People, Platforms, Practice: The Social Mediation of Electronic Music Production

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Abstract

This thesis is a study of electronic music practice in the Australian city of Adelaide. Based on fieldwork conducted from July 2016 to January 2018, my work builds on scholarship that seeks to examine the impact of digital technology and the Internet on society. Its central aim is to examine how people engaged in making electronic music negotiate the affordances and difficulties of a digitally-connected world. The thesis has a dialectical structure, alternating throughout with perspectives that chart active and reactive responses to the ubiquity of digital technology in society. Three sections explore electronic music at the level of the subject, the object and their combination in the social, to understand how their mediation informs the modern musical assemblage.

Born's (2010) theory of music's four planes of social mediation is used to explore a field of musical cultures that are spatially and temporally connected, allowing for comparison and understanding of the processes and relations, discourses and ideologies behind contemporary aesthetic practice. It extends Born's theory by emphasising and extending conceptions of the social to include a range of non-human others, including user interfaces, recommender algorithms and generative music programs. The diversity of perspectives included from across the age range and stylistic spectrum provide a holistic portrait of musical expression in a particular time and place. The accounts of Adelaide's music makers show how technical, cultural and economic influences intersect, moving beyond a concern with the functionality and spread of digital technology to concentrate on the meanings and contexts of its use. More broadly, as an ethnography on contemporary music and society, it demonstrates how social relationships, software platforms and creative practices are becoming further entwined, encapsulating the shifting state of being in the world today.

Thesis Declaration

I certify that this work contains no material which has been accepted for the award of any other degree or diploma in my name, in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. In addition, I certify that no part of this work will, in the future, be used in a submission in my name, for any other degree or diploma in any university or other tertiary institution without the prior approval of the University of Adelaide and where applicable, any partner institution responsible for the joint-award of this degree.

I give permission for the digital version of my thesis to be made available on the web, via the University's digital research repository, the Library Search and also through web search engines, unless permission has been granted by the University to restrict access for a period of time.

I acknowledge the support I have received for my research through the provision of an Australian Government Research Training Program Scholarship.

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Introduction

> Music is prophecy: its styles and economic organization are ahead of the rest of society because it explores, much faster than material reality can, the entire range of possibilities in a given code. It makes audible the new world that will become visible…it is not only the image of things, but the transcending of the everyday, the herald of the future (Attali 1985: 11).

This thesis investigates the practice of making 'electronic music' in the Australian city of Adelaide. By music, I use Cary's (2007) wonderfully succinct definition of "sound that can be organised". By 'electronic music', I mean "music created and conceived using electronic instruments" (Holmes 2006: 99). But like many categories in what follows, neatly boxed identities and ontological boundaries become indistinct and obfuscated. My work seeks to examine the impact of digital technology[1] and the Internet on society by exploring the subjectivities and capabilities of a cross-section of music makers, examining how and why they make and perform the music they do. Although my research set out to investigate the practices and social relationships around electronic music, the Internet emerged as central. The reports of my participants suggest the need for a theory that can account for an emerging 'networked' *habitus*[2] and its implications for music, subjectivity and social formations. Adelaide in this thesis forms a 'symptomatic' field site where the particular problematic to be examined, namely the impact of digital technologies in society, is analysed as it manifests in one Australian city.

Analysing this form of cultural production necessitated a triangulation of my informants' discourse, an evaluation of their present and historical social context and reflexivity about my own aesthetic

[1] Digital here refers to what Prior (2018: 10) refers to as a "formation of discourses, artefacts and practices that revolve around an increasing reliance on complex computerized systems."

[2] *Habitus* is the term used by Bourdieu (1977) to describe the often unconscious and habitual dispositions accrued through family, upbringing, education, and environment.

dispositions. Incorporating microsocial affect, meso-societal relations and macrostructural conditions required a theoretical methodology that could engage with the mediation of all three without a reduction to deterministic causality. The visible and enduring cultures around music practice characteristic of the late-twentieth century are looking problematic among contemporary patterns of taste and meaning, amidst the mycelial communications and niche expression of 'Post-Internet' socialities. I use the term 'Post-Internet' in this thesis to refer to the "impact of digital networks, portable devices and social media on identity and society", (Waugh 2017: 233), leading me to reconsider an identification of the social with music in respect to the familiar categories of genre and scene.

