape how idiomatically ‘authentic’ these materials are perceived to be. Building on this, I examine the extent to which producers’ perceptions of pre-composed materials change over time, and whether this impacts on the efficacy and use of these tools in different parts of the learning trajectory. Authenticity and authorship are therefore interwoven, constructed, and perceived in

⁸ In the sense the author(s) of a musical work are those who have invested in it a great deal of their creative of labour and personal expression.

complex and unusual ways, and the impact this has on production, the role of pre-composed materials, and knowledge exchange, is crucial to understanding how producers learn in an era in which broad networks of human and non-human actors are involved in the creation of electronic music. To begin my examination of these issues, I first consider the affordances of samplepacks to contextualise my later exploration of their varied uses and the discursive landscape that surrounds them.

5.3 The Affordances of Samplepacks

In this section I explore the sonic affordances of samplepacks and their impact on musical practice, examining how different sounds are valued by producers based on the breadth of their affordances. My research suggests that it is often those sounds that are most flexible (those with the most expansive affordances) which are most regularly used. This is because sounds that producers perceive as *overdetermining* the kinds of music that can be made with them are considered less valuable, as they restrict creative decision making due to their specific sonic qualities. Materials that are inflexible cannot be easily manipulated or transformed; it is too easy to preserve too much of them. This means that the transformative work of production is reduced; i.e. one is doing less of the highly valued creative labour critical to this form of music making.⁹ As I will argue in the conclusion of this chapter, ‘overdetermined’ materials are problematic because they undermine the process by which producers assert their creative control and authorship, and thus their justification for presenting themselves as ‘authentic’ creative agents. Before exploring some of the complex issues raised by the use of pre-composed musical materials, I will begin with a discussion of what these materials are and how they are used.

In this section I pay particular attention to samplepacks, collections of audio samples and MIDI files that are produced by both individuals and companies in a myriad of

⁹ Obscuring and creatively transforming pre-composed musical materials are both examples of work that is undergirded by a kind of secrecy retained from hip-hop’s historical digging days (see Schloss 2004). These practices are shaped in the present by innovations like <https://www.whosampled.com/> that help to reveal to audiences how much creative labour has been done by a particular producer by playing the original material and the sampled version side by side.

styles.¹⁰ While these could be categorised in a number of ways, my taxonomy focuses on length in time and musical function.¹¹ At the temporally short end of the spectrum there are a group of files one might call one-shots; these include sound recordings of single drum sounds or chord stabs that are often “sampled for use within a rhythmic pattern or stream” (Ratcliffe 2014: 99). Following these are loops: longer sections of musical material such as chord progressions or drum beats that usually last for a small number of bars. Lastly are much longer sounds; these can be field recordings or synthesised ambiences that might contain material sometimes identified as non-musical.¹² These different file types are usually supplied with matching MIDI files containing the information initially used to create these sounds, so that producers can more easily manipulate them. This split between audio and MIDI can be used to illustrate how samplepacks contain at least two types of musical material useful to producers. One is the rhythmic, harmonic and melodic material represented by the MIDI files, and the other is the voice or sound of this material, i.e. the distinctive timbres and textures of the audio files synthesised from this MIDI information.

To explicate the extent to which pre-composed sounds shape what is made with them, it is important to consider how the musical parameters of samplepack materials, such as rhythms, melodies, harmonies, and timbres, may be changed once they are placed within the DAW (see Ratcliffe 2014). To understand this I suggest that one should consider pre-composed musical materials and the DAW as a network with specific affordances. This means that sounds themselves afford specific actions that unfold within a network of human and non-human actors, shaped by a broader techno-cultural milieu. In the following paragraphs I will briefly outline the affordances of different types of pre-composed musical material, the various ways that they may be

¹⁰ These are royalty-free materials, as opposed to the sampling of pre-composed music, a process which raises a raft of ethical, political, and legal issues covered extensively elsewhere (see e.g. Porcell 1991, Katz 2004, Sanjek 1994, Marshall 2006).

¹¹ I acknowledge here Ratcliffe’s (2014) more comprehensive taxonomy of sampled materials (including materials outside of samplepacks), which combines the temporal, functional, and referential qualities of sound in his detailed four-part schema.

¹² Ratcliffe (2014) also discusses the use of other longer materials such as dialogue sampled from films within his taxonomy.

manipulated, and the extent to which their affordances limit the musical practices producers engage in.

To begin this analysis I will firstly consider rhythmic material, such as drum loops or the kinds of one-shot drum sounds (often called drum hits) that can be sequenced to create rhythmic material. These materials may vary tremendously depending on their length, but in general we can think of the ways that they are manipulated as broadly fitting into two key categories; the first are those effects that change the sound of the drum hits themselves, and the second are manipulations that impact on the temporal relationships between the different beats. This first category is of particular import when producers take drum hits and manipulate them for a particular function or to fit with the aesthetic of a composition.¹³ One of the key ways of manipulating drum hits is layering; here multiple examples of different drum hits are combined to create a new drum sound.¹⁴ These different hits may each be equalised so that they play a different role, such as lower, middle, and higher sounds within a composite kick drum sound,¹⁵ or these sounds can also be combined with more unusual sounds such as snippets of field recordings to create unusual textures. In addition, sounds can be re-pitched and filtered to emphasise radically different parts of the spectrum, so for example, low kick drums could be pitched upwards to create a tom drum and vice versa.¹⁶ MG describes parts of this process in some detail:

MG: There's a lot of I guess what you'd ostensibly call sound design that goes into it as well. So... I'll decide to take... one kick drum but... I'm not thinking I just want to take this sample as

¹³ While there are a wide range of effects one could apply, an exhaustive discussion of such is beyond the scope of this piece, here I will attempt to give a brief overview of some of the practices I have observed.

¹⁴ See Harkins (2010) for more on the selection and deployment of temporally short sounds in electronic music.

¹⁵ See Bates (2010) for more on the mixing and equalisation process and the way that this can shape the character of particular instruments and sounds.

¹⁶ See Bjerke (2010) for more on the way sound design and timbre impact on production and perception in hip-hop, in particular in regard to grooves, and Zeiner-Henriksen (2010) for a broader review of the role of bass drum sounds in electronic music.

it is. I want to do something with it. Because there's... some part of that waveform that appeals to me. It might be the very top of the sound. It might be the middle... in the sound design thing we're talking about, I'm also doing a lot of layering as well. So, I'm taking like you know two or three different kickdrums, finding the frequencies I like, [then] layer on top of each other, compress... Sometimes, you know, sometimes it's not drum sounds. Sometimes it's just percussive, generically percussive sounds. So, it might be the table leg or –

Interviewer: Oh, so you do also record found –

MG: Yeah, also found sounds... It's something I'm getting more into increasingly. (MG interview, London, 1st December 2016)

While similar effects can also be applied to loops (to change the sounds that make up the loop), additional processes can also be employed to change the ordering and timing of the beats within a loop (that of the second category of manipulations). These can include warping, where parts of the loop can be dragged or stretched into different places which can introduce radical changes in timbre or pitch; chopping or re-ordering (see Schloss 2004, Brøvig-Hanssen 2010), where the material may maintain some of the micro-temporal relationships but in a different sequence; or groove sampling¹⁷, where new micro-temporal relationships, such as types of swing, can be applied to loops to

¹⁷ As Ratcliffe notes:

A common strategy involves the creation of a rhythmic (or “groove”) template that is extracted from an existing breakbeat using specialised software, such as Propellerhead's ReCycle. This is achieved by analysing the performance characteristics of the sampled breakbeat (for example, note onset, duration and velocity information), and allows for the inherent performance properties of the sample to be maintained while replacing the original sounds with recontextualised elements. (Ratcliffe 2014: 100)

change their rhythmic feel.¹⁸ I observed examples of these techniques during a studio session with OB when he took a drum loop from a samplepack I had created, and rather than chopping it into different pieces, dragged each of the rhythmic events around in the measure to radically alter the groove of the loop. Although it was still recognisable, these altered temporal relationships completely changed one's perception of this musical material, as OB himself notes:

Interviewer: You didn't chop it up which I was expecting you to?

OB: Because the drum loop was fine, man. I didn't need it – it didn't need any chopping. It needed to be *shifted* [my emphasis]. (OB studio session, London, 31st October 2017)

This sort of shifting is just one effect of many that may be used to help to hide the source of pre-composed musical materials. This process of obscuring is a key aspect the construction of authorship in which producers enact change on sounds to make them their 'own'. What I mean by this is that these sort of 'out of the box' sounds are not likely to be considered 'authentic' if the producer does not manipulate them.

Samplepacks also often contain loops of melodic material, such as leads (principal melodies usually in the higher registers) and basslines. In addition to their obvious melodic content, these loops contain both micro-temporal information and the 'voice' or timbre of the material. While these loops can be placed straight into compositions, they can also be transformed using many of the same techniques detailed above. Importantly, the fact that melodic material is usually not polyphonic means that it can be more easily manipulated than harmonic material.¹⁹ While we might therefore consider these loops as being quite flexible, and thus potentially highly useful, few of the producers I spoke to

¹⁸ These techniques can be more complicated than those used with single hits, and achieving the required effects may be more difficult. However they can be used to introduce valued temporal relationships into material that has the desired timbral qualities but not the desired rhythmic placements.

¹⁹ It's worth noting that some software such as Melodyne (see Johnson and Poyser 2001) does allow for easier manipulation of harmonic material, by being able to identify and manipulate all the pitches involved, but I did not observe this software being used.

seemed comfortable using these sorts of materials in their composition, as TGL explains:

Interviewer: So, when you've got to, when you've got to add the bass-line in, you didn't even consider using one of the bass loops? It didn't even-

TGL: Oh, yeah. No, no, no, no.

Interviewer: Why?

TGL: Because... there gets a point where I think loop after loop can be a bit difficult, one... And, secondly, if I went through it... No, I can say I just wanted to play on it. (laughter)

Interviewer: Yeah, yeah. But, does that represent what you normally do? You would normally play the bass-line in?

TGL: Yeah. Actually, have I ever sampled a bass-line? Rarely, rarely sampled a bass-line. (TGL studio session, London, 17th August)

TGL's remarks point towards the importance of 'playing in' certain kinds of material oneself during composition, a method that may be considered a way of 'authentically' presenting one's own musicality. In fact the use of pre-composed melodies in general seemed to intrude on an area that many producers considered crucial to asserting their authorship. This is because producers often saw the process of devising these melodies as a key part of their musical practice, and if melodies were not original, then radical transformations needed to be wrought on pre-composed melodies to justify their use and allow producers to retain a sense of authorship. What this suggests is that the extent to which pre-composed materials are overdetermined is not the only factor involved in their deployment; these decisions are also shaped by musicians' anxieties surrounding authenticity and authorship.

The use of harmonic materials is also a complicated area to untangle, as although the transformations outlined earlier can be used to change temporal and timbral qualities, the relationships between notes within a chord are more difficult to manipulate. This is because within most DAWs it is technically difficult to change the internal harmonic content of a looped section of audio (i.e. changing each of the notes of a chord separately to make a new chord) and although these kinds of materials may be chopped, re-arranged, or even re-pitched, the internal relationships between pitches are often left unchanged.²⁰ Producers evidenced mixed feelings about these harmonic materials, as while it often seemed as though the ‘voices’ used in samplepacks were not of the kind many producers appreciated, their harmonic content could be useful for those producers without more traditional forms of musical training, who found it difficult to reproduce these sorts of sequences. However, their inflexibility meant that many producers did not use them, or found that they had to do extensive creative work to transform the materials so they could be used. TGL helps explain why these materials could be useful:

TGL: I started sampling because I was getting bored of my harmonic palette on the keyboard. And, I just wasn’t doing, it wasn’t feeling as that good. So, then, yeah, so that became kind of the approach for it. I’d kind of hear something that I like harmonically. And, then I would work it, and add my own stuff around it, and actually, it’s very easy [sic] to add your own

²⁰ In this sense, if a sample contains a Dmaj chord it is easy to re-pitch it to Cmaj, but much more challenging to change it to Dmin.

bass-lines than it is to add harmony.²¹ (TGL studio session, London, 17th August)

For some it therefore seemed that these materials had a more useful function as harmonic place holders, used to improvise against to develop original ideas, or as agents to help shape decision making. Despite their inflexibility, harmonic materials were used by some producers, and didn't seem to impinge as much on what was seen as central creative work, meaning they were not as foregrounded as melodies, rhythms, or certain kinds of sound design. This may be in part due to the fact that the use of this kind of material has a long history throughout hip-hop (Schloss 2004), or that some of the musical predecessors of hip-hop, such as jazz, have repurposed and borrowed harmonic material for melodic improvisation (see Monson 1996, Wilf 2012, Kernfeld 1995, Berliner 1994).

²¹ Producers may also use these objects pragmatically; if they enable them to quickly arrive at a particular sound, this allows them to dedicate more time to other parts of composition or remain in crucial flow states. BH highlights this pragmatic perspective:

BH: So, samplepacks, I use because I don't have forever! (laughter)
Well, the thing is like, it's very noble to sort of strive to reach a point of like sound design, or like come to a realisation where you can just think of a sound and create it instantly; but realistically, it takes a lot of the hard graft to re-create a sound, even if you're very, very skilled at what you do... a lot of the time, I feel like it pulls me out of the flow. So, having, you know, packs of very high quality, but very utilitarian sounds... they provide starting points for improvisation... I think I would rather have something that sounds 70% like the idea I have in my head, and doesn't detract from the piece, and allows me to keep moving forward creatively instead... than something that gets like 80% or 90% of the way there, which takes me off down a tangent, and distracts me from what was exciting me about the track in the first place. (BH interview, London, 15th March 2017)

The longest pre-composed materials used in samplepacks are usually field recordings or synthesised ambient sounds that explore slow changes in texture and timbre (see Fales 2005). As these longer sounds do not have obvious repeated rhythmic or melodic content (i.e. that is more identifiably ‘musical’) these materials may be very flexible and producers may find it easy to transform them. Despite this flexibility, producers had varied views on field recordings that seemed to depend on how central such recordings were generally to their work. As noted in chapter seven, this is possibly because some producers saw the collection and deployment of field recordings and found sounds as essential to their musicality (see Strachan 2013), meaning that their samplepack equivalents were rejected as impinging upon the creative work of the producer.

This section has sought to lay out how sonic affordances and musical flexibility, in combination with ideas about aesthetics, authorship, and authenticity, shape how pre-composed materials are used. However there are other factors that shape these outcomes, and pre-composed materials themselves, before they come into contact with producers. The next section will therefore outline how these materials are produced, and the ways economic considerations influence the individuals who create these pre-composed materials.

5.4 The Creation of Samplepacks

In this section I will explore the creation of samplepacks, aiming to understand the ways in which the market impacts on their production, and the extent to which it constrains the reproduction of idiomatic material. As elsewhere, I will examine the tensions that surround authorship and authenticity, and how creative labour shapes the way producers think about pre-composed materials.

The pre-composed materials discussed in the previous section can come from different sources. Broadly speaking there are three main categories of samplepack producers: individuals who sell or exchange materials that are usually directly related to the idioms they work in, at different degrees of ‘professionalism’, groups of individuals or minor companies releasing small scale packs across a variety of genres, and larger companies (which may be the makers of the DAWs themselves) releasing ‘professional’ sounds across a wide range of genres. While these larger companies may be acknowledged as the best producers of samplepacks for popular genres, insiders or smaller companies can

have just as much authority when it comes to styles outside of the mainstream.²² In addition, while many of these packs may be bought separately, others may come as sound collections with DAWs, while many also circulate illegally online. To begin this section I will discuss my own experiences creating samplepacks, how these experiences helped me to understand how the process of creating packs impacts on the kind of sounds created, and how this aspect of my research revealed particular tensions surrounding musical authenticity and the role of pre-composed materials in the transmission of knowledge.

As part of my research I constructed three samplepacks for a small company, creating one pack that could have been used in a range of styles and two that were supposed to be in an experimental hip-hop style.²³ These packs were well received and even positively reviewed in the music technology press. While I cannot attest that the process

²² MG was one of a number of producers whose remarks evidenced this perspective, as he highlighted an individual, rather than a company, as a crucial source for sampled materials:

MG: So, I'm a big collector or like drum samplepacks like vintage drum machines and like things that people have manipulated. There's this one guy on the internet whose name is Gold Baby... And he puts out – he just makes samplepacks and he's got a couple of them for free. And it is sort of things like he'll take like an 808... then record that to a tape player and then load into the computer and do something else... so, I'm a big fan of using those. (MG interview, London, 1st December 2016)

The desire to source more esoteric samplepacks may be connected to discourses in hip-hop more broadly that connect value and obscurity, particularly in regards to 'crate digging'.

²³ These packs can found here:

<https://modeaudio.com/product/askew>

<https://modeaudio.com/product/flicker>

<https://modeaudio.com/product/scatter>

I went through to construct these packs exactly mirrors those of other pack creators, my conversations with informants who have made samplepacks suggests that at least some of my experiences are shared. To create these packs I was required to develop between ten and twelve short compositions of four bars in length, constructed of many of the elements one might expect to see in compositions within electronic music. These elements were usually ten lines or parts that fulfilled standard roles, including kick and snare drum patterns, assorted percussion loops, bass-lines, chords, and lead melody lines. Each line needed to both fulfil their standard functions within the idealised structures of electronic music generally (see Butler 2014 for more on loops, and the ontology and arrangement of electronic music), and be able to stand alone when used in new contexts.

Askew Hip Hop Loops

Publisher **Mode Audio**

Price **£18**

Contact **info@modeaudio**

Web **www.modeaudio.com**

Welcome to the world of Askew, where lopsided hip-hop beats sit

alongside rasping percussion and delicate, dusty keys. This new pack from Mode Audio contains 530MB of atmospheric loops, tail samples for the loops, and drum samples in WAV, Apple Loops or REX2 formats, plus 117 music and drum MIDI files. Additionally, the Ableton version adds 12 projects, and the ReFill version adds 22 Dr. Octo Rex patches. This is a pack that doesn't play by the rules, with

Key Features

- Wonky hip-hop beats, loops and hits
- 530MB-plus of audio
- 150 loops, 59 tail samples and 100 drum hits
- 80 to 100bpm
- 117 MIDI files, 12 Ableton projects



some unusual but interesting production choices, quirky grooves and evocative melodies. There's plenty of side-chain pump adding wonky movement to the loops, and recorded sound giving added texture and organic warmth. **MT**



MT Verdict

A non-stop treasure trove of beautifully loose and organic grooves and musical elements.

9/10

Fig 5.1 This image shows the positive review of one of my packs by MusicTech magazine, which highlights some of the ‘wonky’ rhythms and the ‘warmth’ of the sound design.²⁴

Initially I began this process by cannibalising a selection of old and unwanted beats, changing their structure so that they fitted with the standard samplepack template. I also searched through my back catalogue to take sections of material from unfinished compositions to form the basis of new ones. Although this was not the most rewarding, original, or creative way of making music, the fact that I was creating samplepacks rather than my own compositions led me to a number of distinctly different decisions than I would usually make, as I detail below.²⁵ In particular, I was aware that I was comfortable to use musical materials to create the packs that I would not have been happy to use in my own compositions, and conversely that there were highly valued materials that I was keen to keep to myself and not release commercially.

Once I had collected my own pre-composed materials, I started improvising around them to come up with extra percussive lines, or short sections of melody to complement these cannibalised cores. In addition I also drew on other objects such as effects and synth presets that I had used many times before, in combination with established methods to help the material fit together without the fine tuning or experimentation that would normally be involved in constructing a piece. In this sense, the creation of the samplepack removed much of the exploratory phase of creative practice; rather than being a process where learning could occur, this was one where tried and tested techniques were combined for maximum efficiency. In particular, I re-used a number of my old ideas if there were not enough original parts to create the requisite number of loops for each piece, a good example of this involved producing quantised material to normalise the unusual micro-temporality of some of the grooves I used. One such case is detailed in the figure below; line one shows a looped selection of white noise, line two shows this noise cut into 16th note pieces using Ableton’s warp function, line three

²⁴ This image is clipped from a scan of the print edition, but the review can be found here: <https://www.musictech.net/reviews/askew-hip-hop-loops-review/>

²⁵ Additionally, I was aware that I was being paid a set fee for the material, rather than working by the hour, so it was in my interest to work quickly.

shows this selection re-pitched by 3 octaves to more resemble the sound of a hi-hat, and line 4 is the loop after an iconic Akai MPC swing template has been applied to the loop to move the hits micro-temporally within the measure (see Ratcliffe 2014), giving it a feel more redolent of classic hip-hop (see D'Errico 2015, Marshall 2006).

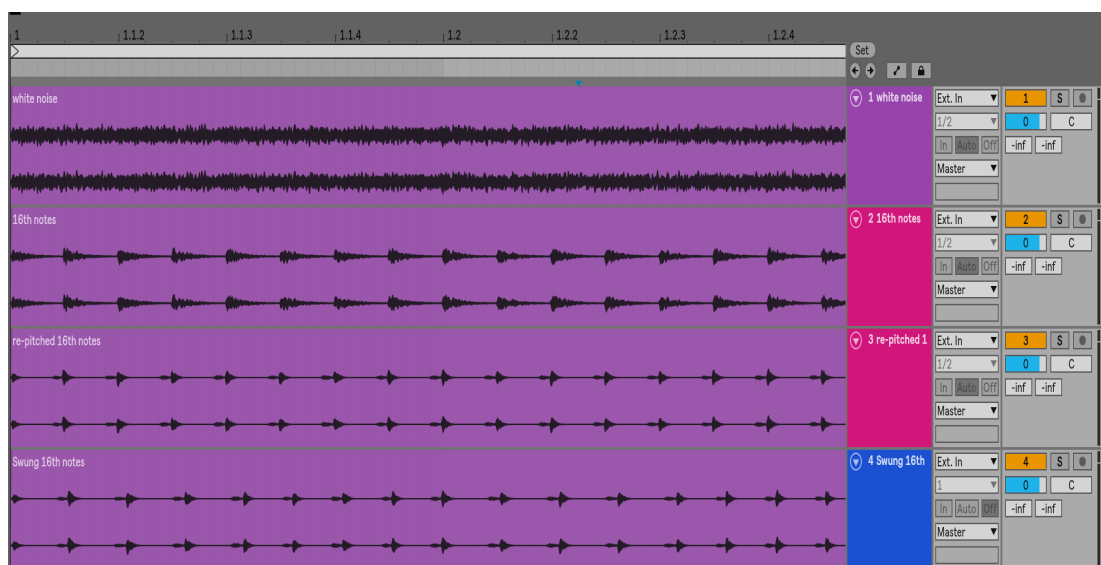


Fig 5.2. Shows the example of a process of quickly creating quantised material to 'fill in the gaps' in a samplepack composition.

Once I had finished putting together demos of all the loops, I sent the collected material off to the company for assessment before redrafting and release. The feedback I received contained both unexpected and expected elements; although they wanted me to apply more compression to the elements to make them sound louder and more 'professional',²⁶ what I had not expected were those requests that would make the loops sound less stylistic to my ears. This involved more clearly emphasising the strong beats in the bar, for example by placing a loud snare sound on beats two and four. These compositional amendments meant that some of the rhythmic tension, nuance and unpredictability, vital to experimental hip-hop grooves (see Brøvig-Hanssen and Danielsen 2016), were to be lost.²⁷ In addition, the company also wanted me to more clearly centre those musical elements that could be described as 'hooks': material that would most obviously grab a

²⁶ See Hodgson (2011) for more on the use of compression, particularly within experimental hip-hop.

²⁷ This discrepancy was borne out by the fact that the composition which was considered by the company to need most work, was the same one that was most appreciated for its rhythmic aesthetics by a number of my informants.

listener's attention, often melodies or prominent bass-lines. This was despite the fact, as suggested earlier, that writing such material is often central to producers' creative labour, meaning that my hooks were unlikely to be used.²⁸ These experiences helped to heighten my sense that there could be significant disjunctures between those who produce pre-composed materials and the musical communities that they serve or service. These differences raise interesting questions about the role of samplepacks in the learning trajectory of producers, which I will examine in more detail later in the chapter.

These disjunctures seemed to be highlighted further when I discussed my experiences with those informants who had worked on samplepacks themselves. In particular, for one of my informants who worked on samplepacks frequently, it was intriguing how little he seemed engaged with the accurate reproduction of style, suggesting that musical 'insiders' would have to produce this material themselves:

CHC: With the loop packs... those are generally targeted towards a particular genre and at the start we'll think, "Okay, we're going to make a chillwave set of loops" or whatever. I don't even know what chill wave is. I know that Tycho is apparently chillwave, so I'll listen to a bit of Tycho, be annoyed at how it's just so crap compared to Boards of Canada and then just rip that off and it won't sound anything like that, it'll end up sounding like every other samplepack I make but that's fine.
(CHC interview, London, 8th February 2017)

While this excerpt describes his work for his own company, CHC also attests to similar experiences working for larger companies, in which certain kinds of musical tropes seem to be de-centred in exchange for a focus on sounds that are usable in a wide variety of musical contexts:

CHC: They'll come up with the genre first, so ambient or something.
 We'll have then gone and found a bunch of YouTube links of

²⁸ It is worth noting that these materials may however be useful for absolute beginners who may want to create music by combining these parts together in rudimentary ways.

Alva Noto and Fennesz²⁹ and people like that and, said “How about these? Shall we aim for this sort of thing?” and then they’ve come back and said - “that’s too interesting, can you do something more boring and electronic?” and then sent us some stuff I’ve never heard of that only has 500 views on YouTube... I remember when that came back actually... and it was all electronic as opposed to processed instruments and I was like, “Yes!” (both laugh), “This just got a lot quicker!” (CHC interview, London, 8th February 2017)

As CHC suggests, larger companies wanted to jettison certain kinds of complexity (in this case timbral), in exchange for a more simplistic aesthetic based around processing sounds created within the DAW (rather than by processing samples of actual instruments).

These experiences corresponded with the feedback I was given that attempted to shift the material from a more experimental style, to a ‘professional’ aesthetic common in electronic music more broadly. This may be because for these products to be commercially viable they need to have a *strong* but *vague* sonic identity; strong in the sense that they grab the ears of a prospective purchaser; but not so strong as to powerfully shape the identity of what is made with them. Equally, there is a pressure on their stylistic specificity, both requiring aspects of those tropes that signify to an insider, whilst at the same time possessing a flexibility that allows them to be used in radically different contexts, so as not to limit their commercial success. BH’s description of his approach to making these tools helps to illustrate this tension:

BH: At the beginning, I was [like] “this is the brief and this is what we are going to make, I am going to make this pack sound like this.” And that was fine, but the packs probably all came out very highly specialised... And I remember the last few... I was still trying to hit the brief, but I was more thinking I am not

²⁹ Alva Noto and Fennesz are two prominent artists working in the ambient and glitch scenes, although their works extend across a number of genres, such as noise (for more see Demers 2010).

going to make any really esoteric reverb choices or process these sounds in very specific ways, to the point that someone couldn't perhaps repurpose them for another style of music... So with something like a loop, it is very difficult I think to make it both ... like good, being what it is, and versatile. I think the more conceptually complete and well executed a loop... is probably the more it exists in a specific stylistic niche. (BH interview, London, 2nd September 2017)

Here BH helps elucidate the extent to which this market-dictated flexibility impacts on the production of samplepacks, and the ways in which these sorts of requirements impact on different musical materials. As we can see, the need to make looped materials more flexible than they would normally be in 'a specific stylistic niche' perhaps helps to explain why these materials end up being less appreciated by experienced producers.

While loops are valued when they are musically flexible (when they have broad sonic affordances), it appears that they help producers in different parts of the learning trajectory in distinct ways. For those at the beginning of the trajectory, these sounds may help in the reproduction of idiom (when producers are less able to discern and produce these sounds), but as producers become more experienced, they are able to perceive the aesthetic 'distance' between these sounds and those that are more truly idiomatic, and while some of these tools may remain useful as raw materials for manipulation, they are less useful as active agents in the creation of more valuable sounds. This need for flexibility thus constrains the efficacy of samplepacks at different moments in the learning trajectory. Thus, while flexibility is a crucial aspect of the value of samplepacks, this sonic under-determination can become less valuable over the creative life of the musician.

This suggests that the way the market shapes the production of samplepacks is different to the ways in which audiences (and imagined audiences³⁰), shape the production of

³⁰ See Dueck (2007) for more on publics and imagined audiences.

experimental hip-hop.³¹ These dynamics help point towards the broader differences inherent in the structures of a field of cultural production (that of experimental hip-hop), and that of a field of mass production of products (the market of music technology products), in which the accumulation of cultural capital and financial capital are the focus respectively (Bourdieu 1984). This means that the deployment and production of idiomatic and idiosyncratic sounds – vital to the accumulation of distinction and the construction of authenticity in the scene – is not central to the ways samplepacks are constructed, which are designed to appeal to a wider market of electronic musicians. In the following section I will move from an exploration of the dynamics that shape the production of samplepacks to an examination of software synthesisers, and by comparing the uses of these two broad groups of tools, highlight deeper complexities around the construction of authenticity.

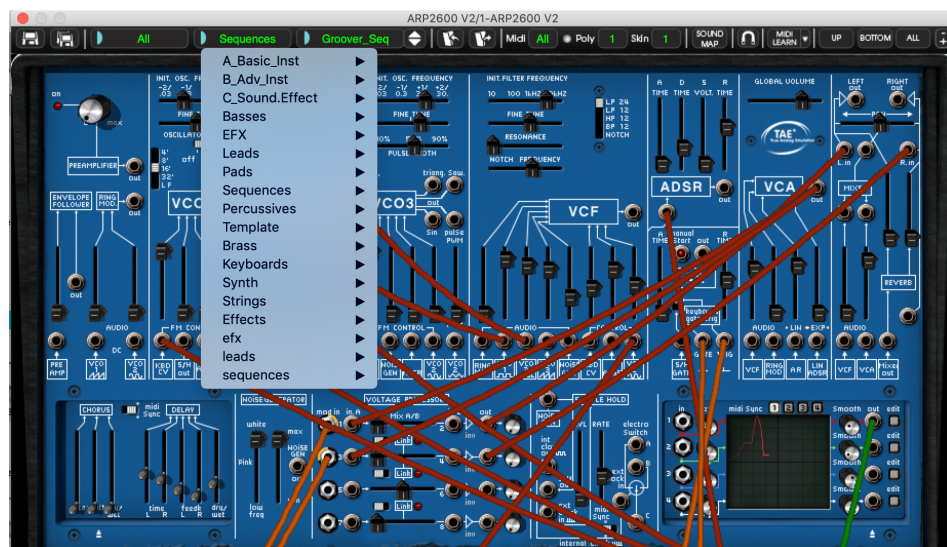
5.5 Software synthesisers, Creative Practice, and Authenticity

In this section I will analyse the role of software synthesisers in the production process, and look to develop an understanding of why these tools are useful for producers, helping to frame my discussion of cultural capital, authenticity, and knowledge transmission in the conclusion of this chapter. As my participant observation and interview data suggests, my research participants seemed to experience more anxiety when using samplepacks than when undertaking more ‘traditional’ forms of digging and borrowing. While there can be anxieties around using sampling as a method more broadly (see Marshall 2006), it appears that producers using more ‘traditional’ or ‘authentic,’ practices (in this sense of sampling from recorded music) felt more comfortable due to the way in which this rooted them within a broader hip-hop tradition and its attendant musical discourses. These anxieties help highlight the distinctions between software synthesisers and samplepacks, as although software synthesisers help constrain the music made with them, the fact that software synthesisers can be programmed with ‘authentic’ MIDI material means that producers can retain a greater sense of authorship. This means that while a number of the complexities surrounding samplepacks and software synthesisers may be similar, the structural

³¹ In part because the audiences of samplepacks are primarily producers, as opposed to fans who are the audience for compositions, even if members in the latter category may also be producers.

differences between the two, and the extent to which they determine the musical material made with them, means that producers can have very different perspectives on their usage. In this section I examine software synthesisers, the ways they shape musical practice, and how this impacts on anxieties surrounding authorship and authenticity.

Software synthesisers can play a wide variety of roles in production and also contain forms of pre-composed music material, in the form of presets, that help to shape musical practice. Presets are objects created when the software synthesisers have their parameters set to certain values, often in ways that aim to produce certain desirable sounds. These parameters are then saved and supplied with the software synthesiser when purchased so that producers have a fully-formed arsenal of sounds to create with ‘out of the box’.³²



³² These presets may also be used by other human actors in the creation of further pre-composed materials, as CHC suggests,:

CHC: Well, I do use some presets and stuff that – like Arturia, we bought Arturia recently and... you just get all of these synths that you don't have to do too much to them, because they sound really analogue... There's so many of them and so many presets within them that I can just flick through and use stuff. As long as I'm using it for loops, [and]we're not selling them as presets... we just use the Arturia synths to make loops with. (CHC interview, London, 8th February 2017)

*Fig. 5.3 Shows Arturia's software emulator of the legendary ARP 2600 hardware synthesiser. The emulator attempts to recreate the affordances of the original synthesiser. However, as the drop down menu shows, it also comes supplied with numerous presets which create specific sounds or effects.*³³

Although these presets help to constrain the sounds made by the producer, musicians provide the harmonic, melodic, and rhythmic material (in MIDI form) which is then synthesised. What these presets do is therefore provide shortcuts or starting points towards certain types of sound design that may be useful in a number of styles, as SF suggests:

SF: [I] use presets... and then tweak them a bit to make them sound different than what they were... having a framework works better for me than having nothing at the start, so that's why I'm using – I'm always using presets to give myself a bit of a direction.... [rather] than starting from scratch and totally tweaking my own stuff... I'm always searching for a specific sound to join my composition but it – I don't want it to sound the same like the preset sounds like, you know what I mean?
(SF interview, via Skype, 25th October 2017)

This idea of 'tweaking' is important as many producers noted their dissatisfaction with using presets as they were; this further underscores the importance of creative labour in the construction of authenticity, and highlights the extent to which authenticity arises from the *process* of production as much as its outcomes. In addition, these tweaks may help producers accrue cultural capital and gain recognition from their peers, as it is they

³³ Emulators are a sub-category of Software synthesisers that act as digital reconstructions of iconic hardware, meaning that the sounds they create may themselves be highly valued. A good example of this are the range of emulators that simulate classic Rhodes pianos or iconic synthesisers, which can create sounds crucial in jazz, hip-hop and neo-soul. These emulators seemed to be viewed slightly differently, as their role was often to reproduce these iconic sounds accurately, rather than acting as a vehicle for original sound design and 'authentic' expression. See Bennett (2012), Kaiser (2017), McIntyre (2015) for a broader discussion on the connections between analogue and digital musical technologies.

above all who have a sense of the work (or ‘tweaking’) likely to have been involved in creating certain kinds of sounds.

In fact, many producers seemed more comfortable using software synthesisers as starting points for creative practice (rather than samplepacks). They often used presets within software synthesisers to approximate valued sounds that they subsequently ‘tweaked’ and saved, adding these to their own extensive bank of presets. These ‘tweaked’ sounds therefore bridge the gap between preset approximation and idiomatic sound, allowing producers to build upon the knowledge of the human actors who designed the presets to create sounds more fitting to their practice. Software synthesisers therefore play a complex and crucial role in the circulation of valued sounds and the learning trajectory of producers, pointing towards the intricate, iterative relationships between the affordances of digital tools, and the ways musicians learn and create. My work also suggests that the modularity and complexity of software synthesisers mean that they continue to be useful tools throughout the learning trajectory. Unlike samplepacks, software synthesisers appear to continue to be useful as producers become more experienced. These distinctions lead to significant differences between the roles of samplepacks and synthesisers in the construction of authenticity, due to the differences between how pre-determined the musical materials involved are, and therefore the kinds of valuable creative labour that producers can undertake.

What this suggests is that there are a variety of pre-composed materials that may be useful for producers in helping them solve certain kinds of musical problems, and enabling them to progress along the learning trajectory. Pre-composed materials’ usefulness is therefore grounded in plugging certain gaps in the musical and technical knowledge of producers, even if these gaps are temporary (both within a particular composition, and as musicians advance through the learning trajectory). Depending on the status and positionality of a producer, the security they feel in their musical practice, and the role that pre-composed materials play, the use of these materials may be a closely guarded secret or knowledge they are willing to impart. In addition, the extent to which pre-composed materials are considered authentic by producers helps point towards how contested the construction of authenticity is, and how it is further complicated by the iterative and inter-connected processes by which pre-composed musical materials and experimental hip-hop are produced. In the conclusion of this chapter I look to summarise and nuance the notions of approximation, authenticity, and

creative labour that arise in my research, and try to understand the processes by which producers distinguish the value of different sounds.

5.6 Conclusion

TGL: For this... I'll... filter it [a sample] again... then using that to create textural changes and sounds, and I think that kind of stems from my kind of coming into music which was playing a lot first on keys then getting bored of what I do harmonically. At the time... being against sampling and then slowly coming around to it. Obviously, Grime samples a lot of music as well, so that was kind of my way in and then after a while it went – especially when I came across people like Flying Lotus and some, even Dilla a little bit, but more [with] these guys, it became about obscuring samples. This was until I heard some of the samples and literally found it was just lifted like from Indian films and something like that.

All: Yeah, yeah.

TGL: And I'm like, "Oh my God".

(Laughter)

TGL: Like literally, my whole journey is a lie.

(Laughter)

TGL: But I still do it, I still do it. It's definitely about obscuring samples, so in that sense I tend to do a lot of on putting like LFOs and different [things]... on samples and stuff... [so] you can't tell where it's coming from. (Roundtable interview, London, 11th December, 2017)

The passage above, taken from a roundtable discussion with some of my informants, highlights the relationships between the construction of authenticity, the centrality of

creative labour, the vexed nature of authorship, and the complex role of pre-composed musical materials. As stated earlier, authenticity is perceived by producers to arise in part from process (which may not necessarily be identifiable in completed compositions), and while, as the above quote suggests, certain records may be considered extremely valuable, discoveries about authorship can significantly complicate how producers feel about their authenticity. This buttresses the notion that authenticity has both authorial and idiomatic components. The extent to which producers feel their creative labour is crucial to the construction of authenticity means that the kinds of discoveries seen in the quote above can change how producers perceive the works of other producers and even iconic figures. Producers therefore find themselves in the difficult position of constructing authenticity through forms of musical decision making that balance the need to create sounds valued by real and imagined audiences, with a desire for personal authorship and a commitment to performing certain kinds of creative labour. This takes place in a context where producers are actively concerned as to the extent to which listeners (and peers) may be able to identify pre-composed materials of various types, if they are not significantly obscured. To conclude this chapter I will summarise and nuance the relationship between approximation and authenticity in pre-composed materials, before trying to understand what this tells us about the construction of authenticity in this scene more broadly.

Regardless of the type of musical sound and how it was produced, producers usually felt comfortable discussing particular elements in their own, and others', work involved in the production of status, authenticity, and cultural capital. What was perhaps less clear was the role of those musical materials that were not so central to idiom or individual expression, sounds whose authorship and production may be more contentious. What was therefore difficult to tease out were those subtle distinctions between valuable sounds, approximations of valuable sounds, and the role of the production process in these distinctions. In the construction of samplepacks it appears to me that for the most part the reproduction of truly valuable sounds is unlikely to occur. This is due to these sounds being kept by producers for their own work, or due to the fact that non-insiders, such as myself, may be those creating samplepacks. In addition, as the section on samplepack creation suggested, samplepack creators may not be overly concerned with the creation of authentic idiomatic material due to the pressures of the market. The impact of this is that if these tools play an important role in the informal pedagogy of experimental hip-hop, then they necessarily leave much of the educational work in the

hands of producers, and if they are subsequently used in productions, they sit uncomfortably in a liminal space between inauthenticity and authenticity. In this sense these sounds on their own are neither truly authentic expressions of idiom, nor of personal musicality, meaning that creative labour is required to transform them into ‘authentic’ musical objects; with these transformations subsequently changing both their aesthetic and authorial qualities (see Ratcliffe 2014).

The fact that producers seemed aware of the quasi- or semi-authentic nature of samplepacks, helps to explain why more experienced producers were less keen to use these materials, and the fact that if they were used then they were significantly obscured. This is a clearly important factor in the relationship between authorship and status, for if the producer’s sounds are not made by the producer, then it raises the question to *whom* the status they confer *belongs*. Sound design obfuscation is therefore a valuable tool to maintain status, through aesthetic transformation and the subsequent shift in authorship this provides, helping to explain why acts of creative labour are so highly valued by producers. This process is also evident in the ways producers spoke of software synthesiser presets and the importance they placed on ‘tweaking’ these materials or building their own. These actions not only obscure the role of the human actors involved in creating software synthesisers and presets, but by potentially hiding the use of musical shortcuts they enable producers to project both ‘authentic’ self-expression and a skillful command of the DAW. Additionally the fact that some producers are happier to use software synthesisers and presets ‘as is’, or only partially modified, appears to be because they provide the material traditionally seen as more *explicitly* musical, i.e. the material expressed in MIDI information such as melodies. In this sense, anxieties about authenticity are somewhat soothed through the use of software synthesisers, as regardless to what extent presets are manipulated, the MIDI information software synthesisers play is *authored* by the producer. Additionally, the fact that musicians spend huge amounts of time mastering these tools and building their own banks of presets speaks to the importance of saving the knowledge they gain this way, and the significance of sound design as an area for self-expression as producers become more experienced. However, the most experienced producers expressed a desire for a more comprehensive form of authorship, as the sole creators of the sounds contained within their works, meaning they more often saw presets (and the human actors who create them) as impinging on their creative labour, which they understood to include

complex forms of sound design and timbre manipulation (see Fales 2005, Strachan 2013, Demers 2010).

These dynamics help to emphasise the importance of the ways producers build on less than authentic sounds (such as samplepacks and presets), through close listening and social interactions, to build more authentic materials. This means that significant creative work is spent manipulating pre-composed tools to build more appropriate and personal ones. Building on this, the flexibility of software synthesisers, in comparison to samplepacks, makes them a tool that experienced producers are more happy to use, and learn with, throughout the trajectory. Software synthesisers can therefore play a specific role for many producers early on in the learning trajectory as they allow them (through play, listening, audiation, and trial and error) to develop the sound-design skills that later enable them to produce the sounds they desire from the ground up. SF helps explain how the use of simple software synthesisers was a vital tool in understanding the fundamentals of synthesis:

SF: Well I started with very basic, small synths that only had a few knobs on them because when I used big synths that had all kind of options, I would get lost because of all those options and didn't know what to do because I didn't have that, you know, that knowledge. So, I started with very basic synths that only have three or four knobs and then checking out what they did and then expanding to bigger synths and gaining knowledge about all these options and what they were actually doing. (SF interview, via Skype, 30th October 2017)

As SF suggests, the design and affordances of synthesisers can be crucial in the development of crucial knowledge, and as producers move through the learning trajectory the complexity of the tools they use (and ultimately learn from) increases. Such practices should perhaps be seen as existing within a long history of relationships between musicians and their development, and musical instruments and their makers (Bates 2012a, Rockwell 2009).

The role of these various technologies in the construction of authenticity and the learning trajectory helps to demonstrate not only the importance of non-human agents

in the musical practices of producers, but additionally the importance of the often unseen human agents that create these tools, who themselves draw cyclically on other tools and human agents. This network of actors plays an important role in knowledge transmission within experimental hip-hop; in the next chapter I will build on my work here to explore the social life of producing, and how human actors and online technologies are central in this process.

The Social Life of Producing and the Role of Online Technologies

6.1 Introduction

This chapter examines how the social life of music making shapes experimental hip-hop music. It explores the varied ways in which producers engage in musical and extra-musical activities; considers the kinds of social interactions involved in constructing the scene; and describes how these factors intersect. In this way it seeks to shed light on the way local interactions are embedded in a broader, translocal musical scene, and how producers navigate a complex music industry, social world, and digital media-scape (see Appadurai 1996: 27-48). In this chapter I inflect the word 'local' with a particular focus, referring to the interactions which occur between people that develop close musical and personal connections in a small number of locations such as bedroom studios, meaning that I understand this term as referring to a form of hyper-locality. I will begin this chapter with a theoretical discussion of the kinds of collectivity involved in the production of experimental hip-hop, and in particular how the term 'scene' may be used in framing the social life of production. Following this I will outline a number of key aspects of producers' social lives, before moving on to a discussion of the role of teaching and shared listening in the building of social bonds and knowledge transmission. After this I examine the role of the producer's early life and family in helping to frame later musical practices, in particular exploring the role of key figures in developing musicality, aesthetic appreciation, and norms about gender and music making. To conclude I examine the continuing importance of locality in the lived experience of producers, and the ways recent changes in technology may impact on this process.

6.2 Scenes and the Social Life of Producing

Within popular music studies, and to a lesser extent ethnomusicology, there are critical discussions about the ways of describing collectivities and music making in modernity, and in particular whether the term 'scene' accurately describes the lived experiences of musicians and audiences. The concept of the scene is used in different ways to describe various types of collectivity, and its meaning has become further complicated by its

extensive use in popular discourse.¹ My work builds on that of David Hesmondhalgh and Will Straw, who have, in a number of pieces written over the last several decades, outlined different ways of framing the social life of music making (specifically by using the terms ‘scene’ and ‘genre’). I will argue that while these frames each have their own strengths and weaknesses, ‘scene’ is the lens that best explicates the various social phenomena observed in my fieldwork, and reflects the way my informants speak of, and conceptualise, the musical collectivities they are part of.

Both in popular discourse and within the academy, ‘scene’ is a term which is usually deployed to draw together disparate areas of lived experience and levels of communality, evoking “both the cozy intimacy of community and the fluid cosmopolitanism of urban life” (Straw 2001: 248). For Straw this framing captures the complexity of the social life of music making in modernity, in which a myriad of styles may be interwoven within a particular site:

One may posit a musical scene as distinct, in significant ways, from older notions of a musical community. The latter presumes a population group whose composition is relatively stable... and whose involvement in music takes the form of an ongoing exploration of one or more musical idioms said to be rooted within a geographically specific historical heritage. A musical scene, in contrast, is that cultural space in which a range of musical practices coexist, interacting with each other within a variety of processes of differentiation, and according to widely varying trajectories of change and cross-fertilization. (Straw 1991: 373)

A musical scene can therefore be seen as an intersection in which different traditions and populations meet, and whose boundaries are navigated (Straw 1991: 373) in ways which may draw on both local and international dynamics. Scenes therefore may not be

¹ Consider for example the myriad articles that can be found in the Guardian’s archives when one searches for ‘music scene’ such as:

<https://www.theguardian.com/us-news/2019/mar/01/oakland-underground-music-scene-club-chai>, <https://www.theguardian.com/music/2016/feb/12/reggae-riots-history-bristol-music-scene-gilles-peterson>, <https://www.theguardian.com/music/series/inside-china-s-alternative-music-scene>.

so closely tied to place as historical traditions,² but rather shaped by networks of actors who form connections locally and internationally (Straw 1991: 381). This account of scene construction seems to demonstrate an explanatory power in regards to the musical practices I study, in which producers appear extremely engaged in events occurring in a number of international locales (particularly Los Angeles), while at the same time working to build local connections and their own form of experimental hip-hop beat-making. What this means is that scenes, like traditions, attempt to perpetuate certain sounds, ideas, and kinds of knowledge, even if these are widely geographically dispersed or drawn from multiple styles (Straw 2001: 255).

Despite the appeal of this term, the extent to which it can be efficacious in explaining musical collectivity is vexed, as Straw himself notes,

The place of ‘scene’ within cultural analysis seems forever troubled by the variety of tasks it is called upon to perform. How useful is a term which designates both the effervescence of our favourite bar and the sum total of all global phenomena surrounding a subgenre... (Straw 2001: 248)

This attempt to explain diverse and multiple social worlds is identified by some scholars as a weakness of the frame, pointing to “confusions in the way that the concept of scene has been used. Sometimes it is used to denote the musical practices in a particular genre within a particular town or city; sometimes it is used to denote a cultural space that transcends locality” (Hesmondhalgh 2013: 124). For Hesmondhalgh and other critics of Straw, ‘scene’ is a term that therefore invokes the local and the translocal without clearly differentiating between the two, and is therefore too vague to explain the complex social and musical dynamics that occur across a multitude of different sites. In response, Straw seeks to buttress the concept, proposing that scene is not a static construction, but rather is vector, a set of dynamics in flux (Straw 2001: 249). He suggests that certain kinds of movements, encounters, and repeated practices create the “grooves to which practices and affinities become fixed... In such encounters, and in their repetition, knowledges are reinvigorated and the peripheries of... social networks renewed” (Straw 2001: 254). In

² Although it is worth noting that diasporic traditions may be connected to multiple places at different times, see Manasseh (2004), Ramnarine (1996), Slobin (2000) among myriad examples.

this sense these repeated actions – from performances to file exchanges, and from the large scale and the public to the personal and the intimate – help to reify not only social connections, but also reshape the boundaries and alliances around scenes which are in flux. In contrast, Hesmondhalgh suggests that it is problematic to frame a ‘scene’ as a unitary phenomenon if it contains such a multiplicity of musical forms and practices, spread across locales (Hesmondhalgh 2005). For Hesmondhalgh a more appropriate term is ‘genre’, as he claims it enables us to think clearly about the ways in which community and style might be directly interconnected and articulated in specific ways (Hesmondhalgh 2005), albeit with the caveat that genres can “encompass huge areas of social and geographical space which can hardly be described as communities at all” (Toynbee 2000: 114 in Hesmondhalgh 2005: 34).³

In my research, I am also wary of the term ‘genre’ as to some extent it de-centres the formation of local, social bonds between musicians that are so crucial to my fieldwork (in contrast to the ways in ‘scene’ centres the social); as Hesmondhalgh suggests it “has the potential to refer to specifically musical forms of affiliation” (Hesmondhalgh 2005: 32). This is no doubt intentional, as for Hesmondhalgh communities in different places, and a different times, can articulate genre in a variety of ways, separating out the translocal and the musical (‘genre’), from the local and the social (community). This contrasts with his critique of scene, which, as suggested previously, does not clearly distinguish between local social bonds and musical tropes that can be translocal, instead bringing them together in a single term, meaning that, “the two major ways in which the term is used are incompatible with each other” (Hesmondhalgh 2005: 23). However, my fieldwork suggests that producers’ social and musical lives are not so completely shaped by genre boundaries (as noted previously, often quite vague within experimental

³ To navigate these tensions he suggests that while ‘scene’ invokes locality it often gets applied to translocal formations; in this sense he suggests ‘genre’ is more acute lens because it allows scholars to talk about the translocal while retaining a focus on locality and the specific ways the connections between genres and communities are articulated (Hesmondhalgh 2005: 35).

hip-hop),⁴ but rather by individuals who inhabit similar sites (both on and offline), albeit that these individuals are to some extent self-selecting on the basis of taste and aesthetic preferences. Producers also often created music in a variety of styles (or genres), usually under different pseudonyms, meaning that some were actors in a number of scenes simultaneously. In addition, producers often employed their talents to work for vocalists, creating instrumentals that straddled experimental hip-hop and associated styles such as neo-soul. Genre boundaries therefore appear less important than social ones, and while core actors within the scene were producers of experimental hip-hop, there were significant peripheral figures who moved fluidly between experimental hip-hop and other scenes like grime,⁵ supporting Straw's (1991: 373) contention that a scene is "cultural space in which a range of musical practices coexist", as noted previously.⁶

At this juncture I would suggest that the elusive nature of genre may present similar theoretical challenges to those that Hesmondhalgh raises in regards to 'scene' (in the sense of how to maintain clear distinctions if genre's boundaries are 'untidy'), albeit in the realm of the musical and the aesthetic rather than the geographic. It seems to me therefore that scholars must decide carefully how to deploy terms that can struggle to

⁴ This being despite the fact that scholars have foregrounded "the untidy, overlapping qualities of genre" (Born & Haworth 2018: 609-610) and suggested that "rather than such 'promiscuity' undermining genre theory, the existence of non-linear, non-exclusive relations between actors and mediations makes this into an inescapable condition of genre" (ibid.).