In reconciling these challenges, I turned primarily to Born's (2010a, 2010c, 2011, 2012a, 2012b, 2017) theory of music's four planes of social mediation. Utilising the topographical metaphor of the plane to invoke the interaction of multiple levels of the social, Born identified music's capacity to engender its own socialities of performance; imagined communities of practitioners, fans and consumers; how music itself is mediated by social stratifications of class, age, gender sexuality, race and ethnicity; and effected by and influence institutions and wider structural forms. The first two planes are where social formations, relations and imaginaries are composed by musical practice and experience. The last two planes are where wider social relationships and institutions interact and suffuse the socialities and communities within music to afford or shape forms of practice.

I use the milieu of Adelaide's electronic music makers, like the modernist musical institution of IRCAM[3] that Born (1995) used to explore broader cultural and technological developments. Born's own ethnographic goals were to provide a rich account of the reflexive, creative and intellectual cultures of IRCAM, and later the BBC (2005), to analyse the conditions for creativity, the causalities underpinning these conditions, and the results in terms of cultural output. Like Born (ibid. 20), I utilise

[3] IRCAM is the Institute for Research and Coordination in Acoustics/Music, based in Paris. Founded by Pierre Boulez, IRCAM is a non-profit making association under the aegis of the French Ministry of Culture and Communication, <https://www.ircam.fr>.

numerous thick descriptions from my fieldwork to contextualise the rationales behind my participants' practices, and the broader themes of the thesis. The motivation for Born was historical, as both her ethnographies responded to and problematized an uncertain historical moment in their respective cultural field. My thesis brings these ethnographic objectives to a non-institutional setting to develop a critical interpretation of contemporary electronic music in its practice and performance.

I make a deliberate focus on more than one genre or demographic category in order to gain an inclusive portrait of the impacts of technological integration and online influence[4] in the contemporary era. The thesis charts the influence of what Stalder (2018: *vii*), calls the "digital condition", providing empirical evidence to evaluate claims for a symbiosis with digital technology (Hayles 1999, Kurzweil 2005, Waugh 2015, 2017). The assemblage of the human, computer, music platforms like Ableton, as well as social media, have the potential to facilitate and democratise a potentially liberating creativity, individual and bespoke in terms of aesthetic expression. My data shows that you can be who you want to be in the studio, or to a certain extent online, creating your own personality and practice. This was particularly evident among "digital natives" (Bishop et al. 2017: 12), those growing up surrounded by the Internet.

The reaction to this emancipatory perspective are the existential uncertainties and practical difficulties in translating music practice into a sustaining career. Often those I spoke with resigned music making to a meaningful but marginal hobby due to the overriding requirements of daily living. While the ability of audiences to create and share music online circumvented the centralised control enjoyed by media companies under the broadcast model (Baym 2018: 11), the further diminution of smaller players in the music industry in the face of streaming music services[5] (Hesmondhalgh & Meier,

[4] Intrinsic to the Post-Internet era, according to Waugh, is the "lack of difference between being online and offline" (2017: 235). The ramifications of this reality on music practice are examined in this thesis.

[5] There are signs of recent recovery for major industry corporations from streaming revenue, but it is unlikely to be significant for most artists and independent labels, (Donoughue 2018). Recent research by Arditi (2018) confirms a shift in the recording industry from a business model dependent on selling commodities to one based on subscriptions and streaming, a strategy he saw as creating "unending consumption" (ibid. 307).

2018: 1566) makes it difficult to make money outside of performing live and the limited opportunity for paid commissions[6].

This study provides a deep ethnographic portrait of creative practice at a moment in time in Adelaide, a city largely unexplored in terms of contemporary music-making. Those I interviewed were all active users of Internet-connected devices including smartphones, tablets and laptops. Born's methodology offered me an over-arching framework to explore the social implications within this broad and diverse field of creativity, while leaving open the incorporation of other theoretical inputs. Its strength lies in its simplicity and all-encompassing applicability; it is not proscriptive and allows for culturally specific findings to emerge. My thesis extends the theory by emphasising the role of the non-human in electronic music practice. When intelligent machines, generative music technologies and algorithmic suggestion are factored into the social, there is no music to which it cannot be usefully applied.

Electronic Music: Material, Aesthetics and Distinction

> The assemblage of human and information machine must be accounted for as a phenomenon unprecedented in the array of media technologies, an innovation that is drastically changing the character of culture (Poster 2012: 19).