⁵ Dynamics reflected in other scholarship on hip-hop in London, see Rollefson (2017: 172).

⁶ A good example might be the fact that we can see Flying Lotus' *Cosmogramma* (2010) and Oscar McClure's *Compost* (2010) as part of the same scene. While they may employ some somewhat of a similar rhythmic sensibility and certain types of processing such as extensive side-chain compression (see Hodgson 2011), Flying Lotus' fusion of spiritual Jazz and cutting edge electronics sounds very different from McClure's work, which employs manipulated and roughly textured field recordings to explore the very margins of experimental hip-hop. Yet, McClure's album is released on Leaving Records, a key actor in the LA Beats scene and closely affiliated with Flying Lotus' Brainfeeder record label. I believe examples like this point towards the useful deployment of 'scene', which more closely describes these interconnections and 'grooves', rather than 'genre'.

contain both the geographically diffuse and stylistically ‘promiscuous’ nature of certain kinds of music making in contemporary life. In my work these tensions remain intractable, and my decision to use ‘scene’ is as much dependent on my own theoretical leanings as it is on the language used by my informants, who use the term to emphasise the social dimensions of their musical practice.⁷ As I suggest later in the chapter, this emphasis on the local may be a response to the conditions in which they make music, the ubiquity of social media, and popular ‘globalising’ discourses that surround the internet and the production of culture in the present (see Born & Haworth 2018).

Notwithstanding the difficulties that both Hesmondhalgh and Straw outline, I use ‘scene’ throughout this chapter to describe the complex local and non-local dynamics that I observe.⁸ My work considers a local part of a broader, loosely bound network, a ‘scene’, in which nodes may be connected in complex and unusual ways. Scenes like this one are therefore concerned with both broadly shared sounds and techniques, and particular local orientations, in this case a focus on styles that are crucial in the history of Black British music making (see Bradley 2013, Bramwell 2015). In this chapter, I am especially concerned with the kinds of person-to-person interactions that help construct and maintain this scene, a component part of both global experimental hip-hop, and electronic music making in London. My fieldwork is therefore focused on hyperlocal and intimate social interactions, and the ways wider cultural currents help frame these processes. Despite this I am aware that such a usage may be critiqued by scholars such as Hesmondhalgh. As he notes:

There is a danger, however, apparent at popular music conferences over recent years, that other researchers might use the term [scene] merely to denote the

⁷ It is worth noting however, that the deployment of such a term may be in my informants’ interest, as suggesting they are beyond existing ‘genre’ frameworks may allow them to frame their work as unique and individual, vital to the process of accruing cultural capital and attaining distinction (as suggested in the introductory chapter of the thesis in my examination of Bourdieu).

⁸ This is not to say that there is no efficacy to the term ‘genre’ (in fact it helps point towards a core set of aesthetic signifiers within experimental hip-hop), but rather that I feel the theory of ‘scene’ is the correct lens through which to observe this form of music making and the lives of my informants.

musical practices in any genre within a particular town or city. Such local musical practices are no doubt worth studying, but sometimes the term scene is used to make studies of particular locales sound more theoretically innovative than they really are. (Hesmondhalgh 2005: 29)

While I do not wish to fall into the trap that Hesmondhalgh outlines, I contend that by paying attention to the ways networks are formed, one can examine Straw's 'grooves', and how local and non-local actors and actions are caught up in the production of experimental hip-hop and its social life. The ethnographic methodology I employ, and its restricted sample size, mean that my research, like any other, is limited in its explanatory power. However, I hope that by examining in detail this fraction of a broader scene, I am able provide insights into what scholars may find in other locales, and even in other electronic music scenes. Throughout the rest of this chapter I examine the lived experiences of my informants, and explore what they can tell us about the scene and social life of experimental hip-hop production, and music-making more broadly in a complex and interconnected modern world. To begin this process I invite the reader into some of the key sites in which my ethnographic research takes place, and in which grooves and 'grooves' take shape.

6.3 Key Sites

When I arrive at MG's house for a session or an interview the routine is usually the same. First we grab a mandatory cup of tea, then we head upstairs to MG's studio, which he shares with his partner, also a musician and producer. It's a small room, so jam-packed with keyboards, MIDI controllers, a small drum kit, a sizeable collection of unusual hand percussion, and other miscellaneous bits of hardware that one can almost miss the wall opposite MG's desk that is full of vinyl, floor to ceiling. Before we even sit down at the desk, one of us has usually picked up a piece of a vinyl, triggering a sprawling conversation that moves from this record and MG's home studio to online sites. These conversations usually involve radical, tangential jumps that spin off unpredictably into ephemera, as we wind a path of obscure links between different producers and musicians. In the course of this ad-hoc musical hagiography, we skip between discogs.com and allmusic.com to check who is credited on a track one of us enthuses about, before side-stepping and exploring a web of other connected pieces by clicking through track after track on YouTube or SoundCloud, often drawn to those

with strange names or with thumbnails of old record covers. These conversations cover musical ground rapidly, and at an equal speed dart between a number of key online sites through the portal of MG's laptop, all the while situated in another vital site, his bedroom studio in South London.

As this piece of auto-ethnography suggests, there are a wide range of sites,⁹ both on and offline, that are central to social life of producing. Some of these are the social media platforms that are now almost ubiquitously embedded in daily life (see Cover 2014, Morrison 2014 for more), which enable producers to communicate with one another both locally and internationally. Usually these interactions occur either through the laptop in the home, or on a mobile device (see Goggin 2013). These devices are used to communicate and exchange files and other data, such as hyperlinks, through a number of different platforms such as Facebook, SoundCloud, Twitter, Instagram and YouTube. These different platforms allow producers to engage in a wide range of social activities that augment, and in some cases mimic, in-person lived experience,¹⁰ and are complicated in both the production of experimental hip-hop and the maintenance of the scene.¹¹ Crucially, these platforms allow producers to share music, which may serve a range of functions, including distributing valued sounds and records throughout the scene, building social bonds through shared musical appreciation, and performing versions of the self (Marwick 2013). These processes help producers construct networks, build social infrastructure, and develop musical practice, each a vital part of the process of scene construction. While earlier scholarly and popular discourse on the internet had a certain naivety, highlighting its potentially utopian qualities and capacity to bring users

⁹ I use the term sites here to refer to both on and offline locations, these could be particular social media platforms or websites such as facebook, which are accessible by many, or far more private spaces such as bedroom studies. These different sites have the potential to shape mediated and unmediated social interactions in significant ways.

¹⁰ As Morrison notes, “depending on your own position relative to this ever-shifting platform, Facebook ‘is’ an advertising medium, a public square, a place to play games, a place to nurture and maintain friendships, a digital photo album, a broadcast medium, and a place to document your daily doings” (Morrison 2014: 114).

¹¹ The ways in which online interactions mimic offline lived experience is a significant factor in the way in which the scene is gendered, as discussed later in this chapter.

together across different locales,¹² these discourses have been complicated by the increasing domination of the internet by a collection of major players, and the shift towards an internet dominated by a small number of social media platforms (see Gillespie 2010, Born & Haworth 2018: 642).

Within this environment, producers reported that while these platforms could be used to reach out to unconnected peers, the importance of these tools is more often in maintaining and developing existing connections.¹³ When connections were made with those previously unknown, common factors such as locality were often employed to establish initial social bonds. OB helps emphasis the importance of locality:¹⁴

Interviewer: How local do you mean?

OB: I'm talking South East London... it's the London scene, there's a lot of producers in South East London. We don't actually have a place to meet though, this is the thing, this is very much online. We know each other from places, we meet in odd venues but we don't have anywhere we actually go. (OB interview, London, 23rd February 2017)

In this somewhat contradictory statement OB both highlights the importance of locality in the scene, and notes that producers are mostly connected online due to the dearth of places for them to make music together. These social media interactions help to tie the scene together, supporting the local, in-person experiences usually conducted in the privacy of producers' bedroom studios. As I examine in more detail later, even though social media platforms can be used to form connections with strangers, it appears that

¹² See Hartley, Burgess, & Bruns (2013) for a detailed examination on the historical and contemporary dynamics of the web, and the discursive tensions and anxieties that surround it.

¹³ This may be shaped by changes in Facebook's affordances and the company's attempts to coax more 'content' from its users, and a greater number of interactions between friends (see Morrison 2014).

¹⁴ See see Allington et al. (2015) for more on the importance of locality in SoundCloud networks.

producers are more likely to employ these technologies to maintain their relationships with those they already know (who are often local). The lack of public sites involved in the production of the experimental hip-hop also points towards the importance of strong social bonds and local connections, as collective music making usually takes place in the intimate spaces of the home. While the mobility of the laptop allows for some musical practice to be done on the move, my informants usually had a home space that was the site of a majority of musical practice. While these bedroom studio spaces may not be the only ones practice occurs in – with professional studios also playing a minor role – they are often the most heavily used locations, and the ones in which a creative atmosphere often is most easily conjured.¹⁵ The fact that forms of collective listening, collaboration, and peer learning typically involve interacting one-on-one with men in bedroom studios, may be one of the reasons why normative modes of socialising may be more convenient and safe for some producers than for others, helping to reinforce gender norms within the scene (see section 6.7 for further analysis).

Another type of important site are a small number of venues from where performances are experienced by those in attendance, and in addition by those at a distance if performances are streamed. While performance often constitutes an essential part of the work done by other researchers (such as Butler 2014) and is an area of practice valued by producers, I do not cover these performances in detail as they sit outside the focus of my research, which is centred on composition, practice, play, and other quotidian activities that make up everyday musical life and the production, rather than performance, of experimental hip-hop.¹⁶

The role of mobile technologies and social media platforms means that the social life of experimental hip-hop occurs in a range of on and offline sites which are increasingly interwoven. In this chapter I examine the composite life-worlds these different sites create, shaping music making and the social for the producers that I study in ways that provide context for my more detailed examination of certain aspects of lived experience and musical practice in other chapters. In the forthcoming sections, I explore the

¹⁵ See Zak (2007) for more on the changing nature of the recording studio in recent history.

¹⁶ Even if to some extent these may be co-implicated (see Butler 2014).

valuing, teaching and shared listening that occur in these sites, and how such activities are shaped by both human and nonhuman actors.

6.4 Valuing

The ways in which musicians give critical feedback and demonstrate appreciation and value (see Allington et al. 2015) are a crucial aspect of the social life of music making across a wide range of musical cultures.¹⁷ Valuing is therefore an essential part of the dynamics of the field of cultural production (Bourdieu 1984), the accrual and exchange of cultural capital (Drott 2010), and ways in which “different forms of asset which may be taken into social worlds and social contexts, and which may be converted into economic opportunities, valued social contacts, or honour and esteem” (Bennett et al. 2009: 30). For emerging practices that do not yet have institutions that consecrate musical texts (see Silverstein and Urban 1996), these acts help to construct distinction (see Bourdieu 1984b) and circulate types of musical knowledge. While contemporary forms of valuing build on earlier practices (like those Drott describes), it is clear that the affordances of online platforms (Morrison 2014) shape the manner and speed in which these activities occur. Born & Haworth (2018) highlight these dynamics in their research when they describe many similar forms of online valuing or ‘mutual valorisation’. Valuing in the scene I study combines both traditional, offline practices and more modern ones shaped by the social media platforms in which they take place. In this section I examine online valuing activities and the dynamics they create, and I explore how these activities are dependent on relative status. Throughout, I consider how the affordances of SoundCloud enable producers to ascribe value in particular ways, and the differing importance producers place on these acts, highlighting how the most valued acts help producers with musical decision making and the creation of certain sounds, mirroring in-person experiences.

A key way musicians can demonstrate value is through sharing the music of others. While this could be done through a range of older practices, including playing valued music during DJ performances and on radio shows (see Chang 2005, Brewster & Broughton 2006 for more on this history) in addition to in-person interactions (as

¹⁷ See Drott (2010) for an extensive examination of gift economies and forms of valuing and reciprocity within music.

detailed in the section on collective listening below), social media sharing allows producers to potentially reach larger audiences than in these more temporally or spatially bound forms of sharing (especially for those without access to forms of more traditional media). These types of actions demonstrate value as they allow a producer to explicitly ‘rubber stamp’ a composition of another producer by disseminating it under their own name. In the case of SoundCloud, this connection is made explicitly, as ‘shared’ material appears on a producer’s profile almost as if it were their own composition. These actions therefore constitute not only a way of valuing the work of other producers, but also a way of curating and presenting one’s own profile and taste. Producers seemed intimately aware of these factors and often discussed the subtle interconnections between status, valuing, and sharing, as evidenced below:

OB: There’s stages... there’s almost gradings of approval that you get or evaluation you get from people. The first one is a play, that’s just basic... When I like it [i.e. click the like button]... that’s a signal to the people I know that – people who I follow, that I like this...

Interviewer: And, the key distinction is that it’s very easy for that producer to see that, it says, “X, Y, Z has liked your –“ it comes up as a notification.

OB: Exactly, yes, so... it reaffirms... that music as well by giving it another number on the likes... generally... the more “likes” you have, the more likely other people are going to listen. (OB interview, London, 23rd February 2017)

What this suggests is that there are key distinctions between visible and invisible actions. Those that can be observed help to support other producers, when others are shown this ‘like’ in their stream, and more generally by adding to the aggregate like ‘rating’ that can impact on how positively a general listener feels about the piece. Considered above the ‘like’ is an even more observable act, the ‘repost’, which places the reposted piece on a producer’s profile in much the same ways as if it was a piece they themselves had composed and shared (similar dynamics also occur on Facebook). Once again OB eloquently explains the value of such an act:

OB: You've got... like and then after that you've got re-posts and a re-post is almost... a badge for your profile is to say, "I like you so much that I'm going to wear you".

Interviewer: Yes, because it looks like it's yours almost.

OB: In a way a badge is appropriating your value but it's a good thing, it's saying... I'm making something part of myself and... that's a huge thing. It's something that you're willing to associate with someone else's art. (OB interview, London, 23rd February 2017)

This kind of re-presentation of compositions ties the cultural capital of one producer to another, an act that says 'this work is so valuable I will present it as if it were my own'. Such an act clearly has value, in particular if the producer sharing the work has a large, engaged following, enabling one producer to access the audience of another. In addition to the value it has to the producer whose work is shared, there are also potential benefits for the sharer, both in the demonstration of taste and distinction which may be valued by other peers, and reciprocal acts of sharing in the future. In this sense this form of sharing follows some of the logic of gift giving, as Drott notes, "what makes the gift transaction so effective in masking this self-interest... is the temporal deferral that lies at its core: unlike commercial transactions, where the quid pro quo is explicitly spelled out and usually realised straightaway, in the gift relation there is a gap between the act of giving and reciprocation" (Drott 2010: 68).

During my research what became clear was that forms of sharing are highly valued as they engage the cultural capital not only of the composer, but also of the producer sharing the material. In this sense, if producers curate their profiles badly they may suffer a loss of status, as they will be seen as not possessing sufficient aesthetic knowledge; meaning that the demonstration of taste is therefore a valuable form of performance (see Hennion 2001) which can lead to the accrual of cultural capital. Those who demonstrate good taste can leverage this type of sharing into status, particularly if they share little known material (see Prior 2013: 185-186), as they can become seen as a key source for discovering rare and valuable music. These

demonstrations of taste can be seen in a broader historical context, in the connections between the rarity of recorded music and its value in different musical forms,¹⁸ and in the importance of sampling diverse and little known records throughout hip-hop's history (see Schloss 2004). MZ helps to emphasise the importance of these curatorial actions:¹⁹

MZ: Yes, it's weird because I like to uncover things that I feel are undervalued and share them. There are a lot of tracks that I'll repost... how I used to do it was... I used to repost a lot of music stuff that was dope that had 100 views or - I just thought it was really cool and that's what I enjoyed doing. (MZ interview, London, 8th March 2017)

As this quote helps to demonstrate, the degree to which sharing, rarity, and status can be entwined is clearly understood by producers, and helps shape their interactions with their peers. For example, producers who are less well known may share the work of others, and then ask *those* producers if they can share *their* work in return. This kind of activity seemed to be looked down on by my informants as it was seen as a clear attempt to 'piggyback' on the status of others (particularly if the asker was perceived as having lower status). However, if a similar exchange occurred between two producers who knew each other, this would be seen as simply supporting a friend. These dynamics again highlight the importance of local social bonds, and the ways they are augmented by social media. MZ expresses his distaste for those actions that are considered problematic:

MZ: In Sound Cloud you get in to this messy world of 'repost game' and it's just - stay well away; I didn't get too involved in that but there's this thing where people repost and repost and this -

¹⁸ For example as far back as the earliest forms of soundsystem culture in Jamaica (see Veal 2007, Barrow & Dalton 2004, Bradley 2001)

¹⁹ As Drott suggests, these dynamics between rarity, discovery, and curation are caught up with the inner workings of gift economies, "this is a function of the gift transaction: not only does the discovery of some overlooked genius attest to the critics powers of discernment, but the low probability of reward makes the gift of artistic consecration appear all the more altruistic" (Drott 2010: 72).

Interviewer: I don't know what [repost game is] – explain?

MZ: Yes, basically because with the whole SoundCloud community in the early days or earlier days... it was a case of, “Who can you befriend who has a lot of followers?” so you can get him to repost your shit basically, so I hated that and that's why I was very wary of a lot of producers... because... this whole reciprocal reposting is just so pointless. (MZ interview, London, 8th March 2017)

The opprobrium reserved for these producers appears significant as it seeks to prevent important forms of sharing and valuing being undermined.²⁰ By sharing works, producers can gain different types of capital, for example, sharing the works of those of significantly higher and lower status can demonstrate taste and distinction (in the sense of knowledge of the canon and knowledge of the recondite respectively), while the act of sharing works by intimates, or those of a similar status, can help strengthen social bonds.

In addition to sharing and liking, another important act of valuing is commenting, which can take place on a number of social media platforms. The affordances of SoundCloud in particular suggest commenting could be extremely valuable, as they enable time-coded feedback, which can enable public conversation about certain musical features. However, while I have observed this was a central practice earlier in SoundCloud's life, of late the integration of social media platforms seems to have led to

²⁰ In addition one can see this as part of a pervasive discourse around art, in which certain types of self-promotion are seen as crass, or as undermining the value of creative practice. As Drott notes:

The upside-down economy of the art world imposes constraints upon artists, even as it helps to maintain the notion that they are engaged in a kind of sacred calling... Above all, they are expected to visibly renounce the pursuit of material gain, with their only reward being the personal satisfaction that their creativity affords (Drott 2010: 66-67).

a decline in this practice (as reported by my informants), and a move towards direct messaging (at least on SoundCloud). Perhaps an exception to this rule might be when one wants to ascribe value to a high status individual. Here, producers perceive that these individuals probably receive too many direct messages for this to have efficacy, and additionally note that this kind of interaction may not be an ideal way to navigate differences in status. In addition, some producers also suggest that specific, quantifiable differences in status may play an important, albeit uncomfortable role in these interactions:

LA: Yeah. I usually, what I've noticed is that if you send a message [to a producer] who's got fewer followers than you do, they always respond but if you send it to someone who's got more followers than you they rarely do... or are at least if people are in the same ballpark, because people look at it, look at the number and they put a value in it and ... if you're kind of in the same realms, they might respond to you but if you're way lower they might not respond to you. I don't like that attitude. (LA interview, London, 21st August 2017)

In such a context, where peers may make very particular judgements about relative status based on the size of a producer's online following, it may be difficult to form bonds with strangers or those who are not local, and leaving public comments may be one of the few acceptable ways of ascribing value to non-intimates (as more personal interactions may not be possible due to these differences in status). This also helps to highlight one of the crucial differences between messaging and commenting. On SoundCloud, direct messaging, as on many platforms, is invisible. Due to its private nature it forms a very different approach to demonstrating value, as rather than being a form of public display, this practice depends on the content of the message. Direct messaging that engages in specific ways with a particular track or set of sounds is highly valued, as it demonstrates time spent considering the music of others, as opposed to other forms of valuing that require less of a time investment (see Drott 2010: 68 for the importance of time as a resource in gift giving). In fact this form of direct messaging may be seen as the most valuable form of online social interaction, as SF suggests:

SF: For me... it's really important if someone tells me... the way how you mixed this sound or... how this sounds [is] so interesting... I really appreciate that.... it gives me a lot more positive input than just someone telling me that a track is good... So, that's why I am telling people, the other producers or musicians, detailed information about why I appreciate a certain tune. (SF interview, via Skype, 7th November 2017)

Because of their invisibility, what matters in these messages is their content, as SF suggests; in this sense they are not a public form of valuing where one may have more ambiguous motivations due to the fact that public actions can be leveraged into social distinction. The potentially less self-interested and more artistically 'authentic' nature of these interactions may be why they are seen as more valuable. Messaging also allows for far more in-depth musical discussions that may more closely mirror in-person interactions which are highly valued, such as when producers listen together to each other's work in person and comment on its strengths and weaknesses (as I discuss later in this chapter). Discussions here may go into extensive analytical detail about compositional decisions, such as the kinds of sound design used, and why these may be seen as particularly successful. In addition, producers suggested that if peers talked about the different kinds of decisions *they* might have made in a particular composition, this demonstrated a form critical engagement that was considered invaluable. These interactions can help producers to develop and refine their own decision making processes as SF suggests:

SF: So, you have a production cycle. You'll create a track, but you have so many possibilities to create a tune and you have the possibility to process a sound over and over again and you have so many options to choose from, it really helps to get that feedback to... as a live musician, you create music and then it's gone sort of. But as a producer, you can look to your screen for days... You will have a lot more time to listen back your stuff and going over it, over and over again, so when you get this feedback from someone, it really helps you... to end this circle. (SF interview, via Skype, 7th November 2017)

SF's perspective helps underscore the role of peers in navigating the composition process, and what Duignan, Noble, & Biddle (2010: 31) call 'option dilemma' (as noted previously), in which producers can be overwhelmed by the DAW's myriad affordances. These forms of feedback can help to improve producers' creative practice and lead to changes in status. By this I mean that feedback may lead to changes in composition outcomes that may be more appreciated by peers and audiences, which in turn may lead to changes in status. These forms of direct messaging can therefore significantly strengthen social bonds, even normalising differences in status between producers, as OB suggests:

OB: For me... I want someone to literally take my music apart, piece by piece, and show me where I'm going wrong; I want that and that's what I do to other people because I think that's the best way to grow... I think in a way it might be the highest form of giving value to almost say to someone.... "I actually see what you're doing and I really like what you're doing but this is how you could be better" and it's almost like saying "ascend to my level in the hierarchy". (OB interview, London, 23rd February 2017)

This notion of 'ascension' vividly demonstrates just how significant direct messaging can be, pointing to its importance as a method of demonstrating value, its role in the development of musical practice and decision making, and its ability to influence musical hierarchies within the scene. This kind of shared analysis is just as valued in person, and producers suggested that these forms of local interaction were in fact preferred. This is due to the fact that they found the nuances of communication easier to handle in person, and felt both that they were more likely to have honest dialogues and that their critiques were less likely to be misinterpreted.

While many of the forms of valuing discussed in this section may have some sense of selfishness, i.e. that inexperienced producers may one day have great success and remember who helped them along the way (see Drott 2010), a number of my informants believed these practices, particularly at a local level, could only have a positive impact for all individuals involved. In this sense one can perhaps see these actions as part of a process by which producers attain the internal goods of this musical

practice, in addition to the external goods of cultural, social, and financial capital (see Banks 2012: 70-71 after MacIntyre 2007). This means certain types of interaction may support the development of musical practice within the scene more broadly, providing a balance to selfish motivations for external goods and status. Thus, artistic interactions do not only produce cultural capital and revolve around agonism in the classic Bourdieusian model; they can also help to produce community. Valuing is therefore a process in which multiple motivations and complex interplays between status, social bonds, and aesthetics play out, and while these online forms of valuing are important in bond formation, I would argue they augment and support forms of local action which are even more significant, such as peer-learning and teaching. I explore these in the next section.

6.5 Teaching and Peer-Learning

In this section I explore the role of teaching in producers' lives, and how it is shaped by social connections and relative status, leading to a number of different types of knowledge exchange. These activities vary from more formal methods, to types of peer-learning, that are described in vivid detail by Lucy Green in her research:

Another significant aspect of peer-directed learning and group learning, which occurs both in the form of casual encounters and during group interaction... is unlikely to be recognized as a learning activity at all. This aspect involves talk – endless talk about scales and harmony, techniques, rhythms, metres, styles, approaches to performance, music history, instruments and equipment. (Green 2002: 82-83)

While teaching and discussion between producers may focus on manipulating the affordances of the DAW in various ways, Green's description does point towards the way porous boundaries between different types of social interactions make knowledge exchange a complex phenomena to analyse. Despite this, I seek to examine a variety of social interactions to draw out the intersections between teaching, peer-learning, status, and the construction of the scene.

An initial consideration is not only how teaching occurs, but between whom it occurs. My informants suggested that while teaching may take place between two producers

who have already formed social bonds, this is far more likely to occur between individuals who do not have an existing relationship. In this sense, while a number of activities may occur between peers which may appear to constitute some of the similar activities as teaching (as suggested by Green 2002), these sorts of interactions are conceptualised differently by most of my informants, as skill swaps or ‘learning sessions’, as OB notes:

OB: Oh, yeah, yeah. Yeah, but what happens sometimes is I actually book sessions with other producers and we sit down and it would be like a learning session.

Interviewer: Okay, you think they’re someone who’s more experienced than you in a particular area

OB: Yeah, and they would like [have] more experience with mixing, more experience in mastering, more experience in drum programming and it was taking me through step by step in how they do it and what they do and they kind of download information and their knowledge into me. (OB interview, London, 28th January 2017)

Interestingly OB highlights, as other producers did, a focus on the more technical sides of production as opposed to the creative; although areas like mixing and mastering intersect with creative practice, and are crucial to creating valued compositions, they are not purely creative skills. It seemed less likely that formal and informal teaching would involve forms of knowledge exchange directly involved in creating valued sounds. Additionally it is worth noting that unlike the kind of teaching that occurs between producers and non-producers (i.e. vocalists),²¹ these sessions were not conducted in a formal manner and money was not exchanged. Even OB, who saw some of the knowledge exchange that he experienced as at least semi-formalised, made a distinction between producer-to-producer interactions and teaching that occurred with non-

²¹ Which many producers spoke of engaging in on occasion, doing so during, or as part of, the process for of producing for vocalists.

producers, where money was often exchanged, conforming to more traditional teacher-student relationships.

Most producers with whom I spoke appeared to have a subtly different perspective from OB, as they seemed to view direct knowledge exchange with their intimate peers as a far more informal process (in this sense a form of peer learning) than with non-intimates. While some producers had in fact taught those whom they didn't know, they were far more likely to be involved in informal knowledge exchange with those to whom they were connected, as BH suggests in regards to sharing the important information involved in teaching:

BH: I think that's less because I'm sort of protective over the information; it's more because I'm friends with TGL, and I like spending time with him, and so I'm more willing to... more inclined to spend the time explaining something in-depth to him.

Interviewer: Yeah, yeah.

BH: Or, vice versa, hearing something in-depth from him. (BH interview, London, 6th April 2017)

I suggest therefore that knowledge exchange between insiders is usually considered a different activity than teaching, even if these sorts of exchange can be mono-directional. Teaching is seen as something that occurs generally between non-intimates, non-scene figures, or musicians with radically lower statuses; in contrast, social connections facilitate a type of knowledge exchange that is usually conceptualised as something other than teaching. Many of my informants also suggested that when more formal teaching did occur it was more likely to be focused on elements that were either more wholly technical, for example mixing, or in the realm of the traditionally musical or instrumental (i.e. teaching another musician an instrument rather than the DAW). To some extent, it seemed that in regards to the production of idiom, and creative or innovative practice, producers needed to 'find their own way', and that developing

musical and social skills would allow them to enhance their understanding of idiom through informal knowledge exchange with other producers.²²

To be clear, it appears that the closer the social bond or status, the less likely knowledge exchange will be considered teaching in the formal sense. Producers possessing similar status may therefore see certain types of knowledge exchange and musical discourse as just part of the way they demonstrate parities in status and socialise with their peers.²³ In this way, status and social connections help shape the ways the producers exchange knowledge and structure the micro-economies (both financial and gift-based)²⁴ around music production. In doing so they help to demonstrate the limits producers may place on knowledge exchange, and highlight the places where perceived competition may overcome scene construction as a factor in social practice. These dynamics return us to the issues surrounding locality and scene discussed earlier in this chapter. As the foregoing section makes clear, locality is important to electronic music making in part because so much of teaching and informal peer-learning still happens face-to-face. Bedroom studios and other personal, intimate spaces remain crucial sites of knowledge transmission, and the local is still vital in the construction of the social bonds that help maintain the scene. Later in the thesis I will explore the construction of intimacy and the tensions between it, knowledge exchange and personal expression, but in the next section I'll consider listening, another shared practice that intersects with teaching and valuing, and explore its importance to producers, and the way it is shaped by different technologies.

6.6 Listening

²² However, the boundaries between these different types of exchange are to some extent permeable. Students may reach out to producers online for formal lessons, but as these relationships develop, distinctions in status may gradually fade, and social connections are established that can lead to informal knowledge exchange as the student moves into the sphere of intimates and fellow producers.

²³ However, there are limits to the kinds of knowledge exchange discussed above, and producers may guard certain types of knowledge and sound production even from intimates, as I detail in chapter seven.

²⁴ See Miyazaki (2010) for an overview of the critical discourse around gift giving.

Listening is a crucial part of musical practice, and different cultures engage technologies and their associated affordances in different ways to listen (see Clarke 2005, 2007).²⁵ For producers this is both a vital solitary activity, and one that they practice with their peers, meaning it can be an important shared activity that provides a space to talk critically about the music of their peers and of iconic figures. In particular, communal listening allows producers to discuss the musical decision making of different actors, and analyse the degree to which these decisions are successful, innovative, and idiomatic, as well as how they might be reproduced.²⁶ In addition to examining to iconic works, listening also provides a space in which producers can exchange feedback on their own works, introduce other producers to new sounds, or analyse new releases by less well known producers, impressing other producers with demonstrations of esoteric musical knowledge from within the idiom or without (see Hennion 2001). In short, listening can be an activity in which knowledge exchange, social bonding, and the construction of status overlap, as I detail in this section.

During my interactions with my informants I often noticed that communal listening helped bookend musical interactions. At the start of sessions this could help ease social connections between less familiar individuals, re-connect those who knew each other, and in particular help create the right atmosphere between producers and in the space so that creative musical practice could take place. As per my observations, shared listening appears to fall into two main categories, one in which producers listen to recordings of another, often famous or iconic, producer, and the other in which they listen to each other's productions. These interactions were usually conducted in radically different ways, although producers could move seamlessly between the two.

Listening to the music of others was often conducted like a chaotic, ad-hoc radio show or musical collage, with producers constantly recommending and playing new tracks before others had even finished, leading to a series of abrupt jumps and a cascade of

²⁵ See among disparate examples Kwame Harrison (2006) on the connections between tape cassettes, production, and listening in the Bay Area hip-hop scene, or Wiens (2014) on the role of technologies in listening, transmission, and reconstruction of musical practice and religious observance in Belgrade's Sephardi community.

²⁶ A type of listening observed in a variety of musical contexts, for example in jazz courses in American universities (see Wilf 2012).

associations. During these sessions, producers often demonstrated particular excitement when recommending something the other(s) hadn't heard, hoping to receive the approval of their peer(s), which would often be demonstrated by a rhythmic nodding of heads, particularly for those compositions that were perceived to be the 'heaviest' (literally head-nodders; see Iyer 2002). This kind of frenetic communal listening often involved a great deal of discussion while records were being played, examining the merits of different compositions, comparing them to work of the producers themselves, or assessing how they were to be placed within the canon of the composer's work, or of the scene more broadly. This process also engaged with myriad sites and tools, as producers would jump from their own collections on laptops and mobile devices to online sources such as Spotify or YouTube (or more recondite sites) to find the materials they wanted.²⁷ At the core of this kind of shared listening were demonstrations of taste, allowing producers to show off their knowledge of both famous and more abstruse figures within the scene, operating not only to establish a producer's canonical expertise, but also allowing them to make specific forms of recommendation to help other producers with their practice. The latter was a method of demonstrating value in person, as it allowed producers to make comparisons between the work of one of their peers and that of a more established figure, enabling them to point to ways in which musical influences could be absorbed and composition practice improved.²⁸

In contrast, listening to producers' own music had the potential to be a more serious affair, although there could be moments of excitement, usually at the beginning of a track if it made a powerful initial impression. A key difference was that producers would usually sit and listen to each other's work carefully and respectfully, often listening through to the completion of the track straight from the DAW. In fact, tracks often warranted repeated listenings, to enable direct comments and discussion on particular moments or specific decisions. If they were being played from the DAW, producers might even spend time together studying a particular facet of a composition. This often took the form of a producer demonstrating to the other how they would alter a particular aspect of the piece if it were their composition, one of the most direct forms

²⁷ In addition, this kind of listening occasionally involved showing other producers the original records that iconic recordings were sampled from.

²⁸ Using forms of deep listening and re-performance in their own time, as I detail in the chapter seven.

of helping producers with ‘option dilemma’. This kind of shared listening and deep engagement appeared dependent on strong social bonds, as it was clearly one of the most highly valued forms of interaction, in which shared listening, collaboration, and peer-learning were tightly interwoven. Collective listening is thus a vital tool in facilitating and improving collective musical practice and the persistence of social bonds. In short, this shared activity helps producers feel connected to their peers and the music they make, while also providing a vehicle through which vital critical discourse can occur. In this sense we can see producers deploying music as a ‘technology of the self’ (DeNora 1999), as a tool for not only their own learning, but as a part of building relationships with other producers, which in turn may lead to knowledge exchange and ultimately changes in status. These listening sessions, examples of important in-person knowledge transmission dominated by male producers, once again highlight the importance of gender and the local in shaping the scene.

What is worth noting here however, is the extent to which these local practices are shaped by online platforms such as Spotify (see Wikström 2013: 240-244) and YouTube. While the compositions that musicians share in these interactions may be collected from a number of sources such as other producers, record shops, or books, a key factor may be stumbling across new music on these platforms. This process of browsing, although guided by the actions of the producer who selects a specific route through the videos presented, takes place in the context in which the platforms’ recommendation systems are in part structured around the choices made by other listeners. In this sense, acts of collective listening may be shaped by non-local actors whose impact is largely invisible. Consider, for example, if a large group of people in a particular locale start making connections between an iconic figure and a new producer by repeatedly navigating between these artists’ videos. The nascent connections formed here may then begin to be experienced non-locally by other users, as these interactions can shape what producers are recommended algorithmically, and also what they may discover through secondary connections, for example through playlists.²⁹ Untangling shared listening is therefore complex; and as online and in-person communications become increasingly blurred, clearly distinguishing the differences between these interaction is progressively complicated. As noted earlier, while the person-to-person interactions of collective

²⁹ See Halavais (2013) for more on search, and the role of platforms and human actors in how one accesses data on the internet.

listening are profoundly local, taking place in specific London bedroom studios, they are thoroughly integrated with, and shaped by, global networks of circulation. These dynamics help point to how the different scales of social formation involved in the scene, from the hyper-local to the international, are profoundly interconnected. What this means is that even those actions that may appear local, such as collective listening, may be shaped by broader dynamics and cultural flows. This blurring of the different scales of social formation involved in the scene may also cause anxieties around the strength and authenticity of social bonds, which, as I discuss later in this chapter, may explain why producers are so keen to strengthen local social bonds based on unmediated interactions. In the next section I will build on this discussion of shared listening experience to explore producers' early life as a site of both musical and social practice, and how experiences of listening and teaching shape producers' later life and understanding of the relationships between music and gender.

6.7 Family, School, and Gender

During my fieldwork a number of unexpected threads emerged which helped to shed light on a range of musical and social practices. In particular it was fascinating how often early familial experiences, particularly those with fathers, seemed to have been formative, musically speaking, for the producers who contributed to my research.³⁰ At this point it is crucial to reiterate that these themes were clearly shaped by the identities of my informants, as despite my best efforts I only managed to get male producers to take part in my research.³¹ While I will develop strategies to engage with a broader spectrum of producers in future research, in this section I will explore the ways in which early life experiences and forms of masculinity shape musical practice (see Farrugia 2012 for more on gender in electronic music scenes). By examining these experiences I hope to explicate how later 'grooves' in the scene are patterned, and further, explore how the gendered nature of these experiences are part of a broader dynamic within

³⁰ These experiences offer a contrast to the expectations around female musicians, and how their involvement in music scenes 'should' be 'feminine,' for example restricting themselves to singing (see Green 1997). This is part of a much broader history of male-coded musical making, in which huge swathes of musical practice have been gendered as male (see Cusick 1994).

³¹ I discuss these challenges in more detail in my methodology section.

electronic music, in which those other than cis men are marginalised. In this section I start by examining producers' early lives, before exploring the ways these nascent musical experiences shape their adulthood, and subsequently the social life of experimental hip-hop.

As revealed in my fieldwork, many producers had fathers who were musicians or collectors of music, or encountered influential male figures in school or other familial contexts. In particular, these male figures appeared to play a crucial role in the developing musical tastes of producers, shaping early listening habits, and helping introduce producers to a wide range of musics and technologies.³² These figures were sometimes musicians, and on occasion helped to introduce producers to iconic figures within the scene,³³ as MZ recalls:

MZ: My dad got me into J Dilla, yeah... The two artists that he really forced down my throat in that sense were Dilla and D'Angelo, and I think everything else just spawned from there naturally... He used to always say about how Dilla was, you know, this sort of visionary and everything, and initially I didn't get it when I was like 14... But then as I found... Flying Lotus and Madlib and I traced it back a little bit... I could see the link between, say, Flying Lotus and J Dilla very clearly. (MZ interview, London, 7th February 2017)

Perhaps the most common theme that emerged in my fieldwork was that of a father figure who was a musical collector, and whose collection the producer began to explore at early age, usually with the purpose of learning instrumental language or for experiments with rudimentary sampling. These collections were crucial musical

³² This is part of process in which “as a result of the historical, discursive and material practices that frame technology – including music and audio technologies – as men’s interests, women’s positionality and mobility across popular music genres and within the popular music industry have been restricted” (Farrugia 2012: 21).

³³ These canons are also often overwhelmingly male, in part due to the fact that women have consistently been written out of popular music history (see Reddington 2003).

resources and continued to have strong resonances for many of the producers I spoke to, as this exchange with SF makes clear:

SF: My father has been of major importance in me growing up as a musician... He used to teach me to play piano when I was three or four, and he has always pushed me to dig into jazz and classical music. So one of the things I heard most when I started as a composer, as a producer or a beat maker, whatever you prefer, was that people said to me, like, “You have a really classical background as a producer.” And that has been because of his influence... Like it sort of grew naturally into my music. (SF interview, via Skype, 25th October 2017)

What this suggests is that aesthetic decisions made by producers, and stylistic niches they occupy within the scene, can be shaped by these collections and their incipient musical experiences.

In addition to early familial experiences, school was formative for many producers, as here they often came into contact with formal instrumental teaching and a production practice. Producers reported a number of key experiences such as learning the rudiments of production from musical technicians at school, and just as importantly meeting peers at school who were beginning, or had begun, their own journey through production (similar to processes noted by Green 2002: 79). Here, producers had embryonic experiences of audience interaction, critical listening, and discourse with their peers as they began to have some of the experiences crucial to the social life of producing. Producers recounted stories of swapping beats with their friends, developing the rudiments of musical, aesthetic, and technical language, and beginning the process of engaging critically with recorded music. Some producers became advanced enough that they began sharing their own early productions with their (usually male) peers (occasionally in different styles than their current practice), and getting feedback from other fledgling producers and their friends.

These varied formative experiences, usually not part of producers’ formal education, seemed to have an impact in centring musical practice on a number of particular areas. For example, those producers whose fathers were collectors rather than musicians, or

who had less access to instruments and instrumental practice, seem more likely to have shaped their practice around the collection and curation of pre-composed materials, the use of sampling, and certain types of sound design. In contrast, those producers who had more access to instrumental teaching (often a function of privilege), were more likely to centre traditionally ‘musical’ elements in their practice, such as more complex forms of harmony.³⁴

These experiences draw connections between fatherhood, masculinity, and music making in the lives of my informants. Although many musical practices around the world have traditionally been patriarchal and familial,³⁵ this is not a scene where such relationships are formalised. Despite this the role of fathers and male figures is perhaps not surprising as the scene grows out of two other that have been traditionally male-dominated – hip-hop³⁶ and electronic music (see Farrugia 2012). Additionally, father figures, either as musicians or collectors, were often engaged in musics that were also male-dominated, such as jazz, where notions of musicality and virtuosity have often been caught up with the presentation of certain kinds of masculinity.³⁷ Considering these factors, it is perhaps unsurprising that these producers framed music making as a way of communicating certain kinds of masculinity, inflected with their own personal, ethnic, and local identities.

More generally, it is possible to observe these factors at play in the broader scene online, particularly in the ways producers deploy images to present themselves and their music, which appear to fall into three major categories. The first of these draws on Afro-

³⁴ As SF suggests earlier in regards to the ‘classical’ sound of his productions.

³⁵ For example historically within dynastic Klezmer families in Eastern Europe see Strom (2002), Slobin (2002), and Sapoznik (2006), or Griot traditions in Mali (Charry 2000), albeit that some of these dynamics are changing over time, see Duran (2007) in the Malian case.

³⁶ See Miller-Young (2007) for a nuanced and extensive discussion on gender, pornography, sexuality, and patriarchy in hip-hop, and Rollefson (2017) for the ways in which hip-hop and consumer culture more broadly are co-implicated in the way music is gendered.

³⁷ See for example Toynbee (2013) whose discussion of the history of Black British jazz features an almost entirely male cast of musicians.

futurism (see Solis 2019, also Rollefson (2017) for the deployment of these sorts of tropes in a UK hip-hop context), presenting (usually male) people of colour placed in extraordinary contexts, using collage to combine images of space, African traditional dress, and radically different visual traditions such as Manga (see Johnson-Woods 2010), to present the producer as a part of imagined future. These images are at once radical and patriarchal, as although they often present a world view in which racial politics are radically transformed, they often still depict men in roles traditionally coded as masculine: man as the adventurer, technologist, traveler, warrior, scientist, etc.³⁸



Fig 6.1. This collage presents a sample of the kinds of Afro-futurist images and art that a selection of iconic and underground producers use to present their profiles or albums.

The second type of image connects the producer to the more quotidian aspects of everyday life, using photography to capture the musical objects involved in production (such as MIDI controllers or samplers), and while these are perhaps less obviously masculine, these technologies have historically been coded as male (see Farrugia 2012). The third category, however, in which female bodies in various states of undress are used

³⁸ For more on the ways particular forms of work and technology have been gendered in the recent past see Abbate (2012), Bix (2013).

to present tracks (see Miller-Young 2007) could suggest that these visual images are speaking to particular notions of cis-masculinity shared by both producer and the audience they imagine for their works. These images also circulate in online spaces that can be parsed as male, in particular when one considers the language used by producers on SoundCloud and in other forums (such as ‘hey man’, ‘thanks bro’, etc). These factors suggest that the production, presentation, and circulation of this music centres certain kinds of masculinity, and conversely marginalises other gender identities (part of a long history in electronic music: see Bradby 1993). For a number of my informants, this perhaps also reflects their early production and listening experiences, which were centred on styles such as grime, where discourses of hyper-locality and masculinity were prevalent (Boakye 2017).³⁹ During my fieldwork my informants spoke to these dynamics, and suggested they were part of wider currents in electronic music:

BH: Absolutely. I mean, music production in particular has historically been a bit of a boys’ club. It’s very, very difficult for women to break into the field, and it’s very, very difficult for women to be represented in the same way as their male counterparts in the electronic music world... Someone like Tokimonsta, for example, she’s spoken about it very openly. It’s been very difficult for her to not be seen as like the token Asian female producer. Like, the amount of times I’ve seen premiers of her tracks on blogs and things, saying, “Female producer, Tokimonsta,” that sort of thing. So yeah, I mean, in that sense it is a male dominated world and I can imagine very, very intimidating for women to try to enter. (BH interview, London, 2nd September 2017)

As BH suggests, the scene is part of a broader field of electronic music making and a socio-technical milieu which continues to be dominated by men, in which people with

³⁹ While these discourses are changing, it is worth noting that grime was particularly influential for these producers during their teenage years, usually between ten to fifteen years ago (see Rollefson 2017: 169-171 for more on grime’s history), when these discourses were even more prevalent than now.

other gender identities have been marginalised in cultural practices that are deeply engaged with technology (Abbate 2012). As Farrugia notes:

Feminist and cultural studies scholars alike agree that technology is not inherently masculine, but has been labeled as such as a result of socially constructed narratives, rhetorical devices and material practices. Over the course of the twentieth century such influences have narrowed the definition of what constitutes technology and systematically written women out of technology's collective memory. (Farrugia 2012: 20)

What these images and practices suggest is that this although this music may be produced in a broader cultural milieu in which greater attention than ever before has been placed on diversity and inclusion, this is a scene in which men and masculinity still dominate knowledge transmission, offline and online spaces, and music's social life. In addition, many of the modes of induction and knowledge transmission discussed throughout this chapter, such as peer-learning, listening, and teaching, typically involve spending time alone with men in bedroom studios, meaning that they may be safer and more convenient for those with specific identities than for others. Thus for my informants, experiences with other male figures were a vital part of their musical upbringing, initiating them into a whole range of social practices that continue to implicitly and explicitly marginalise other individuals with a range of identities. Although hyper-local, intimate social interactions help to reify these inequalities, they are shaped by far broader changes in culture, and the way music making is gendered locally appears to resonate with the dynamics in other parts of the scene, such as LA, which are also dominated by men.

6.8 Conclusion

The social life of producing is various, a complex web of off- and online interactions involved in the formation of the 'grooves' (Straw 2001: 254) that make up the scene. These interactions are shaped by technologies and social media platforms that are almost ubiquitous (see Gillespie 2010). The affordances of these platforms (see Morrison 2014), such as SoundCloud's various ways of sharing material, shape methods of communicating value and accruing cultural capital. From sharing links and liking, to teaching and listening, and on to formative familial experiences, these varied actions

help to create the social context in which knowledge transmission, learning, and the circulation of idiomatic sounds occur. Although these interactions are broadly similar to the those involved in the construction of music scenes in the past (particularly in regards to the way they are gendered), the rise of vast music databases, (such as YouTube) and the role of social media, has meant that some forms of collective musical practice, such as sharing valued music, can be conducted at a distance. Others, such as teaching and peer learning, appear to exist in rather more traditional ways, albeit structured by forms of relative status dependent on producers' success online. These changes contribute to a certain sense of instability in the scene, shaping the ways producers act in attempt to navigate a complex social, cultural, and technological landscape (Appadurai 1996: 27-48).

Despite these challenges, and perhaps because of them, my research seems to suggest that my informants are in the midst of partial turn towards the local. This perhaps reflects a move away from an earlier phase of practice over the last decade when social media platforms were in their infancy and there was still excitement, a perhaps utopian sentiment, about the possibility of communicating with producers all over the world. In a moment of political upheaval and a drastically coarsened online discourse, with concerns about the precariousness of important platforms like SoundCloud widespread, and the continuing difficulties of musicians to survive in an era of austerity and widespread music piracy, it is perhaps unsurprising that musicians are seeking to build solid social bonds and infrastructure in their own locales. In addition, such changes may also be examples of the real-world impact of the changing structure of the internet. In particular, the move from an early internet that was extremely various, to one dominated by social media platforms such as Facebook (Gillespie 2010), whose affordances privilege interactions with one's pre-existing connections (Morrison 2014), may have led to producers focusing on just these sorts of interactions and social bonds. This can be contrasted with an earlier era in which a great deal of activity took place on websites with different affordances, such as forums, that led to greater numbers of interactions with strangers.

However, this may not be a permanent move, and changes in wider social context and technology may lead to a non-local turn once again. In this sense we should be careful not to fall into making 'globalising' statements about the internet, which claim the web necessarily leads to certain types of uniformity and delocalisation (see Born and

Haworth 2018: 643). While online tools can be used to make connections with those who are distant, they can be also used to strengthen bonds with those are local, and the types of communication that may be the most valued are often those that approximate valued forms of in-person experience, such as detailed discussions of musical practice. What this suggests is that the formation of intimate, local, social bonds may remain highly valued, even in such a techno-cultural milieu, and untangling the relationships between intimacy and musical practice may be vital in understanding the transmission of knowledge, as I examine in the next chapter.

Learning the Idiom, and the Intimacy of Idiomatic Sounds

7.1 Introduction

One of the most intriguing events of my fieldwork occurred during one of the final meetings with an informant. This was a producer whom I had spent a lot of time with, both during semi-structured interviews and studio sessions. In a break from composition we started to discuss the kinds of technologies we would like to buy (in an ideal world) and use alongside the DAW. I mentioned the Roland SP-404, a sampler that is so popular among some beat makers that it has spawned a sub-scene of experimental hip-hop¹ where producers exploit its particular affordances to create lo-fi beats full of tape noise and spasmodically cut samples. Upon this, my informant said he'd like to show me a tool he'd made in the DAW to imitate an effect within the SP-404 that chops samples up in particular ways to create short rhythmic fills. To make this tool he had found the 404's manual online, located the page that showed the kinds of rhythmic patterns this tool deploys, and ultimately worked out a way to programme multiple combinations of Ableton's beat repeat unit (see figure 7.1 below) to create the same sorts of rhythmic stutters and glitches. We then used this effect on a simple drum loop, and I was amazed to find that I could start to recognise patterns that I had internalised from listening to so many other compositions where this effect was used. Here it was given a new twist by the beat repeat's slightly different affordances; it seemed like a form of magic to rebirth this tool in another context.

This event encapsulated not only my informant's technical brilliance, but also the ways technological affordances can shape musical practice in unusual and cyclic ways. His sharing of this effect, which as far as I'm aware is completely unique, reassured me of the strength of the bond we had made. This was a tool that would allow my informant to produce sounds that are valued within the scene, but in a way that was completely his own. It is unlikely that without spending hours in the studio getting to know him I could have built the kind of repartee, warmth, and mutual trust that enabled this exchange to take place, and as far as I am aware I was the first person he had showed his invention to. The specialist knowledge and work that goes into creating such a tool is not necessarily shared lightly.

¹ See <https://www.youtube.com/watch?v=CDPcmYGPRKA> for more on the relationships between the SP-404 and the LA scene, or <https://www.youtube.com/watch?v=SqxxtL8rIE0> to watch a live SP-404 performance from legendary producer DIBIA\$E.

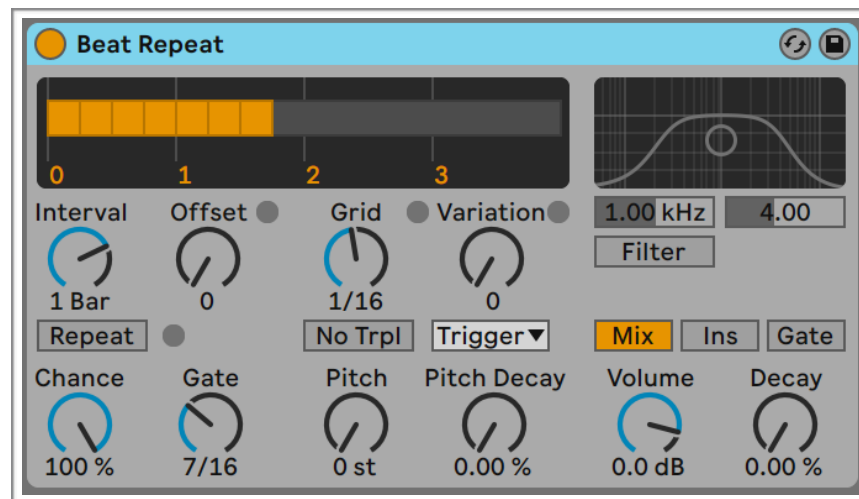


Fig 7.1. Shows one of the beat repeat units my informant used to recreate the sound of an iconic piece of musical hardware.

As this ethnographic episode suggests, for the musicians I study, composition is a fluid process in which producers use a wide range of objects, both digital and analogue, engaging with myriad pre-composed and improvised musical materials to create original and idiomatic music. In this chapter, I return to three of the thesis' overarching themes, namely, how idiom is learned, how the knowledge to create idiomatic sounds is produced and transmitted, and how these processes are shaped by networks of actors. The specific focus in this chapter, however, concerns how different types of intimacy shape the ways in which essential musical knowledge is shared, and how producers conceptualise certain sounds as possessing particular import. I deploy the term 'intimacy' throughout this chapter in two crucial ways. Firstly, I use it to refer to deeply personal social connections and the cultural context in which these occur, and secondly I employ intimacy in the sonic realm as it relates to the personal, and apparently authentic, nature of creative acts. Before I discuss these distinctions in detail I will examine the varied ways intimacy has been theorised, drawing particularly from the work of Lauren Berlant and Michael Herzfeld, in addition to other scholars who place themselves in dialogue with their work.

7.2 Theories of Intimacy

In regards to the first kind of social intimacy I outline, scholars often use this term to refer to certain kinds of connections which are deeply personal, including both platonic, non-platonic, and sexual relationships (see Berlant 1998), with varying degrees of

closeness. While some of the interactions involved in these relationships may occur only in private, in many cases they have important public or social components that also shape the development of intimacy (Giddens 1992). Fundamental to the formation of intimacy is communication, whether in public or private, and particularly a kind of communication involving mutual knowledge, narratives, or experience, often developed in a shared cultural context that enables profound kinds of connection. As Berlant notes, “to intimate is to communicate with the sparest of signs and gestures, and at its root intimacy has the quality of eloquence and brevity. But intimacy also involves an aspiration for a narrative about something shared, a story about both oneself and others” (Berlant 1998: 281). These shared narratives and experiences are therefore vital to the construction of familial, platonic, and non-platonic relationships, in which intimacy can be built.

Personal spaces and close relationships are therefore constructed within wider contexts framed by a variety of actors and discourses.² As Boym notes, “while intimate experiences are personal and singular, the maps of intimate sites are socially recognizable... intimacy is not solely a private matter; it may be protected, manipulated, or besieged by the state, framed by art, embellished by memory, or estranged by critique” (Boym 1998: 500). As Boym and Berlant both highlight, personal connections and intimacy are built within a shared societal context and culture that includes specific types of knowledge, experiences, ways of seeing, lexicons of physical gesture (Herzfeld 2009), etc. This is a form of ‘cultural intimacy’ originally conceived of by Michael Herzfeld in the context of ambivalent relationships to national cultures, and described by him as those aspects of shared identity that “provide insiders with their assurance of common sociality” (Herzfeld 1997: 7). Herzfeld connects this form of intimacy to a sense of collective embarrassment and “rueful self-recognition” (Herzfeld 1997: 6). In the scene I study this kind of collective embarrassment can be observed in regards to those activities or types of knowledge that outsiders might consider deeply ‘uncool’ or ‘nerdy’ (even if experimental hip-hop itself may be considered cool). Examples include, the hours spent trawling the internet and record shops for abstruse pre-composed materials, the in-depth knowledge of very minor figures within the scene and other

² However, it is worth noting that intimate relationships also work to generate these wider contexts (Berlant and Warner 1998). This means narratives about intimacy are the very basis of public culture, just as public culture helps shape intimacy.

styles such as jazz, the familiarity with obscure pieces of software or hardware, producers' obsessions with timbre and collecting field recordings, and the sheer amount of time spent alone as part of the production process. The relief producers often expressed during our interviews at being able to talk about particular activities, processes, or types of practice was palpable, as there were so few others, save producers, who they felt comfortable engaging with about these areas. Although, as this makes clear, Herzfeld's ideas have some relevance to my work, in this chapter I will deploy his term 'cultural intimacy' in a slightly different way, specifically to refer to the interconnections between a shared culture and the development of intimate, personal relationships. Here I also draw on Stokes' work on the connections between popular music, sentiment, and love,³ to point towards the different ways one can understand cultural intimacy, and its impact on the kinds of relationships that develop within cultures.

Examining intimacy reveals the tension between the collective and the personal, the role of individual actors and groups of actors in culture and intimacy, and the importance of particular intimacy discourses to national narratives (Berlant and Warner 1998, Stokes 2010). Herzfeld addresses this eloquently, noting that cultural intimacy "appears to be a contradiction in terms, compounded of both social closeness and collective formality... *We* may be intimate with each other; *it* [culture], surely cannot be the source of our intimacy. And yet it is. We, after all, make and remake it; it is not just our heritage but our plaything" (Herzfeld 2004: 317). Culture is therefore constructed by publics which are brought together in the very act of co-creation. Thus, the familiarity of 'cultural

³ Stokes connects his work to Herzfeld's succinctly, by developing connections between love and embarrassment in the following passage:

Herzfeld is not narrowly concerned with discourses of love, but... the failure of Turks to live up to their own high ideals about love is truly a source of embarrassment... To be Turkish and thus a second-class citizen of the world is one source of (implied) humiliation, eliciting well-known jokes and other kinds of self-deprecating but ultimately reassuring humor... Discursively speaking, it evokes common ground, core values, Herzfeld's 'assurance of shared sociality' (Stokes 2010: 33).

intimacy' develops in public and private spaces, providing a fertile ground in which other kinds of intimacy can grow.⁴

Building on Herzfeld's work, scholars have sought to apply his framework to societal contexts in which technological, social, and economic changes have increasingly expanded the importance of non-state and trans-state actors in public and private life (Shryock 2004: 9-10, Stokes 2010), in particular as the internet has transformed some of the dynamics between the public and private (Soysal 2010). Herzfeld has also revised his original work noting that "entities far larger than nation-states not only have their own zones of cultural intimacy but also generate the contexts in which the cultural intimacy of nations take shape" (Herzfeld 2004: 320). In the present, the distinctions between these different zones, and between the public and the private, are increasingly blurred, impacting on the ways intimacy is constructed "within the familiar contours of cityscapes and not so familiar cyber-spaces" (Soysal 2010: 376). Soysal's work suggests that not only has there been a growth of public forms of intimacy, but additionally social media has facilitated and promoted the sharing of the personal, and the development of intimacies in mediated public or quasi-public online spaces.⁵ Soysal sums up this change by noting that "it is as if the outside is the new inside, the new space where people socialize and engender intimacy. It seems that nowadays more time is spent out, in public, in the open spaces of sociality" (Soysal 2010: 377).⁶ In regards to my own work and the producers I study, forms of communication and sharing that previously may have been more private, for example the exchange of valuable recordings or the presentation of draft compositions, can now occur in public on a variety of platforms. Here, acts that may seem simple, such as posting a YouTube video on a friend's Facebook wall, may now be performances involved in complex forms of

⁴ At this juncture it is worth noting that while Herzfeld and Stokes utilise this term in reference to national cultures, I deploy it in regards to cultures and networks that exist on a significantly smaller scale (albeit within a broader context of a national culture).

⁵ It is worth noting here that while sites such as Facebook are often perceived to be public spaces in some ways, the fact that they are private companies means they ultimately function differently from the truly public sphere, and are constructed in very specific ways (Morrison 2014).

⁶ Berlant (2008) also explores the formation of various kinds of public intimacy albeit in an American context.

relationship building and affirmations of status that previously would have been far less publicly visible (see chapter six).

As Soysal demonstrates, social media is crucial to the construction of this multi-faceted, modern ‘outside’, a composite space in which the expression of the personal, and development of intimacies, may occur in ways that mark a distinct break from the societal practices which inform Herzfeld’s historical work. As he notes, “with facebook, I enter an extended arena of sociality where the reigning (traditional) conventions of disclosure are breached, all friends are trusted with private, inner worlds, and intimacies are exhibited in public without much ado” (Soysal 2010: 376). While it is possible that within the last decade some internet users have developed more nuanced approaches to navigating these online spaces, as my work suggests, what is clear is that the development of cultural and personal intimacies occur in a complex environment in which “contexts of intimacy and mass mediation now routinely overlap and constitute each other” (Shryock 2004: 9-10).⁷ This is an environment in which actors traverse a broad and diverse topology of mediated, private, and public spaces, building shared cultural experiences, knowledge, and interpersonal connections, that enable the construction of various types of intimacy (see Dueck 2007: 50).

My own work expands on this collected scholarship to not only define intimacy as the kinds of interpersonal public and private relationships that develop within groups that often share cultural intimacy,⁸ but also as a certain sense of personal expression connected to particular creative acts and sounds. Intimacy therefore takes on a double meaning, concerning both the *social* and the *sonic*, and the ways in which they are implicated and interconnected. When I use the term intimacy, therefore, I mean not only those personal connections formed between producers built on a shared cultural context, but also those categories of sounds that are considered to be personal and

⁷ Although such dynamics are not wholly new, they continue to be transformed by social media technologies and modern forms of mass mediation which can accelerate change.

⁸ It is possible that the use of the term ‘subcultural intimacy’ may be more acute in this context, however I continue to use the term ‘cultural intimacy’ throughout this chapter to place my work more clearly in dialogue with Herzfeld’s. In addition this is to maintain coherence with the other parts of my theoretical work where I deploy cultural rather than subcultural capital.

significant to a producer. These intimate sounds may play an important role in forms of personal expression, assertions of identity, and the construction of musical authenticity (see chapter five). These two types of intimacy are closely connected, as the sharing of intimate sounds may be vital in the formation of social bonds. Thus, within my work, the concept of intimacy covers personal and collective experiences of social life, music making, and sound itself. I use this term in such a way, not because it was part of a lexicon used specifically by my informants, but rather because it helps to describe the connections between sound, musical practice, technology, and the social that I observed in the field. Here, as I explore in detail in this chapter, there are connections between the sharing of certain files, technologies, and techniques, and the different forms of social intimacy that can develop.

What I suggest in this chapter is therefore that this composite conceptualisation of intimacy is vital in understanding the value that producers ascribe to particular sonic signifiers, and frames the different ways that specific sounds, and ways of producing them, circulate. Central to this chapter is therefore an investigation of why particular sounds possess value for specific producers and how factors – including perceived status, personal expression and identity, intimacy, and place in the learning trajectory – shape how and when producers transmit or re-circulate idiomatic knowledge and sounds. This chapter therefore explores the connections that are made between the sonic and the social, and how music making is implicated in the construction of intimacy and the sharing of knowledge, and vice versa.

In the first part of this chapter I will consider how experimental hip-hop is produced and focus on a selection of musical practices that are central to the creation of idiomatic music. I will then consider which sounds are important and why, and explore the relationship between intimacy and the circulation of valued sounds, before finally considering how various notions of intimacy are constructed. Throughout, I will examine the connections between the sonic and the social through the lens of intimacy, and in doing so hope to provide answers to vital aspects of my research questions.

7.3 Idiom and Scene

Flying Lotus' 'Tea Leaf Dancers' from his 2007 *Reset EP* makes use of a combination of sounds that many of my informants still employ. From the soundscape swathed in

white noise that opens the piece, to the unusual drum beat in which rhythmic events seem to arrive impossibly late, a central degraded organ pattern heavily side-chained to the kick drum, and an audacious, almost gravity-defying use of space, this legendary piece serves as one of the markers that announces the arrival of the scene that my informants form a small part of. However, due to the fact that this is an evolving music without a formalised canon, defining the boundaries of the style is challenging.⁹

The Oxford English Dictionary defines idiom as “a distinctive style or convention in music,” and it is the creation of this particular musical style with which the first section of this chapter is concerned. As with the style of any scene, various historic music practices and contemporary conventions intersect; in this case one can place this style not only within the lineage of Afro-Diasporic musics such as hip-hop and jazz, but also within more UK- and particularly London-centric genres such as UK funky, UK hip-hop, broken beat and grime (see for example Marshall 2014, Bramwell 2015, Allington et al. 2015, Bradley 2013, Rollefson 2017). As my informant TGL notes:

TGL: And then, so the music, I’m making now, I always think it’s rooted in a couple of things that I really do enjoy. Unfortunately, for a lack of better or a more narrower [sic] term, experimental or avant-garde is always there. For me it’s always kind of about pushing the boundaries of what it is that’s happening at the moment or what I enjoy, what I’m liking. And then those things now that I’m liking are like hip-hop music, and electronic stuff again, a broad term, well, as grime [which] is also considered a form of electronic dance music too sometimes. (TGL interview, London, 3rd December 2016)

As with many idioms, this is one with porous boundaries; it is a music in flux, and as TGL suggests, to some extent its aesthetic of loosening or experimenting with certain

⁹ The challenges I face are not new however, as Slobin notes, “style, though conventional, is never unitary at any point in the history of a tune, a player, or a tradition” (Slobin 2000: 122).

types of musical parameters (as discussed later)¹⁰ means that it can, like its hip-hop predecessor, easily engage and absorb a range of musical influences and ideas (see among a number of examples Baker 2005, Dennis 2008).

These factors mean that clearly defining the boundaries of this music is challenging due to its status as an emerging set of practices that currently lack institutions that define musical boundaries and demarcate canonical musical texts (see Silverstein and Urban 1996, Bauman 1996 for more on this process).¹¹ These boundaries are therefore fluid, and are shaped by networks of producers and other actors. Actors that have some power to shape these boundaries may be iconic figures and powerful labels, such as Flying Lotus and Brainfeeder, or those within the music business such as broadcasters, who have a platform to consecrate certain producers and thus help to mark the scene's boundaries. Within the UK such figures are rare, however, broadcasters and label owners, such as Giles Peterson, have a similar status, albeit that they act not only in this scene but also in many others. Lastly, within the scene, producers themselves may help to define the scene's boundaries, which are built on both social and musical connections. This helps underscore the dynamic boundaries of the experimental hip-hop scene and how they are contingent on shifting interpersonal relationships contextualised within broader transnational movements and the actions of iconic figures. In the following sections I will explore how idiomatic sounds are produced in such a fluid context, and lay out a selection of distinctive musical signifiers considered important at the time of writing, beginning with a set of essential rhythm and groove practices.

7.4 Groove and Musical Practice

Critical to idiomatic practice is the creation of certain kinds of grooves that organise time in unusual ways (see Abel 2014: 3). I follow Abel in defining groove as “the rhythmic feel of a piece of music, how the individual parts or layers of the music, particularly the instruments of the rhythm section, interlock and interact with each

¹⁰ As this chapter helps demonstrate, this is a style that affirms Keil's observation that “music, to be personally involving and socially valuable, must be ‘out of time’ and ‘out of tune’” (Keil 1987: 275).

¹¹ See also Dueck (2007) for the role of text-artefacts in associated processes, albeit in a different musical context.

other to create a unified rhythmic effect” (Abel 2014: 18). While elements of these grooves may be common, the precise nature of the patterns can vary greatly. As Fuhr notes, “a musical experience is always an experience of a particular piece or a particular performance; we do not, for example, encounter a ‘generic 4/4’ but rather a pattern of timing and dynamics that is particular to a piece, a musical style or a particular performer” (Fuhr 2013: 38-39). In the case of experimental hip-hop, specific programmed microtimings and the ways that “drum sounds are tightly controlled through their positionings in the mix” (Hawkins 2003: 94) enable complex musical patterns and variations to be composed.¹²

In an experimental hip-hop context these sorts of grooves often induce a specific bodily motion in the listener, as Iyer notes, “one often speaks of a musical groove as something that induces motion. In describing his aesthetic criteria for rhythm tracks, a colleague involved in hip-hop music distinguished between a musical excerpt that “makes me bob my head” and one that doesn’t” (Iyer 2002: 391). While this sort of movement is usually induced by a form of groove music that “features a steady, virtually isochronous pulse that is established collectively by an interlocking composite of rhythmic entities” (Iyer 2002: 397), the complex microtimings involved in some of the music of this scene seem to require a definition of groove that focuses on unusual and precise manipulations of placement, beat width, and pulse.

As this suggests, the attention to detail involved in these grooves both echo, and expand upon, different instrumental practices in which musicians deploy forms of repetition. To return once again to Iyer, he notes that “in groove contexts, musicians display a heightened, seemingly microscopic sensitivity to musical timing (on the order of a few milliseconds). They are able to evoke a variety of rhythmic qualities, accents, or emotional moods by playing notes slightly late or early” (Iyer 2002: 398). Within

¹² I turn to Iyer for a definition of microtiming, he notes that he treats “microtiming as an attribute of a musical note in a metered context. The microtiming of a note is measured as a positive or negative temporal deviation from the note’s ideal (i.e., notated) metric position” (Iyer 2002: 400). These deviations could also be from the expected or relative time, or more likely in the music I study as a deviation from the quantised grid that the DAW provides for rhythmic programming.

acoustic music these variations occur between musicians in the context of relative time, as Keil notes on his work on participatory discrepancies:

There is no essential groove, no abstract time... just constant relativity, constant relating, constant negotiation of a groove between players in a particular time and place with a complex variety of variables intersecting millisecond by millisecond. Abstract time is a nice Platonic idea, a perfect essence, but real time, natural time, human time, is always variable (Keil 1995: 3).

However, for music usually made by singular human actors in combination with multiple nonhuman actors against the backdrop of the DAW's 'abstract time', producers must find other ways to introduce these varied microtimings (or participatory discrepancies) between musical elements so as to make their music *groove*.

While I detail some of these methods below, what is crucial to note here is that these practices are in part an attempt to reconcile the somewhat cold and sterile atmosphere of solo digital music making with that of communal rhythmic practice which is inherently in flux (Keil 1987). While producers did discuss using layers of recorded loops to recreate the sense of multiple human actors and their associated participatory discrepancies, they also employed additional practices, exploring patterns and ways of working that deploy unusual and exaggerated microtimings that push at the boundaries of technology and the more regimented rhythmic practices common in other popular and electronic music styles (for example Techno; see Butler 2014). In doing so they emphasise unusual moments in the meter, in similar ways to instrumentalists employ accenting. An example of these sorts of idiomatic grooves can be heard in Flying Lotus' 'Zodiac Shit' from his 2010 album *Cosmogramma*. Here, the kick and snare patterns that arrive at 00:24 seem to be suggesting a feel with 2 beats in the bar, but in which the second beat always arrives slightly later than expected, helping to expand the perceived width of the second beat, an effect further enhanced by the hihat pattern heard in the second half of the bar. This is an effect that is common in a number of groove music practices, except it is highly exaggerated within this composition. Iyer points to the importance of the technique of delay in creating a sense of 'pocket' – the sense that the groove is 'locked' – noting that:

The delay functions possibly as a kind of accent, because it involves the postponement of an expected consequent. The optimum snare-drum offset that we call the “pocket” may well be that precise rhythmic position that maximizes the accentual effect of a delay without upsetting the ongoing sense of pulse. (Iyer 2002: 406).

Within the scene, elaborate uses of this effect create a heightened sense of risk or tension, in which the snare lands as late as possible while still maintaining a sense of groove. These microtimings seem to act as both a commentary, and a specific reaction, to the nature of musical practice in a production era dominated by networks of solo human actors and multiple nonhuman actors. These grooves replicate, exaggerate, and critique forms of liveness created by human actors. The liveness of experimental hip-hop, in all its ever-shifting, parameter-manipulating glory, is therefore an attempt to ‘humanise’ the nonhuman agents that producers engage with, creating a music that almost sounds ‘too human’, almost too ‘out of time’ (after Keil 1987).

7.5 The Production of Idiomatic Rhythm

While much of the academic work on groove has traditionally addressed music made by multiple human agents in live and recorded settings, in my research I examine grooves that are usually produced by single human agents in combination with the DAW and other technologies. In the following section I turn from a more formal discussion to explore the different ways producers create idiomatic rhythms. In doing so I provide a context for the discussion of musical and social intimacy that takes place in the second half of the chapter, in which I explore the impact of these different intimacies on learning and the circulation of sounds and knowledge.

The kinds of unusual rhythms discussed in the previous section can be produced in a number of ways; one central practice is by playing them in using MIDI controllers, and while this is not necessarily a method that takes extensive technical skill it is a highly musical technique. Other techniques may involve complex use of delays and sequencing which may require more technical expertise. During my ethnographic research my attempts to uncover the ways producers programme these rhythms exposed it as an area of disagreement and tension. For a number of producers this was an area they were not keen to discuss, felt able to discuss, or spoke about clearly, in part because, in general,

the musical language required is perhaps inaccessible, or insufficiently developed to discuss the micro-temporal complexities involved. The difficulty I had uncovering these musical practices may also point to a number of additional factors: first, if these are areas where practice is more ‘felt’ or embodied than intellectually ‘understood’, then informants may be cautious to discuss them with a researcher (particularly as they are so culturally valuable), and second, that my findings may also support Keil’s (1987) suggestions that these sorts of valued musical practices may also be kept intentionally unknown. As he notes, “I suspect that every culture has its own blinders that protect the participatory discrepancies and keep them as fully mysterious and as fully participatory as possible” (Keil 1987: 279). Such ‘blinders’ may also be an important part of the retaining the cultural capital associated with reproducing valued micro-timings and grooves. Surprisingly, although it was challenging to explore with producers, some did point to it as an area where they had received instruction from other producers, as SF makes clear:

SF: He [an unnamed producer] was the first guy who taught me how to place the snare and the hi-hat in a different... you know, not at the same – not at the same beat... I was asking him like, ‘Why is this drum pattern sounding more interesting than what I’m doing? What are you specifically doing here that it sounds like more of a, I don’t know, more of a clap snare than a static one?’ So, he basically zoomed in on what he did with the microseconds and how he shifted those, you know, those. He was producing in Fruity Loops, I was used to that. So, I could just see what he did there, so that’s something I visually learned from him.

Interviewer: So, was this in this sense, the effect that you’re talking about is the thing of using a lot of flanging, basically? You know, do you mean layering up lots of claps so it’s like boom (claps)?

SF: Yeah, that stuff, definitely. And also, if you would have five different snares layered together, he would place all those five different snares in different microseconds, so they would sound really, you know, really weird. So, that’s something I specifically learned from him. (SF

interview, via Skype, 7th November 2017)

In this exchange SF describes one of the ways he learnt to create similar musical effects to those described above in the Flying Lotus example, combining multiple different percussive sounds (in this case snare or clap sounds) at a single rhythmic event to create a sense of the pulse ‘widening’ at this point in the bar.¹³ Practices like this take the kinds of snare drum delay involved in the creation of ‘pocket’ (Iyer 2002: 406) and, via the affordances of the DAW, exaggerate and transform them to create complex and unusual grooves. Producers also often developed idiosyncratic physicalities to create these microtemporal delay effects, using highly exaggerated spasmodic movements during the process of composing drum patterns.¹⁴ While this physical method of producing rhythms is perhaps the most ineffable,¹⁵ it was also often spoken of as the ideal, or most valued or authentic way of producing these grooves. The value of this sort of *direct* form of rhythmic programming was connected by some to the ways in which musical practice and dance intersect, as OB suggests:

OB: Producers... make our bodies an extension of the music. When I’m making music, I cannot not move my head – do you see what I mean?¹⁶
(OB interview, London, 23rd February 2017)

What was clear from my fieldwork was that central to producers’ musical practice was a process by which these grooves were internalised through listening, programming, and instrumental practice, re-performed during composition and performance, and then often edited for particular effects of the kind SF details above. This form of practice required many hours of deep listening and re-performance as LA notes:

¹³ This can be memorably heard throughout Eskmo’s San Francisco (The Rhythm) from his Hypercolour EP, in which a kaleidoscope of different clap sounds stretch out the second and fourth beats of each bar to an almost astonishing extent.

¹⁴ On occasion these more ‘unusually’ timed elements were then ‘balanced’ by combining them with quantized elements. This process helped to provide a more consistent pulse against which these less conventional elements were set.

¹⁵ Or perhaps most protected, to return to Keil’s (1987) idea of mystery.

¹⁶ Clearly echoing Iyer’s informants.

LA: Yeah, I used to do that a lot, where I'd find a song that I really like and I'd play it in the headphone and I'd play keys, I'd play drums on top of it. So, I kind of tried to replicate the exact thing that's going on there and then mute the actual song and listen to what I've just done on top of it... You know, it never sounds (laughter) really good, but it can give you the direction if you like and it tells you, like it forces you think, 'Why did I like this in the first place?', and once you know, why did I like this track that I was listening to, why did I even choose to listen to it and try to replicate it? I think that's helpful because then you know what you're looking for, generally, but it also makes you, it's a listening exercise, so listening to different elements. (LA interview, London, 21st August 2017)

Here LA describes a process of attempting to exactly copy the grooves of iconic records so as to try and learn, and almost draw into his own body, the knowledge and musicality contained within them. These processes are also common in a number of musical scenes and educational contexts, such as those described by Wilf (2012) in American jazz degree courses; and like those musicians, producers use technology to access subtle musical information (see Wilf 2012: 36). Such practices allow a producer to absorb musical knowledge from one's musical antecedents, or as Wilf describes it, "the student ritually in-habits the master's creativity to experience and to reenact it as his or her own creativity" (Wilf 2012: 38).¹⁷

Reflecting on this practice of attempted replication, approximation and internalisation, and as per my observations, producers additionally spoke of the importance of utilising accidents and randomly timed elements such as completely nonmetrical field recordings (as discussed in chapter four) or what may have been perceived by others as wrongly timed material to create these micro-timings. By employing percussive sounds in unexpected places, grooves can be disrupted in ways that can create the feeling of extending or compressing parts of the bar. To create further rhythmic complexity some

¹⁷ These are also more technologically advanced versions of the kinds of emulation described earlier by Berliner in the chapter 'Getting Your Vocabulary Straight' in his classic work 'Thinking in Jazz' (Berliner 1994).

producers spoke of introducing shifting or phasing temporal discrepancies by creating loops of unusual lengths:

MZ: Often it'll be a case of just catching in that moment and then pressing record and then having that, and then sampling myself playing something and then putting it where I want it to go... I think for me, the improvisation comes with... (Pause) It comes within the parameters of the loop or the section. So what I try and do is – say if I make a 4.32 bar loop and then I've got that looped maybe four times... I try and make sure that there's some variance or something that sounds spontaneous in every loop or in every section of the loop. (MZ interview, London, 7th February 2017)

Here MZ points towards the importance of variation in the production of grooves, and how, by employing techniques such as combining loops of unusual lengths, producers can create a valued sense of constant flux and fluid pulse (or variance and spontaneity) that I refer to as liveness.

A final way of producing these rhythms, again suggested by one of my informants, is to use either septuplet or quintuplet patterns in combination with more straightforward kick and snare configurations to create polyrhythms that in combination create unusual grooves. These polyrhythmic combinations help to create the shifting senses of pulse width in which the temporal width of different parts of the measure seems to expand and contract. In this context, the complex hi-hat pulse makes the placement of the kick and snare patterns seem constantly like they're battling time as the two senses of pulse shift in and out perception. These effects appear particularly potent as they combine unfamiliar complex rhythms with the kinds of more straightforward funk and soul-based rhythms familiar to listeners of hip-hop (see D'Errico 2015), meaning that power of these shifting widths in part rises from confounding listener's expectations of a more straightforward four beats in a bar.¹⁸

¹⁸ A fantastic example of this shifting temporal width being created live in performance can be found during a live performance of the Miguel Atwood-Ferguson Ensemble's performance of J Dilla's Take Notice from 2010 and featuring jazz luminaries such as Kamasi Washington (see <https://youtu.be/Jw3UfR7C328?t=436>).

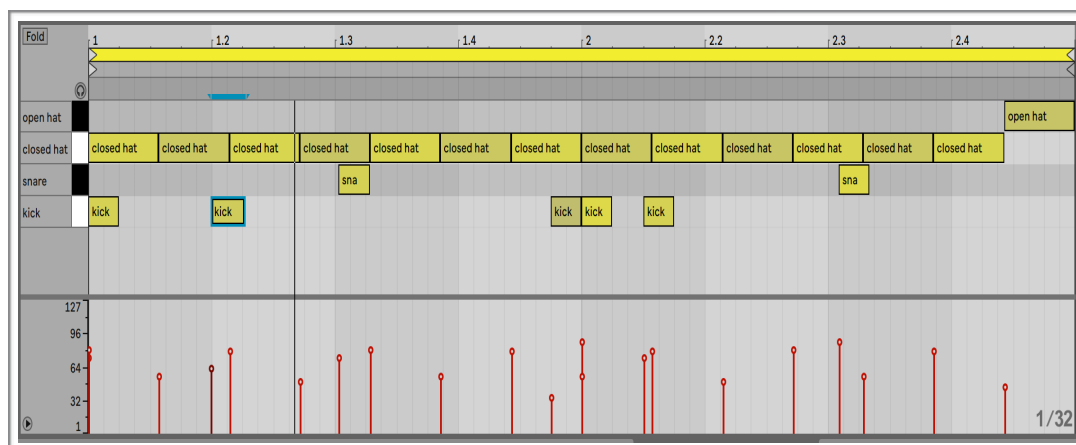


Fig 7.2. Shows a kick and snare pattern in four set against a hi-hat pattern with seven in the bar to create the groove. Note also the timings of the snare, which are placed slightly after the third beat of each bar to help maintain a sense of ‘pocket’.

This excerpt of a conversation with my informant MG helps to highlight key aspects of this practice:

MG: Because the other thing about it is the reason ... at least to my mind, the reason a lot of those interesting rhythmic tuplet things work so well... You know, is the whole thing of pushing and pulling the beat. But then, obviously for that to work something needs to be on the beat in order to be pushed or pulled.... Or even think... about it in terms of ... like what’s the anchor?... So, what I’ve been doing recently is to start off with just ... something which is just very on the grid, you know, and then working around that. And even – it could be like, you know, a septuplet or quintuplet groove, because you know, it could still be on the grid. (MG studio session, London, 3rd November 2017)

What MG suggests is that producers can use straight, quantised septuplet and quintuplet patterns as the basic pulse against which to set simple-time programmed kick snare combinations. However, it is worth noting that this practice was contentious, as when I demonstrated it to other producers, some suggested that though it was interesting and required more exploration, that a strictly quantized feel for these septuplets didn’t ‘feel’ quite right either, and that microtemporal tweaking was required to make these patterns groove more. This tension between human and machine rhythms points to an area that

requires further attention, and perhaps different methodological approaches, to get closer to understanding the interrelationships between what producers do and what they report.

In this section I have examined a number of rhythm techniques crucial to the production of experimental hip hop. In the following section I build on this to examine other areas of musical practice central to producing idiomatically. In doing so I provide further context for the discussion of musical and social intimacy that occurs in second half of this chapter.

7.6 The Idiomatic beyond Rhythm

The ability to produce certain kinds of timbres and noises is another important part of idiomatic composition. A good example might be the creation of ‘warm’¹⁹ analogue synths sounds (often, but not always, created in a digital context) the aestheticisation of which is also common to a number of styles such as house (see Hawkins 2003: 85). These sorts of sounds can be found in the work of Mndsgn., for instance, the analogue sounding bassline that arrives at 0.06 in the track ‘Question’ from his 2011 release ‘NoMaps’. The warm, degraded, and faded synth chords that arrive at 0.12 on ‘Deviled

¹⁹ It is worth noting that this ties into overarching aesthetics and discourses in hip-hop that value the ‘warm’ sound of sampled vinyl recordings, as MZ notes:

MZ: Yes, I think texturally I will look at people like Knxwledge and Mndsgn. for that dusty texture— it’s just – it sounds like they’re just moving around, there’s just movement, there’s a lot of shuffling and it sounds really raw.

Interviewer: Yes, there’s a physical –

MZ: Yes, 100% and I think that comes from the whole vinyl – the relationship between the producer and the vinyl, that’s where that becomes a link where the sound of vinyl itself is very warm, intimate and I can tell that they’re trying to recreate that sort of feel from their music. (MZ interview, London, 8th March 2017)

Eggs' from his 2019 release 'Snaxx' are also a quintessential example of this sound, recalling amateur and low fidelity recordings of an earlier era (such as the 1980s), but set alongside unmistakably modern drum programming and shaped by an experimental hip-hop aesthetic. Sounds like this can be constructed in different ways, by using external hardware, found sounds, bit crushers, noise generators, amp emulators, and other tools to create forms of analogue complexity, or to simulate this effect. One technique suggested by an informant is detailed in the exchange below:

Interviewer: Okay. And so, you think there's something about the aesthetic of that hardware thing that you find very useful for getting – for shaping the aesthetic of all the sound objects that you use.

MG: Also, tape, cassette tapes.

Interviewer: Okay, so you record something onto cassette tape and then back?

MG: So, yes. So, sometimes it will be just the final product. Other times it will be just individual elements because there's a certain – just because of physics, laws of physics. Tape, the way tape behaves is still one of the things that hasn't been accurately replicated in the digital realm because a tape is not ones and zeros and vice versa. So, I think tape – I mean like because obviously digital emulation of things has gotten, you know, really, really good, but I think tape is still one of the things that is just not there yet. You can only get a tape sound from a tape. (MG interview, London, 1st December 2017)

In his production process MG therefore engages both digital and analogue nonhuman actors, exploiting their varied affordances, to create timbres that are particularly valued.

Both the rhythmic practices outlined previously, and the use of 'noisy' digital and analogue sounds, help to create a musical aesthetic that, while wholly embracing digital practices, seeks to centre the human agent, embracing the unpredictable and the irreproducible. LA's remarks here suggest that there are underlying aesthetics that connect the production of noise, human temporal discrepancies, and the timbres of field recordings:

LA: Yeah. I just like the acoustic and the kind of hum that you have, the kind of imperfect... what's the word... imperfect, so you've got some noise in the background... You screw up that one note that you wanted to play, you can hear your fingers move... In some tracks, I can hear my girlfriend in the kitchen and it's like you can hear some kitchenware clanging against each other somewhere in the far background. No-one can probably hear that, but when I'm listening carefully... or I can hear my name shouted in the background. I just like to keep those there because it adds character. (LA interview, London, 10th July 2017)

This sort of imperfect character (see Keil 1987: 275) is highly valued by actors within the scene, and is part of an aesthetic that values the timbral qualities of analogue music technologies, as well as forms of liveness that are predicated on flux, temporal transformation, and a kind of 'authentic' expression that captures particular moments of lived musical experience.²⁰ Idiomatic uses of sound design and timbre can be heard on the track 'Accelerate' from Dakim's 2016 album *Soap*, in which, aside from the percussive elements, the whole track seems to have had the high frequencies filtered, giving the piece and the core synth parts a woozy, analogue feel. In addition to this, the whole piece seems to 'wobble', an effect achievable in a number of ways, but often created by passing musical material through a delay with a short delay time that is constantly changing infinitesimally (this could be controlled by a low-frequency oscillator). If these delay units are set to 'repitch'²¹ then the musical material passing through them keeps changing in pitch slightly, mimicking the kinds of chorusing and pitch 'drift' that can occur in vintage hardware devices, particularly tape.

²⁰ In this sense these musical practices return the 'life' back to digital sounds (see Christopher 2015: 211), part of a larger process of creating a complex, multi-layered form of liveness that engages musical practices that employ nostalgia, irony, and pastiche.

²¹ So changing the delay changes the pitch, akin to slowing down a vinyl record ('repitch' is the name of this setting on Ableton, other DAWs may use different terminology).

While these sounds may emulate historical instruments and recording techniques, the affordances of the DAW mean that they may be open to manipulation impossible in previous music contexts or outside of the DAW (Brøvig-Hanssen and Danielsen 2016). These manipulations are good examples of the ways in which producers engage with and transform historical materials. They are not only implicated in the production of idiom but additionally in production of sounds considered personal, individual and intimate. In the following sections I explore the relationships between these musical practices and the different types of intimacy outlined in the introduction to this chapter. I begin this process by examining why different sounds might be important and valued, before moving on to explore the relationships between different types of intimacy and the circulation of these sounds.

7.7 The Importance of Idiomatic and Personal Sounds

In this section I will consider the extent to which idiomatic and personally distinctive sounds are considered valuable. In particular I will analyse *why* these specific sounds are valued, helping to contextualise later discussion of the ways in which sounds, social practice, and musical transmission are interwoven. Drawing on the Bourdieusian framework set out in chapter one, I suggest that these sounds are heavily implicated in the accrual of cultural capital (Bourdieu 2002), and therefore that their value is inherently social. Idiomatic sounds allow producers to position themselves within the scene, initially through the straightforward deployment of standard idiomatic signifiers, and then (as producers develop and move through the learning trajectory) through the kind of skilful and idiosyncratic manipulation of these signifiers that allows them to demonstrate technical skill and musicality (a process also seen in other genres such as jazz, see Wilf 2012, Berliner 1994). As producers become ever more experienced, they may be able to demonstrate a form of distinction (after Bourdieu 1984b), in this case an expertise and individuality of manipulation, and eventually at the highest level their work may become to be seen as iconic, partly constitutive of what it is understood to be idiomatic in the scene more broadly. Although I employ Bourdieusian notions of distinction here, later in this chapter I point to how the production of certain sounds is also meaningful for producers themselves. In this way I am also influenced by scholars who have been more critical of Bourdieu, such as Banks (2012) and Hesmondhalgh (2013). Like Banks I believe there can be multiple motivations for musical practice, and producers point towards both the internal and external rewards of their practice (Banks

2012: 70-71 after MacIntyre 1981/2007). In fact, as I observe later, it can be those sounds that are the most personal and intimate, those most connected to the internal rewards of practice, that are least likely to be shared.

As noted previously, producers perform a type of virtuosity by demonstrating just how ‘alive’ they can make a computer sound. This kind of ‘living’ sonic quality is an overarching aesthetic that brings together a number of highly valued practices that combine noise, rhythmic complexity, and analogue emulation. A number of producers suggested their own perspectives on this meta-aesthetic; for example MZ described his practices, which combine automation and improvisation, as creating a sound that ‘breathes’:

MZ: I think, in terms of that kind of automation and improvisation, I feel like it links to what I said before. I think it adds another element of -I said texture, because texture for me, I’d say in the last three years, has become very, very important... I think slowly I’m noticing myself, the texture’s more and more important, so to have automation, you know, to make things sound like they’re moving and breathing and doing things within the context of whatever the tune is or something, is important to me. (MZ interview, London, 7th February 2017)

Across a broad set of idiomatic sounds there are perhaps four main areas that were seen as particularly valuable by my informants, all of which were caught up in the creation of this ‘breathing’ aesthetic. The first of these areas was the reproduction and manipulation of iconic instruments, such as the Rhodes piano;²² these ‘live’ sounds are iconic in many of the idiom’s musical precursors, such as jazz. Second was the use of impressive and unusual sound design. This could mean the creation of musical effects and timbres that demonstrated skill and complexity in unusual ways; here it was important to do something that other producers didn’t know how to do. The sense of the extraordinary and the unknown was highly valued by producers and they often

²² A perfect example of this can be found throughout Mndsgn.’s track ‘Davibe’ from 2018’s ‘Snax’ in which the vocals and prominent drum beat are set against a Rhodes keyboard part that is heavily filtered and treated to ‘age’ its sound and give it a distinctly murky and lo-fi quality.

picked out producers across electronic music as exemplary when they were able to inspire a sense of wonder due to the skill and knowledge involved. Remarks such as this one by BH were common:

BH: It's funny you've picked up on that as well, because that's an element, or an aspect, of that, that world that was really appealing to me. I also like got quite into like Eskmo and Amon Tobin and that sort of stuff, and that sort of... All that sort of use of like use of like timbral tension, and like sort of the spread out sounds, and like little things made huge, and huge things made tiny. Like, all that was really, really speaking to me. (BH interview, London, 15th March 2017)

Third was the demonstration of an expert command of rhythmic programming. As detailed above, this involved the creation of rhythms that seemed to stray as close as possible to chaos whilst retaining a sense of musical 'heaviness' and groove. Fourth was a group of musical materials that were produced through, or directly expressed, lived experience, such as passages of improvised instrumental material or field recordings; this last area was for some seen as particularly important, distinctive, and intimate, as I will explore later in this chapter.²³

The importance of these types of sounds appears to be due to the fact that they demonstrate particular types of skill, musicality, and virtuosity that help to create the sense of 'liveness' discussed above. In addition, these sounds help producers create music that sounds like it could be created neither by a human, in regards to the kinds of timbres that it involved or its unusual complexity, nor by a computer, imagined in popular discourse as 'robotic' in its inhuman rigidity, quantization, and repeatability. It is this imagined 'third space' at the intersection of the human-machine system that

²³ It is worth noting at this point that while producers may not know how sounds are being produced (by others), if they intuit, based on their knowledge of the DAW, that these sounds are being wholly produced by the producer (or the producer-DAW system) rather than through the pre-composed materials of other human actors, then these compositions will be more highly valued. In this sense, the expression of an individual's own creativity and lived experience is of the highest value, and, as we will discover later, is perceived to possess a high degree of (what I am calling) intimacy.

producers seemed to be invoking in their music.²⁴ This composite notion of ‘liveness’ and its connection to lived experience is therefore crucial to understanding how these sounds are valued, the extent to which they are considered intimate and authentic, and the ways they circulate, as explored in the next section.

7.8 Intimacy and Circulation

In this section I will explore the way in which the respective value of different sounds impacts the way they are circulated between producers, and in doing so look to uncover the connections between value, circulation and intimacy. To begin, I will analyse how the social impacts on circulation, before examining the relationships between idiom, distinction, and intimacy, to comprehensively explicate the ways these factors shape musical circulation.

As discussed in the previous sections, there are a variety of sounds that are particularly valued by producers, and these may be less or more likely to be shared by these individuals, depending on how highly they are valued. These valued sounds are less likely to be shared than more generic sounds, and are particularly unlikely to be circulated among non-intimates due to their potentially scarcity, expressive power, and the way in which they help producers accrue cultural capital. OB’s perspective on sharing the files that make up his own compositions helps to illuminate this, particularly in regards to the compositions of his own that he himself considers valuable, rather than those considers, as he puts it, ‘throwaway’.

OB: [There are] two ways this happens. The first way is when they reach out to me and they say, “Have you got anything that you’re not really using? Any throwaways?” and I’m, “Yes, cool, here’s a throwaway” and then they take it and they do whatever they like with it and I’m just, “Put my name on it” and that’s it... I’m sending you a wav or an mp3, I’m not sending you the stems, get out of here... If you told me you want any throwaways or anything I’m not using, I’m sending you stuff that is literally, I don’t care, the trash that I know for certain I’m

²⁴ See Ramzy (2016) and Auner (2003) for more on this intersection albeit in radically different contexts.

never going to touch that. (OB interview, London, 23rd February 2017)

What's worth noting here is the distinction that OB draws between sending finished compositions as .wav or .mp3, and sending the 'stems' or component parts that make up a composition (as audio files, MIDI files, or project files that contain the entire arrangement of a composition), even if such a composition is a far less valued 'throwaway'. This suggests that not only do sounds have varying values, but in addition, the context and way that they are shared is also vital.

Sentiments like the one OB expresses may be due to the connections between the value of particular sounds and difficulty involved in their reproduction; the modular nature of the DAW makes it very difficult to exactly reproduce compositional practices of another producer without access to the original files. While particular sounds may vary in value from producer to producer, depending on their relative importance to the producer's distinction and status, those most valued by each individual are probably the least likely to be shared. Here a discussion with my informant SF helps to illuminate this point, and point towards how protective producers may feel about particular sounds and their reproduction:

SF: You don't really want listeners or other artists to hear where your sound's come from or how the sounds have been constructed, yeah.

Interviewer: I suppose I wonder, why is that important to you... that people don't know?

SF: Because you like your sound to be unique, I reckon... there are so many producers out there, there are so many musicians out there, you want to have a unique sound in the music that you're creating, you know... Not wanting people to immediately find out how you construct a certain sound is just because you like to have unique stuff. (SF interview, via Skype, 25th October 2017)

In contrast to valued sounds, musical materials that are most likely to be shared are those that are considered generic, i.e. sounds that could be used in almost any electronic

music context, for example non-distinctive, non-idiomatic drum sounds. NA helps to elucidate the distinctions between these types of sounds and producers' feeling towards them:

NA: If it's a particular drum kit that maybe I created, someone's like, "Oh, can you send me those drums?" A few times I might be like, "No".

Interviewer: Okay.

NA: Or, "Yeah," but in general if people ask me for drums I'm the first person to drag a whole folder onto, yeah, give them drums, because this is like – that's how it started with me, someone just gave me a load of sounds and then I worked from there. But ... if it's my sound – I do have a particular folder that only I will use, and if someone's been on my computer, and then, "Oh, can I use that?" I'd be like, "Yes, but it's being saved on my computer".²⁵ (NA interview, London, 23rd August 2017)

Between these two extremes of generic and valued lie a whole range of sounds; laying out a continuum of sharing that is shaped by not only the respective value of a particular sound to each producer, but their own status and positionality. As I lay out below, production practices, status, and a number of other factors help shape how producers view this continuum, meaning that while there may be some agreement, producers tended to emphasise and prioritise these sounds slightly differently. While producers may not have agreed about which specific sounds from the set of valued sounds were most highly valued, there was more agreement about sounds with low value, such as the generic drum sounds mentioned above.²⁶

²⁵ By saving it on his computer, my informant will be able to control how, and if, a composition made using his valued sounds is disseminated

²⁶ The identification of generic sounds is also significant in the construction of status. Experienced producers of high status have this position in part constituted through a highly developed sense of sonic specificity, and the ability to identify which sounds are generic and which are distinctive, and to shape their compositions accordingly.

These diverse perspectives on valued sounds point towards the importance of the social context of circulation, and the ways in which status and distinction are constructed. Status and social bonds impact on what is shared, with those with higher status expressing greater comfort in sharing a wide range of sounds, particularly if their knowledge of the production of these sounds is secured in certain ways, while those who perceive they have lower status are aware of the role specific sounds and musical practices have on the production of their status, and may feel too precarious to share these sounds, particularly if they feel the production of these sounds is relatively transferrable. Some of these anxieties are clear in SF's remarks:

Interviewer: And how about responding to people to reach out to you? Do you feel like if you thought of someone as being below you in status, whatever that means, would you feel more comfortable telling them a technique?

SF: I mostly still do is tell people about the general technique but not go into the very specific details so you're still... I think your precious little, you know, precious little baby that you don't really want to... you don't really want – I don't really want to open up about every little detail that goes into creating this little thing, you know? So, I would definitely – I'm always open to explain how I apply a certain technique but not into full details because then, you know, there's a general way of doing stuff but there's also very specific things that make a sound sound like it sounds. (SF interview, via Skype, 30th October 2017)

In contrast, the development of social intimacies may help overcome the reluctance many producers feel over sharing sounds that they consider more personally intimate. For those with perceived higher status, intimacy is required for fewer types of musical sharing, perhaps confined only to those highly distinctive practices, while those with a perceived lower status may require intimacy for a broader range of sharing practices. This shapes a range of specific scenarios; for example, non-distinctive or less valued sounds might be shared with those of similar and lower status as part of general file sharing, particularly with intimates. However, those who perceive themselves to have lower status may feel somewhat less comfortable sharing these sounds with those perceived to be above them; they may in fact have a number of concerns, such as

worrying that they may damage possible relationships with those individuals (by sharing sounds that will not be valued and thus damaging their reputation). In regards to the circulation of valued sounds (those that are idiomatic but probably not truly intimate), producers may feel comfortable sharing these with their peers, particularly if they are social intimates, and some may in fact consider this to be an important aspect of circulating idiomatic material in a general sense as part of communal practice, social bonding and the broadening of the scene that helps to support all producers. TGL's remarks on collaboration underscore this perspective:

TGL: So, yeah, of course, in a collaboration process there's a lot of ... there's a lot of sharing of techniques and processes which I use, and in that way I'm influenced. But and then again, I can refer to the fact that I don't think I collaborate with these people enough, genuinely I think the influence comes just from listening to their music and what they bring to the table. Again, I kind of see this is as a scene which is constantly borrowing from itself and growing as its own sort of child in some sort of sense. (TGL interview, London, 10th January 2017)

In regards to those most valued sounds considered distinctive, producers seemed usually to consider particularly close bonds vital for their circulation if they were to be circulated at all, and that these social intimacies were more likely to be formed with those of a similar status. For some even strong social bonds may not enable them to share certain types of sound, as OB suggests:

OB: I haven't actually shared my found sounds with anybody.

Interviewer: That's interesting.

OB: I haven't shared them with anyone.

Interviewer: Any reason why?

OB: No, no, no, no-one's ever really asked. No-one's asked and I haven't really been... I think maybe people understand that I think there's maybe just this innate sense already that those sounds are... OB sounds,

you cannot touch them, so no-one's ever asked me, "Can I have that?"
or, "Can I have those?" (OB interview, London, 28th January 2017)

This exchange points to the existence of a set of sounds that are more valued even than distinctive sounds (valued by audiences and peers), those that are considered personal and intimate (valued by producers themselves), although some sounds may sit in both categories. These sounds are perhaps the least likely to be shared, as I explore in the rest of this section. Despite this, the development of social intimacies, and the trust they involve, may help producers to overcome the fear of loss of status and distinction through the exploitation of their sounds by others. Producers may even view their work with some intimates as part of a joint enterprise supported by sharing practices, in which the shared sounds and practices they develop together could be seen in some way as collectively distinctive.²⁷ Only producers who felt extremely secure in their status and practice seemed to consider intimacy as less vital in sharing valued sounds and practices. The extent to which individuals entrusted these materials with others are therefore shaped by their own psychology and positionality, the degree of shared social intimacy, and the perceived precariousness of their own status and skillset.

In addition to notions of value and distinction, producers also seem to have a sense that there exists a related category of sounds that are intimate; in the sense of being deeply personal, or as my informant would put it, sounds others 'cannot touch'. While these often are the same sounds that are considered *distinctive*, they need not be, and in addition their value is as much, if not more, to individual producers *themselves* than it is an audience or peer group. This is because they are perceived as the product of certain types of musical expression or lived experience that may be considered particularly personal. While a variety of musical practices (such as the use of a particular rare piece of hardware, or particular sets of drums sounds that are difficult to construct) may be considered vital and distinctive, not all of these would necessarily be considered to lie within this category of intimate sounds. These intimate sounds are an example of the kinds of "intrinsic rewards" (Banks 2012: 69) of experimental hip-hop, sounds which producers themselves deeply enjoy creating during the process, and which are not only

²⁷ In some cases these were not only joint aesthetic projects but also practical ones such as labels or nights; this sort of labour can help all parties accrue cultural capital by being part of a distinctive and valued collective.

valued by listeners and peers, but by producers as part of the way they express themselves and construct their authenticity (Moore 2002).

The materials that occupy this category seem to be powerfully emotive, for example directly based on lived experiences. These may include instrumental recordings and field materials associated with the construction of particular moods, or with the lived experiences of the producer. For some, these recordings invoked personal interactions, senses of homeliness or a longing for homely spaces, or the life of the producer moving through various urban sites. These sounds can therefore both represent and bear witness to specific places, spaces, and times in ways that cannot be recreated (even in these places with the same tools). This irreproducibility and sense of lived experience help delineate a category of sound or practice that may not be shared with others regardless of relative status, joint enterprise, or social intimacy. MZ's discussion of the role of field recordings to help sonically evoke particular places helps explicate how emotive, personal, and spatialised sounds can be:

MZ: I really like to have waves as a base layer of everything, and that's largely because, you know, where we live in Curaçao is right by the coast and it's just there, you know. It's just something that –

Interviewer: That sound is really deep, I suppose, within you from hearing it every year.²⁸

MZ: Yeah, it's really deep, and it's important to me to have it in there because it just – like, I think of it as geographically pulling in... There's the link to London, the link to Curaçao, the link to Jamaica, and I feel like... It just basically says this is where I'm from, to me, and then hopefully it says that to people as well. (MZ interview, London, 7th February 2017)

The deployment of these intimate sounds helps MZ express something profound about himself, his identity, and his past that is first communicated back to himself during the

²⁸ Curaçao is a small island in the Caribbean that my informant visited each summer during his childhood to see his family.

production process before it is shared with an audience. Some sounds are therefore very unlikely to be shared due to the work they do in helping producers identify themselves to themselves, a crucial part of “attaining a sense of creative or emotional fulfilment” (Banks 2012: 73).

The perspectives of my informants point towards the importance of social bonds and intimacy in the sharing of valued sounds, and therefore understanding both how these bonds develop, and how this intimacy is constructed, is a vital aspect of understanding the circulation of musical material. In the following section I will therefore explore how social intimacy is constructed, how it intersects with sonic intimacy, and try to understand the roles of both human and non-human actors in this process.

7.9 The Construction of Intimacy

The social intimacies that are crucial to the transmission of music are not static; rather, they are shaped by social interactions between musical actors, peers, nonhuman actors, and audiences. These interactions help shape producers’ perspectives and point towards areas of tension and disagreement in how producers navigate the scene. In this section I explore the connections between lived experience, sharing, and intimacy, and in addition examine the construction of personal identities through musical practice.

To begin, I consider how social interactions help shape experiences of intimacy for the producers I study. These experiences are shaped by a number of factors, but one that appears crucial is the way in which social media can structure relationships between local and non-local actors, and additionally lay bare the kinds of actions that actors may indulge in to leverage relationships and status to accrue cultural and financial capital.²⁹ Producers suggest that various forms of social media can make them feel wary about the potential or perceived insincerity of social interactions, and point towards the difficulties associated with being constantly available for communication with fans or peers. Such an environment seems to foster a degree of reticence in establishing trust, and while the internet helps to facilitate social connections, it also has the potential to inhibit the development of deeper social bonds. Producers often expressed concerns about how

²⁹ This points to a more nuanced, cautious engagement with public spaces than Soysal (2010) outlines.

trust could properly be established in such an environment;³⁰ and perhaps due to the fact that financial rewards are thin, the potential for their works to be exploited by others seemed to loom large.

The tensions that producers experience surrounding social media often led to concerns about the authenticity of communications with other producers and whether they were just ‘in it for themselves.’ These concerns seemed particularly pressing to those producers who considered their status more precarious. TGL’s experiences appeared common to a number of producers while pointing to an earlier era of online practice when producers may have been less cautious, before social media’s ubiquity.

Interviewer: Do you only ever ask those questions [about production techniques] in person?

TGL: I have to split it into percentages. I think about 80% of the time, yes. It’s in person or – no – no, no, no, sorry. 70% of the time is in person, but 80% of the time it’s going to be people in London, but there was that whole MSN period and a lot of online chats and stuff like that, in which I met producers – well, I’d just be talking with producers, obviously, for no ... no reason.

Interviewer: Oh, cool. How did you get their contact details?

TGL: I think this was a very long time ago, but I think it’s through forums. You start from forums, you meet some people, and then – some of them actually ended up bad. It was like, I remember some people putting up some of my songs and claiming it was theirs. That has actually happened. That was overseas actually, that was somebody I think in, you know, just out in the sticks.

Interviewer: Okay... that made you feel?

³⁰ However, some producers felt more confident about forming social bonds through joint enterprises such as labels.

(Overspeaking)

TGL: A little bit more protective? (TGL interview, London, 3rd December 2016)

These apprehensions perhaps also help to explain the positivity that producers expressed for other producers with whom they had in-person interactions, particularly local ones. Here, producers worked hard to construct joint enterprises (such as events and labels) that both symbolised these bonds and supported their development, often using social media to help cement these local connections. As these bonds are strengthened, producers are more likely to share more varied musical knowledge, from the technical and musical to the specific, distinctive, and idiomatic. This process is iterative, as sharing itself can help strengthen social intimacies, providing a space in which producers can discuss and collectively explore those elements that make their music distinctive and valuable.

These interactions between producers help to shape how they think about social bonds and how they consider their work to be personal to themselves. They are also shaped by (and in turn shape) the spaces and places they occur in, in the sense that many producers situated their personal expression as telling a story about what it meant to be in a *particular* place at a *particular* time, reflecting the shared narratives crucial to Berlant's (1998) understanding of intimacy. In this sense producers spoke of their music as an expression of their positionality and lived experience (of which intimacies with other producers are an important part). For some producers their story was one of a tension between homeliness and unhomeliness. Their music therefore spoke of the dislocation that musicians feel if they exist between a number of spaces that may be considered home, and a number of musical environments that are intimate. For these producers, migration and technological change challenged a sense of the home space (see

Appadurai 2000: 322), meaning they sought to recreate a sense of place in their music.³¹ One informant, a Finnish producer living in London, spoke eloquently to the way these feelings emerge in his music:

Interviewer: Is there anything that you think is, specifically, Finnish in the music that you make? I only ask that because a lot of people, when I've asked them the question about communicating style, they've talked about London. Do you think about it as London-ness or Finnish-ness?

LA: No, it's more Finnish-ness, and I, kind of, take pride in that feel. I don't know why I didn't mention it earlier, but that's something that I've been consciously thinking about for several years, as well. It's, like, one of the themes in the music is, kind of, this where I came from, although I was born and raised in Helsinki, it was always a ten-minute walk to the nearest forest... I don't know, I just, kind of, find it exciting that in Finland there's so much empty space, and so much forest, and so much nature, and the forests are vast and you can walk for days and not see a single person... The forest is something that I miss a lot, and I think that's why I've chosen... the themes within the most recent tracks.... I guess it's kind of you know when you realise your background, I think that's when you go away, and then you see that, actually, I'm very different than everyone around me. Like, actually, my roots are [over] there and no-one around me is from there at the moment. (LA interview, London, 10th July 2017)

³¹ These findings suggested continuities with earlier works in ethnomusicology, such as Erlmann, who, invoking the work of Homi Bhabha (1992) in a discussion of *isicathamiya*, notes:

Unhomeliness is a condition in which the border between home and world becomes confused, in which the private and the public become part of each other. The home no longer remains the domain of domestic life, nor does the world simply become its counterpart (Erlmann 1998: 15).

Despite these atomising effects created by technological change and migration, other producers had radically different experiences. This was especially apparent for those who felt that they were already ‘at home,’ or considered that their music expressed either an intensely local musical perspective, or a local, British take on a transnational style. This expression was also temporal, and reflect a time when adjacent musical practices, such as those arising in the London jazz and grime scenes, were (and still are at time of writing) gaining broader national and international recognition. This temporality was also reflected in a sense that these musical practices were understood as speaking to national or ethnic identities at a particular juncture, with a number of producers reflecting on the extent to which they saw their musical practices as helping to construct a positive sense of Black Britishness at a political moment fraught with xenophobia and racist depictions of people of colour in media and social media alike. MZ expressed this sentiment emphatically:

MZ: Black British is something that is key to me, it is – it really is, it’s massive. In my mind, when I’m – I’m representing a lot more than just a guy from London who makes music and I’m very aware of that and I’m very aware of other people who may also be wanting to represent a similar thing. That’s not to say that I’ll collaborate exclusively with anyone or any particular – but, it’s a conscious thing in my mind whenever I talk about music or I talk about ideas with people. I think it’s important – I see what we’re doing as a communication of – an up-to-date communication of Black Britishness is essentially what I do and the way that we’re – often, a lot of – especially the Black artists that I’ve worked with and collaborated with, they are second generation, so there’s a common ground there in terms of – their parents were born here but their grandparents are not and I feel... it’s just when someone knows you on a deeper level, you can just – some things that are unsaid can be unsaid and still communicated, if that makes sense? So, I’m not talking about the whole idea of communicating being a Black male in Britain in a session or in a collaboration, I haven’t really talked about it, but at the same time I know that the guys who I work with are working or operating on some level, aware of that and yes, it’s cool, I appreciate being able to – inhabiting spaces with these people who I don’t necessarily – important things can be left unsaid and like I said, still

communicated... Some of the most kindred spirits that I've found in this whole scene have been – are other people from the same place as me, literally the same heritage.

Interviewer: What, this tiny island?

MZ: Or the island next – the larger one... Because I'm also aware that – obviously I have African heritage. but I'm very much rooted in Caribbean tradition and that's what I know and that's what I've been brought up with. So, I think part of it for me is also specifically communicating Caribbean Britishness, because it's different, there's a lot of history of activism and Brixton even is a very symbolic place. It's – I feel very close to my place here, if that makes sense? (MZ interview, London, 8th March 2017)

As this quote demonstrates, producers can see their work as expressing profound forms of hyper-locality and personal heritage, part of long lineage of UK music making connecting style, place, and identity (see Toynbee 2013, Bradley 2013, Bramwell 2015). It also vividly conjures the connections between communication and intimacy discussed earlier (see Berlant 1998: 281), and underscores the way in which a shared culture can support the development of intimacies between producers.

Despite the difficulties of navigating social media and complex social worlds, producers are able to develop intimacies that facilitate certain kinds of knowledge exchange (albeit that these are constrained by factors such as relative status). As the above exchange demonstrates, these social intimacies develop in broader contexts of cultural (and diasporic) intimacy in which particular positionalities may be a crucial factor in how producers situate their musical practices and conceptualise their work in time and space, shaping varied senses of community, public space, and joint enterprise. For producers, cultural intimacies engender shared stories, practices, and aesthetics, helping to shape the development of social intimacies, and thus modulating how producers share materials considered sonically intimate, pointing towards the continuing importance of the local in the digital age.

7.10 Conclusion

In this chapter I have examined a particular intersection of the sonic and the social, deploying the term intimacy to help explain how producers experience interpersonal relationships as well as a kind of protectiveness over certain sounds. To examine these processes more closely I delved into some of practices involved in the production of intimate, distinctive, and idiomatic sounds, detailing how certain crucial aspects of experimental hip-hop compositions are produced. This notion of intimacy has also helped me analyse the interactions involved in production, and how close social bonds help to modulate certain kinds of knowledge exchange and the circulation of different sounds.

By employing this multi-faceted use of the term intimacy I have deliberately sought to scrutinise and uncover how these different processes are interconnected. In developing such a conceptualisation of intimacy I have built on the work of previous scholars to contextualise the way in which the producers I study develop networks of social bonds. These bonds develop within a shared culture shaped by a myriad of state and non-state actors (Boym 1998, Shryock 2004). It is within such a context that producers create compositions, engaging technologies to create sounds that range from the generic and the idiomatic, to the distinctive, personal, and intimate. Sharing sounds and knowledge with other producers is therefore contingent not only on a producer's perceived status and positionality, but also other factors, such as locality, that shape the kinds of sharing that take place. Although strong bonds can make a broad set of sounds and techniques available for sharing, through the development of levels of trust that enable producers to navigate threats to status, deep personal bonds are needed to facilitate the potential sharing of the most valued category, that of the sonically intimate. These sounds can be incredibly personal, sonic reflections of experiences, times, spaces, and places, meaning that profound connections may be needed to enable these materials to be shared. Thus, intimate sounds are valued not only for the external changes they can produce (for example in status), but also for the impact they can have on producers who produce them, as they are central to the expression of creative agency and personal authenticity.

What this all suggests is that the socially and the sonically intimate are deeply intertwined, meaning that the development of different degrees of intimacy, and the interactions between producers with varied statuses and positionalities, may impact how producers conduct processes of sonic taxonomy. Over time those sounds that were once

considered absolutely intimate may be shared with those with whom one has developed deep enough bonds. These taxonomies are therefore contingent on time, positionality, status, and intimacy, meaning that sonic intimacies can change as social ones develop, and vice versa, as the sharing of intimate sounds can help build social intimacies. The importance of strong social bonds to the most critical forms of sharing helps demonstrate not only the continued importance of locality and the development of in-person relationships, but additionally the continued centrality of autodidacticism within scenes such as this. For a number of producers, the sharing of the most sonically intimate material was unlikely even if particularly strong bonds could be formed. In this context, autodidactic practices are central because there may be upper bounds on the kinds of knowledge sharing and learning that occur, particularly for those producers who feel their status to be precarious, which is understandable considering the difficulties associated in accruing cultural and financial capital within the scene. In the concluding chapter of this thesis I draw together insights from this chapter and those that precede it to summarise my core argument, and assess the significance of the different human and nonhuman actors involved in the transmission of knowledge.

Conclusion

8.1 Introduction

In the conclusion of this thesis I will summarise the central themes of the research, and assess the significance of the different actors involved in knowledge transmission within experimental hip-hop. Throughout this chapter I will draw together a number of key processes and examine how these are implicated in the transmission of knowledge, the production of cultural capital, and how producers move through the learning trajectory. In doing so I hope to suggest how my work can be relevant more broadly in fields such as popular music studies and ethnomusicology, centre the importance of ethnography in pursuing complex questions in the study of electronic music, and support scholarship into knowledge transmission and peer learning. I begin with a summary of each chapter, to highlight how various threads emerge in my work, and the ways in which each chapter develops my argument. Following this, I will revisit my core research questions, demonstrate how my work has answered them, and draw on my ethnographic work to explore the implications this has on how musicians learn. This chapter will culminate with a discussion of the future, pointing to areas where research could build upon the successes of my work.

8.2 Chapter Summaries

2. Methodological Challenges in the Study of Emerging Practices and Technologies

This chapter outlined the composite methodology I employed in my fieldwork, highlighting the scholarship it drew on (such as Bates (2010, 2012, 2012a, 2019), Butler (2014, 2014a), and Schloss (2004)), and foregrounding the influence of the work of George E. Marcus (1995) and ANT scholars such as Bruno Latour (1996, 2005). In particular, it sought to explain how the various forms of research I employed were appropriate to answer my core research questions. These different parts of my fieldwork examined the roles of the human and nonhuman actors implicated in knowledge transmission, and thus involved deep engagements not only with my informants, but also with nonhuman actors, including the DAW, samplepacks, and software synthesisers. At the core of this methodology were more traditional forms of ethnography including

semi-structured interviews and participant observation, and the qualitative data drawn from these sessions formed the basis for much of the thesis.

This chapter also told the story of the fieldwork as a process, in which new avenues of research were explored, and the initial research plan was altered so as to accommodate my initial experiences in the field. Here I outlined how I settled on a methodology that focused on London as a central site of study, and the ways in which I developed the network of informants on which my research is based. While I ultimately employed a multi-sited ethnography (see Marcus 2005, Burrell 2009, Miller 2014) that explored online sites and made use of long-form semi-structured interviews, a producer roundtable, participant observation, studio sessions, and work as a composer of samplepacks, this was a project of a smaller scale than I initially planned. This change in scope not only enabled me to gather deeper qualitative data more focused on my key research questions, but was also the first part of a crucial process of making my work more reflexive, helping me to examine my role as an agent within the field. This specifically helped me to begin to think critically about the ways my methodology and positionality shaped my findings, a process that I developed in later chapters (in particular chapter six) where I examined the relationships between gender and music making. I extend this type of critical thinking at the end of this final chapter where I look to evaluate my research and the potential wider impact of my findings.

3. Affordances in the Learning Trajectory of the Electronic Music Producer

This chapter outlined the theory of affordances that I employ throughout the thesis to examine how producers engage sounds and objects within the DAW, as well as the DAW itself. As discussed at length in this chapter, affordances are those qualities of technologies that, when exploited by human actors with certain skills and perception, enable the human-nonhuman system to complete particular actions (Gibson 1979, Brøvig-Hanssen and Danielsen 2016). Digital tools, and their associated affordances, are integral to music making, not only due to their role in the production process, but also their importance in learning and shaping the habitus of producers (Sterne 2003).¹ As

¹ The usage of tools therefore changes as human agents learn, a process in which these tools are also implicated.

the theory suggests, it is the affordances of networks of objects, in conjunction with the creative acts of human agents, which allow experimental hip-hop to be produced.

This chapter also brought the theory of affordances into contact with ANT and the work of Bourdieu (see Drott 2012, Prior 2008), suggesting that together these theories can help to comprehensively explain the role of non-humans in musical practice, and the motivations of human actors who engage with them in particular ways (and the interconnections between the two). As previously suggested, this threefold theoretical approach looked to explain music making at various levels of detail, from the dynamics of larger networks of human and nonhuman actors involved in production, to the specific ways producers engage with the affordances of small numbers of often recondite digital objects to produce valued sounds.

This theoretical approach was essential throughout my thesis, allowing me to analyse in detail how specific human-human and nonhuman-human interactions shape musical practice and knowledge transmission. While I mainly I used the theory of affordances to examine the role of mapping (see Magnusson 2010) and some of Ableton's more basic production tools at this point of the thesis, in later chapters I expanded my focus to consider other digital tools and musical practices. In particular, building on scholars such as Strachan (2013), I suggested that sounds have their own sonic affordances, which shape how they are used. The development of this theoretical approach was vital, not only helping me analyse how producers use the DAW more generally, but also enabling me to explore in depth the use of smaller-scale tools such as software synthesisers and samplepacks. By examining networks of humans and nonhumans critically, and understanding their different roles as agentive actors within musical practice, I was able to begin the process of evaluating their significance in knowledge transmission, a process which I pursued in detail in the chapters that followed.

4. The DAW as an Instrument and its Role in the Practice of the Everyday

Throughout the learning trajectory producers acquire technical and musical competencies that enable them to create valued sounds (see Strachan 2017: 7). This is a process which requires producers to understand not only how the DAW works, but also, through social interactions and deep listening, acquire a knowledge of what idiomatic and innovative music sounds like. In this sense, listening, traditional musicality, and

technical mastery are combined in the creative processes of producers, and throughout the learning trajectory producers engage in varied forms of practice to improve in these fields. In this chapter, and the thesis more broadly, I employed the model of the learning trajectory due to the significance of auto-didacticism within the scene, and the difficulty in applying more traditional models of learning based on teacher-student relationships (such as those examined by Wilf (2012) and Baily (2001)). The learning trajectory is therefore a frame I employ to understand the process of knowledge acquisition outside of more formal structures and institutions. This is a process that functions in a manner distinct from pedagogies which centre hierarchical relationships between human agents, and while some producers do engage with forms of more traditional teaching, it is clear informal processes are central to how they learn. At this point in the thesis I examined how, as producers develop, they engage in a number of distinct types of practicing including creative problem solving, the taxonomisation of pre-composed materials, and the development of techniques that help to initiate and maintain flow states. The theory of ‘flow’ was central to this chapter, and framed my detailed examination of the ways in which certain types of practicing and decision making enable producers to not only improve their skills over time, but also stay focused during composition (see Martin and Jackson 2008, Miksza and Tan 2015, Sloboda et al. 1996). A vital part of this is the way producers customise the DAW’s affordances to control higher degrees of complexity and solve more challenging problems.

Although producers may deploy a similar array of techniques to develop greater and broader competencies, they move through the different parts of the learning trajectory at different rates that depend on their positionalities, skills, weaknesses, and interests. In addition, producers have different ways of mastering particular techniques that vary from the embodied to the more intellectual. For example, to program particular rhythms producers may either use MIDI interfaces to input data directly, or apply various forms of sequencing and audio effects to create similar sounds. As suggested in this chapter, and at various points throughout the thesis, this means that by developing mastery with particular tools, producers are able to create sounds that are essential to successful composition. Despite variations in the relative importance and role of certain tools, there seemed some agreement in what was considered mastery of each area. Producers often pointed to particular musicians who were exemplars of certain kinds of musical practice, whether in different forms of more traditional musical skill, such as instrumental virtuosity, or complex sound design skills. In each of these areas the

development of competency ultimately enabled producers to realise the music they audiate, and create specific types of valued musical complexity, all of which are shaped by the DAW's affordances.

The ability of producers to save presets presents a fundamental change from traditions centred around performance using acoustic instruments, as crucial knowledge need not be retained directly through embodied practice, but rather the tools central to production can be continually saved, improved, and 'tweaked' during composition and practice, enabling certain types of knowledge to be 'saved' in these objects (see Duignan, Noble, and Biddle 2010: 30). Considering this, it is perhaps unsurprising that that over time producers have increasingly privileged complexity in sound design, and the production of a form of liveness created by demonstrating a virtuosic control over the DAW's affordances.

5. The Samplepack, Musical Tools and the Circulation of Idiomatic Sounds

This chapter focused on the role of samplepacks and other tools, such as software synthesisers, in the production of valued sounds, and the ways producers conceptualise and construct authenticity. To help support my analysis of the significance of these tools, I turned both to those informants involved in the creation of pre-composed materials and my own experiences of creating samplepacks. By examining the ways that musicians (in concert with nonhumans) produce these tools, how they circulate, and the manner in which they are shaped by market forces, I came to the conclusion that while these materials may be important in the initial stages of the learning trajectory, their efficacy decreases as producers become more skilled and therefore able to produce valued sounds themselves, rather than rely on the creative labour of others. In particular, due to a number of factors, such as the requirement for samplepacks to be usable in a myriad of musical contexts (so as to be commercially successful), these materials only contain approximations of sounds that are highly valued. While this may not be appreciated by the inexperienced, as producers develop they are increasingly able to perceive this aesthetic 'gap', or lack of stylistic or idiomatic 'authenticity'. In addition, more experienced producers also appear to want to retain control over the production of as many sounds as possible within their music, meaning they often reject samplepacks as both inauthentic and challenging to the ways they seek to assert authorship (see Moore 2002, O'Flynn 2007). This appears to be particularly significant in a scene that

emphasises the importance of process, acts of creative labour (see Lindholm 2008: 22), and particular ways of manipulating pre-composed materials. The perspectives of my informants highlighted in this chapter also helped to point towards how differently producers may see other pre-composed materials, such as software synthesisers, that enable them to retain a sense of authorship more easily.

This chapter highlighted how the pedagogical role of samplepacks and software synthesisers was constrained, as appears to be the case in a number of areas of knowledge transmission, leaving a great deal of work for the producers themselves, requiring them to either learn how to manipulate pre-composed materials or create their own from scratch. While producers may have an extremely broad set of resources to draw from, the extent to which these digital actors may be pedagogically significant is often limited. Additionally, although producers may draw on experiences of close listening and interactions with their peers to transform these tools into more appropriate and useful objects, anxieties can remain due to the ways they impact on authorship and the construction of authenticity. The value of pre-composed materials in the early part of the learning trajectory therefore may conversely lie in their approximate nature and the extent to which they are musically underdetermined, forcing producers to do the difficult work of aesthetically ‘determining’ them (and learning in the process).

6. The Social life of Beatmaking and the Role of Online Technologies

This chapter explored the varied social interactions involved in the production of experimental hip-hop. It examined aspects of the social that are significant in producer’s lives and their potential impact on knowledge transmission, in particular a selection of online and offline social interactions (such as valuing or teaching), forms of group listening as a site for critical discourse, and the role of early familial life and gender (see Farrugia 2012, Bradby 1993) in later practice. By analysing these different factors I was able to demonstrate the different ways human actors shape musical practice and knowledge transmission, and explore in greater depth the tensions between the local and the translocal. To frame the social lives of producers this chapter also examined a number of ways of describing musical collectivities, in particular exploring the tensions between ‘scene’ and ‘genre’ (see Straw (1991, 2001) and Hesmondhalgh (2005, 2013) respectively). My decision to employ ‘scene’, both in this chapter and throughout the

thesis, not only reflects the language used by my informants, but also the significance of the local that I observed throughout my fieldwork.

Of particular importance appeared to be the ways in which online interactions were shaped by the offline, and how those interactions that were most valued online (such as forms of direct messaging) reflected valued in-person experiences. Whether on or offline, it appeared that one of the reasons why certain interactions were highly valued was that they supported producers' musical decision making, not only helping them to deploy various musical and technical skills in specific ways, but also enabling them to navigate the vast probability spaces that the DAW presents (see Duignan, Noble, and Biddle 2010). What I mean by this is that regardless of how technically skilled a producer is, if they do not know how to deploy different techniques in ways that are valued within the scene, then they will not be successful. Helping others with decision making, whether online through commenting or direct messaging, or offline through collective listening, seemed one of the most significant aspects of social life and knowledge transmission. By helping others navigate this form of 'option dilemma' (see Duignan, Noble, and Biddle 2010), producers could therefore improve one another's musical practice, which could lead to significant changes in status.

These interactions took place in a social world shaped by producers' earlier lives. Of particular significance for my informants appeared to be their relationships with fathers, or other important male figures, who helped structure later forms of musical practice. By shaping the listening and early musicality of producers, for example by introducing them to the works of iconic musicians, these figures helped configure later practices and the ways producers placed particular emphases on different musical processes such as sampling. Crucially, these figures also shaped how music is gendered, part of wider currents in electronic music and popular music more generally (see Miller-Young 2007, Boakye 2017). While these varied aspects of producers' lived experience highlight the significance of the local (in part as a response to more recent changes in the structure of the internet and its increasing control by a small number of social media platforms whose affordances privilege interactions with friends and acquaintances), I suggest in this chapter, as elsewhere, that these dynamics may not be permanent, and non-local shifts could occur in the scene in the future.

7. Learning the Idiom and the Intimacy of Idiomatic Sounds

The concept of intimacy has been central to my thesis; throughout the text I have used the word to refer on the one hand to close personal relationships between producers, and on the other to refer to sounds to which they feel a particularly close connection. In this chapter I built on the work of scholars such as Berlant (1998, 2008), Herzfeld (1997, 2004, 2009), Stokes (2010), and Shryock (2004) to explore how these two different conceptualisations are closely related. In particular, I suggested that just as the sharing of intimate sounds and tools can help develop social intimacies, social intimacies may also facilitate the sharing of intimate and valued musical materials. Producers often saw sounds as valuable if they were connected not only to particular lived experiences, but also to the exploitation of tools that they saw as unique and individual (and therefore both personally significant and implicated in the production of distinction and status). Examining these different types of intimacy helped me to understand why producers are particularly protective over the sounds they consider most valuable, shedding light on how factors such as status, positionality, and locality may be significant in how, when, and whether producers circulate certain valued sounds and techniques. Conversely, this also helped to emphasise why producers may be comfortable sharing sounds they consider far less personal or intimate. These are usually sounds considered to have significantly less value (and may even be thought of as generic), such as basic drum samples that have not been heavily processed. Between these two extremes sit those sounds that are considered idiomatic, such as particular types of grooves (see Abel (2014), Iyer (2002), Keil (1987, 1995)) and this chapter also examined in detail how these are produced.

While these specific relationships between intimacy, musical practices, and status may be comparable to the inner workings of other musical scenes, it is possible that the interactions I observed are shaped by discourses that have surrounded hip-hop throughout its history. In particular, central ideas of competition and secrecy may help to frame these vexed areas (Schloss 2004), and it is possible that within other scenes, other discourses may shape sharing and knowledge transmission in radically different ways. An example of a different paradigm may be one shaped by discourses that frame collective practice as acts of preservation, for example within particular folk music cultures (see Slobin 2000 for example). As suggested in this penultimate chapter, in this scene, producers' shared intimacies and their particular place in the learning trajectory frame how valued sounds and knowledge are circulated. As elsewhere, this helped

highlight once again not only the significance of autodidactic practices but the role of local, personal bonds in knowledge transmission.

8.3 Distributed Learning and Complex Actor-Networks

Throughout my research I have deployed ethnographic methods to explore knowledge transmission in experimental hip-hop, focusing on the London scene as central site of my research, a smaller part of a much larger translocal scene. I have sought to make an original contribution to knowledge by answering the question:

“In what way do a range of actors, including social media and music technologies, shape the transmission of musical knowledge in electronic music scenes, and more specifically the experimental hip-hop scene I study?”

To focus my critical gaze I have employed three additional questions to more comprehensively answer this core research question. These are:

- (1) How are experimental hip-hop compositions made?
- (2) How do producers learn to make them (or put another way, how is this knowledge transmitted)?
- (3) What kind of social interactions are involved in production, learning, distribution and reception, and how are these shaped by software and hardware technologies?

While I do not intend to re-examine the first question in great deal here (as it is covered extensively in earlier chapters), I will restate the central argument of my thesis, and how it answers not only questions two and three but also my core research question. Following this I will examine the role of YouTube tutorials, as a brief example that helps illustrate my contention about the ways in which knowledge is distributed within the scene, and how this creates an environment in which producers must engage with a wide range of resources and complex actor-networks to be successful.

As explored throughout this thesis, producers learn their craft in a socio-technical milieu which differs radically from those involved in historical or traditional musical forms which rely far more heavily on student-teacher relationships (see Bakker 2005, Miksza and Tan 2015, Baily 2001). In this case, the number of possible actors implicated in knowledge transmission is significant, and the roles they play in this process may vary. Social media platforms and their associated affordances (Morrison 2014) may shape how peers interact, demonstrate value, and compete for scarce forms of cultural and

financial capital, processes formerly conducted overwhelmingly in person. Although my research suggests that in-person experiences remain vital, other types of communication, particularly those that imitate valued forms of in-person interaction, may also be significant. The technologies producers use for music making also play a role, from larger tools such as the DAW and external MIDI controllers, to smaller ones, such as samplepacks and software synthesisers; the affordances of these nonhuman actors continue to shape producers' musical practice in different ways as they process through the learning trajectory.

What I have termed the 'learned trajectory' is a set of processes by which producers acquire the musical, technical, and social competencies that are vital to the production of experimental hip-hop. Different actors are involved in this process in a variety of ways: for example by examining basic software synthesisers producers may be able to acquire crucial technical knowledge that enables them to ultimately program more complicated tools,² while peers may support the development of critical listening and musical decision making. What my research suggests is that even though there may be certain ways in which in-person knowledge transmission between producers is constrained, it is perhaps the crucial site for producers to develop the most valued competencies. While multiple actors play a significant role in the development of technical competencies, peers are vital in the development of skills that are more musical and creative. Good examples of actions that are significant in this process are sharing valued sounds, or giving extensive feedback during communal listening sessions. In contrast, nonhuman actors may have a more limited impact on knowledge transmission, as the amount of valued, non-technical information that may be gleaned from them may be limited. While producers may not spend as much time with their peers as in other forms of historical musical practice dominated by lengthy live performance, jam sessions, and time spent together on the road (see Monson 1996, Berliner 1994), it is clear that peer-to-peer interactions are a crucial aspect of learning that complement the largely informal practicing methods, and compositional practices, that take up much of producers' time.

² This is because these rudimentary tools enable the development of skills and knowledge, such as how to manipulate envelopes or control parameters using mapping, that continue to be useful as producers develop.

What complicates this picture further are the anxieties that producers can feel about their relationships with their peers, particularly in a social media environment in which the information or sounds they share with others can be easily and widely disseminated. My informants' emphasis on the development of strong, local bonds, seems to suggest that certain types of intimacy are vital in those forms of learning that are difficult to accomplish with nonhumans. As suggested above, despite the importance of these peer-to-peer relationships, anxieties remain, these are also shaped by a field of cultural production in which tensions exist between competitive drives for scarce cultural capital (Bourdieu 1984, 1984b), and desires for the communal and internal rewards of musical practice (Banks 2012), and producers may have multiple motivations for their actions. Even in the closest of relationships, producers may be unhappy to share certain forms of sound considered the most personally intimate, or central to the production of musical authenticity and status. This all suggests that while technical competencies may be absorbed from an array of sources, the process of developing some of the most valued aspects of knowledge is vexed.

Producers are therefore forced to navigate a highly complex environment in which knowledge is widely distributed, one in which it is unclear where the most authoritative communicators of this knowledge may be found. This is a diverse landscape in which actors struggle to demonstrate their authority as pedagogical figures. Additionally, those figures who could be seen as these most authentic voices of the scene (and therefore repositories of knowledge), producers whose works are iconic and canonical, appear to be widely inaccessible. Certainly these producers are unlikely to teach in mainstream institutions,³ and their distinction and acclaim makes them appear distant and uncontactable, especially as it can be difficult to form connections on social media platforms (which may be one of the few ways of contacting these individuals). The field of experimental hip hop production is thus one in which knowledge is highly diffuse, and producers must be successful autodidacts, voraciously searching for knowledge across a social world and media-scape that are deeply interwoven. While there are limits to the ways in which any one of these actors may share knowledge with a producer, it is clear that a producer's peers retain a highly significant role, helping to mediate and shape the role of other actors in knowledge transmission. This means that peers,

³ Although this may change, as figures from musical pre-cursors, such as jazz and hip-hop, have found more of a space within the academy in recent years.

through processes such as the sharing of valued sounds and objects, collective listening and critical discourse, and forms of valuing and recommendation, help individuals to identify and parse those resources that are the most useful.⁴ A good example of this process might be the ways producers navigate YouTube, both a site for finding materials for collective listening, and for watching production tutorials. However, establishing the authority of these resources is a challenge, as OB suggests (by comparing these experiences to interactions with peers):

OB: What happens sometimes is I actually book sessions with other producers and we sit down and it would be like a learning session... and... they kind of download information and their knowledge into me. And that has been a huge part of elevating my skill level, especially being as not everything is on YouTube. Also, searching through YouTube can be extremely difficult to find videos, because anybody can just... anybody, just anyone can put a video on YouTube. (OB interview, London, 28th January 2017)

This contrasts in-person peer-learning (see Green 2002) with the kinds of knowledge transmission that can occur online, and while producers may spend a large amount of time browsing these materials, it is clearly difficult to establish trusted resources (beyond basic metrics such as view count), as MG suggests:

MG: Okay, then once I've found a bunch of videos depending on... how kind of standard the problem is, you invariably get a bunch of kind of professional channels... [and] a lot of these channels... they're often using examples which musically I just don't care for. And it's also it's not only music I don't care for, but it's just done in a really bad way, but you've got to remember you're looking at a technique, not someone's music. (MG interview, London, 27th March 2017)

⁴ This underscores how production can be gendered, as forms of pedagogical sociability may not be equally accessible to all, for example bedroom-studio sessions with cis-male producers may be less inviting to female, non-binary, or trans producers.

Even if producers do discover sources that they value, it is clear that their engagement with them can be limited, as SF suggests:

SF: I used to watch tutorials on the internet when I'm encountering (sic) a problem that I don't know how to fix in the software itself and just quickly browsing through the internet or watching a tutorial on how to apply a certain technique to, you know, create a sound that I want.

Interviewer: And in the beginning – well, firstly, there's two questions. One, how did you know who was... a good provider of knowledge?

SF: Mmmm, there was one guy on the internet, one guy that had a Fruity Loops tutorial set and he had like 300 or 400 short videos. Like in the beginning, I watched, you know, pretty long videos of guys talking you through but it's so boring and stuff and he created really small videos. Just like, you know, applying one technique so like video one, two minutes. He really easily explained it to you... so, that's how I sort of solved some of my problems and barriers I encountered. (SF interview, via Skype, 30th October 2017)

These kinds of experiences reinforce the significance of the local, as although producers may have a greater number of resources than ever before, not only can such an array be bewildering (meaning relevance and reliability is difficult to establish), but in addition the depth of engagement can be somewhat shallow (as SF suggests in regards to the significance of short videos early in his career). While many forms of historical music making have relied on small numbers of human actors to guide individuals through the learning process, meaning the transmission of knowledge was more hierarchical and linear (see Baily 2001), my research suggests that producers have to sift through a vast array of nonhuman actors, assessing their relative importance, using them to solve problems, and drawing on their peers to help them navigate this process. It is perhaps unsurprising, given the profusion of pedagogical resources, that producers would rely on their peers to learn more valuable knowledge that goes beyond the kind of technical

information that can be communicated in a short YouTube video or a forum post, particularly because in these forms of knowledge transmission, two-way dialogues and the communication of embodied practices are largely impossible. Thus, to balance large numbers of diverse but shallow learning experiences, producers engage in musical interactions with their peers (both in person and online) to help secure the kinds of knowledge they develop iteratively using these tools and trial and error. While peers may not necessarily be authoritative sources of knowledge, the formation of long-term and intimate social bonds may help all parties develop their skills, move through the learning trajectory, and navigate a complex socio-technical landscape together. Such interpersonal interactions can thus be seen as part of a lineage of peer-learning in popular music, albeit within actor networks that have become increasingly broad owing to the ubiquity of the internet (certainly when compared to earlier research like that of Green 2002).

8.4 Future Research

In this final chapter I have sought to provide conclusive answers to my core research questions and summarise the arguments made throughout my research. Building on this, I now look to examine how scholars could expand upon my work in future research. Returning to the generally vexed nature of the online and political spheres during the period in which this research was conducted (as noted in chapter six), it is perhaps of little surprise that engaging with non-male producers was difficult, particular considering my positionality as a cis-male producer and researcher. I hope that in the future I (and others) will build on my current work with partners with different positionalities to engage with a broader range of producers. Considering the interconnectedness of online spaces, the scope of toxic masculinity and misogyny online, and the largely masculine nature of many electronic music scenes (Farrugia 2012), it is perhaps unsurprising that non-male producers would feel cautious responding to cis-male researchers. This research project therefore raises difficult issues of representation, access, and the role of the researcher as a passive or active agent in the continuation or refutation of problematic discourses, issues that will no doubt continue to challenge researchers in this area. Broader research could help provide clearer answers about how race, gender, and privilege are implicated in the process of knowledge transmission. Additionally, I would hope that such research could build on my methodological innovations to engage producers more actively as agents within the

research, so that they have more of a say in how they and their practices are represented. A good example here might be to film production sessions, of the kind I myself engaged in, but rather than conducting interviews afterwards, engage in a form of ethnography in which researchers and producers watch this footage together and discuss why certain decisions are made, and how informants developed the knowledge they deploy in such decisions. I hope methodologies like this would allow me, and other researchers, to examine in even greater detail the production of experimental hip-hop and the transmission of knowledge.

Throughout this chapter, and the thesis more broadly, I have sought to explain the roles of the different actors involved in knowledge transmission in the experimental hip-hop scene that I study. These actors may interact in unexpected ways, and factors such as status, position in the learning trajectory, social intimacies, the affordances of different tools, and the ways individual informants retain knowledge (i.e. within their body, within objects, or more intellectually) all shape transmission in ways that can vary significantly. For those individuals who do not feel their knowledge or status is secure, even the development of social bonds and intimacies may not allow them to share the most valued knowledge that allows them to express themselves authentically, idiomatically, and innovatively; and therefore maintain their cultural capital, status, and unique sonic signatures. Developing a simple model of knowledge transmission which clearly specifies which actors are the most important or central to this process is therefore extremely difficult, although my work suggests that despite the prevalence of the internet in day-to-day life, in-person interactions continue to be extremely significant. My work reaffirms the idea that ethnography remains a vital method for scholars researching music making in the present, and that it can be particularly important in developing understandings of how humans and nonhumans are co-implicated in knowledge transmission. I hope therefore that I, and others, can build on this research in the future with a broader range of producers to examine these dynamics in other parts of the scene and across electronic music more broadly.

Appendix 1

Semi-structured Interview Questions

Introductory Questions

Tell me a little bit about yourself and your route into music?

What kind of music do you make, how do you define it?

How are experimental hip-hop compositions made?

What do you do when you sit down to make a beat?

Is improvisation involved in your production process, and if so how?

What hardware and software do you use and why?

Do you make your own musical objects and tools? If so, how do you go about doing this and why are these tools useful to your practice?

Do you use pre-composed tools such as presets and samplepacks, if so why are these useful?

What style is your music, and how do you communicate that style to listeners?

How do producers learn to make them (or put another way, how is this knowledge transmitted)?

Have you ever had a sound in mind that you didn't know how to make? If so, what did you do?

Have you faced barriers to acquiring knowledge and if so how did you move past them?

Have you ever asked advice from someone else on how to make a beat? If so, tell me about it.'

Have you ever given advice to someone on how to make a beat?/ Do you help other people learn?

What kind of social interactions are involved in production, learning, distribution and reception, and how are these shaped by software and hardware technologies?

Who are the most important producers in the scene, and how do they influence your work?

Do you collaborate with other people when making/playing music? How?'(social interaction in producing/performing)

Do you let other musicians know what you think about their music? How? Do other musicians let you know what they think about your music? How? (social interaction in reception)

How do you select images for your music?

How do you distribute your music? Is anyone else involved? Do you help to distribute anyone else's music?' (social interaction in distribution)

Do you distribute tools? Do you ever use other producers distributed tools?

Do you write music for rappers and singers? Does this change your production process?

Are other websites, aside from SoundCloud, important in your musical practice?

Do gender and race impact on your musical interactions with other musicians?

Do you collaborate with other musicians locally?

Do you collaborate with musicians who live far away?

Do you collaborate with musicians who you've never met face-to-face?

How do these experiences compare?

Do you perform live? Is this ever experienced by others not local?

List of Informants

Below I list the informants involved in my research and briefly sketch their biographies. While not all of them are quoted explicitly in the main text (although they are often paraphrased), they each played a significant role in my research, providing crucial insights and contextual information.

Core Informants

BH

BH grew up in a musical household in the Midlands. Around the age of ten he began teaching himself guitar and drum kit, and after a couple years started playing in bands with other fledgling musicians he met at school. Through learning the drums he became involved in playing tuned percussion in an orchestra, and gradually became involved in playing jazz, learning from a local musician in his late teens. It was around this time that BH became particularly interested in electronic music, starting with Dubstep, and he tentatively began producing his own tracks (he had received some brief instruction in the DAW Logic in his music lessons). At the same time he started attending the National Youth Jazz Orchestra, which contributed to BH undertaking a degree at Trinity Laban Conservatoire of Music and Dance. After spending some time focusing on his instrumental practice he was inspired by Flying Lotus' album 'Cosmogramma', and the work of other key figures in the LA Beats scene, and began producing more seriously, ultimately transferring from Trinity to Guildhall to complete a degree focused on electronic music. His experience here significantly informed his successful later work both as a producer and as creator of samplepacks, and he also draws on his involvement with more traditional forms in his collaborations with musicians, both other producers, and instrumentalists from the London jazz scene.

OB

OB was raised in religious Nigerian family in which church attendance and religious music were a significant factor in everyday life. These experiences, particularly singing in choirs and listening to the kinds of keyboard playing involved in church music, were formative, and he continues to deploy these elements in his current work. Although OB had been into a range of musical styles in his youth, it was hearing a number of key

producers, such as Mndsgn, that contributed to his exploration of experimental hip-hop, in addition to learning some of the basics of production in music technology classes in school. In addition, meeting a number of other producers at university in Birmingham, and when he returned to South London, was significant in his musical development.

MZ

MZ was always surrounded by music in his childhood as he comes from a family that contains a great many legendary Jamaican and British musicians, including singers Jacob Miller and Maxi Priest, and he continues to feel a strong connection to the music of the Caribbean. Although his father wasn't a musician, he was an avid listener and collector, not only of reggae, but also of other styles such as hip-hop and neo-soul. MZ began taking classical guitar lessons from the age of six, and received instruction for a decade before he began to feel dissatisfied by the tradition and started to teach himself jazz, inspired by musicians such as Earl Klugh. In his teenage years he inherited a computer from his father and inspired by Flying Lotus (whom he stumbled across on YouTube), and some of the neo-soul and hip-hop his father listened to, began to explore production, using the basic software Garageband for his initial efforts. During this time he started to make connections between the jazz he was learning on the guitar and his production work, and after developing his skills more extensively at the Rinse FM Producers Academy after school, began to incorporate his guitar playing into his productions. These experiences continue to inform his work, in which his guitar plays a prominent role.

MG

MG grew up in a religious Seventh-day Adventist family in Bristol. His grandparents were part of the Windrush generation, arriving from Jamaica. Despite this, his parents were never particularly keen on Jamaican music, and were more interested in jazz as he was growing up. MG was always obsessed by music, and began learning classical piano at an early age after his parents found him trying to figure out melodies on the piano at his grandmother's house. His strict religious upbringing meant that he spent a lot of time playing music in church, and his experience accompanying the congregation on keyboard was extremely formative. As he got older he became interested in guitar through Jimi Hendrix, and ultimately returned to jazz guitarists such as Wes

Montgomery by sifting through his dad's old records. This led to MG studying for an undergraduate in music at Oxford Brookes, during which time he became deeply involved in more experimental jazz and composition. Despite growing up in a city with a strong tradition of electronic music making, it was only in early adulthood that a friend introduced him to producers such as Flying Lotus, Madlib, and J Dilla, and key pieces of technology such as the DAW. Production soon became an obsession and he began spending so much time working on his beats that it took over from his more formal studies in composition. He continues to produce from his South London home studio.

TGL

TGL comes from a highly creative family, as his mother is a dancer and choreographer, and his father is a South African jazz percussionist. Some of his earliest memories involve falling asleep in guitar cases during the rehearsals of the various ensembles his father was part of. He grew up surrounded up a wide range of music, but these experiences were shaped by the fact that he suffers from a significant hearing impairment, which made certain types of music making difficult to access. At primary school TGL briefly had lessons on a number of instruments, but since then has been largely self taught. TGL first became interested in producing early in his teens after hearing a slightly older child play some of his own early productions in school. This budding producer then taught TGL some basic techniques, and he began exploring his own productions, which initially were in the grime style that was extremely popular among his peers. At this time TGL's father began to take a serious interest in his son's fledgling career, and introduced him to a number of musicians who remain significant inspirations, such as legendary producer and rapper Q-Tip and jazz visionary Sun-Ra. However, it was hearing Flying Lotus which radically changed TGL's musical direction, and he began the process of producing in a different style. Nowadays TGL not only produces experimental hip-hop, but also works with vocalists, and performs live electronics with young instrumentalists from the London jazz scene.

LA

While LA's parents may not be musicians they are vinyl collectors, and he grew up in a Finnish household surrounded by jazz and classical music. At seven he began learning piano, and by eleven had advanced enough to start after-school sessions at a pop and

jazz conservatoire in Helsinki. However, his teenage obsession with skateboarding led to him dropping music for a while, until he began experimenting with a DAW that he was introduced to by a family member. Although he had always been fascinated by hip-hop (since hearing it on the radio), and in particular the music of Cypress Hill, he initially gravitated towards drum and bass, inspired by UK artists such as Roni Size after receiving a drum and bass compilation CD from his sister one Christmas. However this was only a brief phase, and he soon returned to making beats and instrumentals for local rappers in Finland. Several years later he came to the UK to study for a masters in Sound Arts at the London College of Communication, which inspired him to incorporate more unusual elements in his productions.

SF

SF's father was a jazz pianist, and jazz and classical music were always on in the background when he was growing up in Holland. SF's father was in fact his first piano teacher at a very young age, and always pushed his son to explore jazz and classical music. In his early teenage years SF returned to music (after a brief obsession with football), and began experimenting with composing his own music on the DAW (inspired by hearing Eminem on the radio). Despite living in a rural area, there was one other young musician, a rapper, who had also become interested in hip-hop, and they began to make music together using rudimentary sampling techniques and his father's record collection. When SF left home to attend university he began to take music making more seriously, learning from other Dutch producers he met in the city, and gradually beginning to incorporate his piano playing into his compositions as the basis for sampling and musical manipulation. His music is inspired by producers such as Flying Lotus and Teebs, and he continues to produce from his current base in Australia.

Other Informants

CHC

CHC comes from a highly musical family and his father is a prominent music academic. As well as working on pre-composed musical materials, such as samplepacks, as part of his business, he is a researcher, examining the connections between music, place, and dementia.

RC

RC is a highly idiosyncratic producer and programmer whose approach to music making and the creation of different musical tools, such as software synthesisers, is heavily informed by his academic background in science. His current work is inspired by IDM and neo-classical, and employs a data-driven approaches to create a complex form of contemporary dance music.

LL

LL has only recently begun producing in the last couple of years, after many years of experience in other types of music as a drummer. His work is inspired by the lo-fi aesthetics of the producer Ras G, and he employs the DAW alongside the Roland SP-404 in his productions.

NA

NA really began getting into producing in his early teens when a family member showed him the basics of production on the DAW he still uses. Although NA grew up in a Jamaican household surrounded by reggae and sound system culture (of which he remains a major fan), he became very interested in producers such as J Dilla and Knxwledge as he grew older, and these iconic figures remain a major influence.

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