Since the mid-1990s, there has been a broad multi-disciplinary interest in sound, noise, glitch and silence that has been labelled the 'sonic turn' (Porcello 2007: 153). Electronic music's intersection with these debates has focussed on the technological, in terms of technologies of production and

[6] A report by Music Business Worldwide listed the amount of streaming plays required to earn US$1,472, the average monthly wage in the United States. Figures ranged from 77,474 plays on Napster, to 2,133,333 plays on YouTube. (Eliezer, 2019).

consumption (Theberge 1997; Pinch & Trocco 2002; Katz 2004) and the practices of music makers (Reynolds 1998; Cole 1999; Cascone 2000; Rubin 2000; Greene & Porcello 2005; Hainge 2007; Sicko 2010). Scholars have also focussed on electronic music's ontological, epistemological and phenomenological significance though its entanglement with affect (Jackson 2004, Thompson 2017a), discourse (St John 2013a; 2013b), education (Thompson & Stevenson 2015), environment (Toop 2004), gender (Rodgers 2010; Farrugia 2012), performance (Vandemast-Bell 2013), place (Lange & Burkner 2013; Allington, Dueck & Jordanous 2015), time (Ernst 2016), and large scale cultural, economic and political processes (Born 1995; Born & Devine 2015; Taylor 2015; Hesmondhalgh & Meier (2018). My thesis uses Born's (2010a) holistic methodology to focus on the social aspects of music practice, a crucial inspiration and motivation to creative endeavour implicated in all the above, but not always foregrounded.

Adorno's work on the commodification of music and the implications of the mass market on cultural production, was seminal in showing how music practice is reflective of larger social processes (Paddison 2004). Baudrillard (1996) similarly identified the conditioning operating behind the competition and personalization occurring under capitalism, manifesting in the drive for individual self-fulfilment through the consumption of objects. More recently, Taylor (2015) charted capitalism as a social form shaping the production, consumption and distribution of music, and the cultures in which it is found. He claimed digital technologies were not only facilitating neoliberal policies but had helped in introducing them into work and culture. Such a focus on the hegemony of capitalism can lose sight of differing regimes of value in society. Commodification does not necessarily mean an object is debased but can vary with the meanings invested by different social groups. A focus on structural accounts around music production and consumption loses focus on the relations between the musical object and the subject, their cultural and social location and the changing forms of subjectivity around music.

Bourdieu (1977) revealed how people were brought up with habitual ways of being in the world, emerging as second nature or *habitus*, resulting in patterns or channels of behaviour, predilections and aesthetic taste. He went on to create an analytical scheme (1984) that showed how musical preferences reflected and reproduced social divisions. His work was based on data collected in the 1960s, where the role of class was considered foremost in emphasising how tastes were shaped by the social groups that people belonged to. In later work, Bourdieu (1993) identified the competitive positioning of cultural producers in a *field* of cultural production. Artists, agents and institutions were seen to take up positions in terms of relations of distinction or opposition, in competition for cultural legitimacy. For Bourdieu, the habitus reflected the accumulated effects of education, upbringing, environment and context, and artistic works were the product of the habitus of the artist interacting with the field of competing styles and genres.

The social conditions that people inhabited were therefore seen as crucial in the development of aesthetic taste, embodied like a cultural DNA (Prior 2013: 183). The implications of this perspective suggest that a musical upbringing was significant in cultivating a musical habitus, but also that this was heavily dependent on social class. Back in the 1960s, Bourdieu's focus on classical versus popular music may well have coincided neatly with such an analysis, and his skill in connecting macro-historical processes to the micro-socialities of everyday behaviour have provided an enduring foundation for musical research (Toynbee 2000, Bennett et al. 2009, Sterne 2003). However, subsequent work by scholars such as Thornton (1995: 28) suggested that the influence of class might be declining as age and gender emerge as significant factors. Thornton's influential study of British club culture has particular relevance for electronic music. Her research at the height of rave culture in the late 1980s and early 1990s emphasised a similar division between 'mainstream' and 'underground', where distinction was made in opposition to the 'fakeness' of popular musical forms. Instead, what she termed the subcultural capital of being 'across' the latest music, argot and dance styles was a way of claiming social distinction.

Research by Peterson and Kern (1996: 902) indicated a rise in musical 'omnivorousness' and a tolerance of aesthetic difference, and Bennett et al.'s (2009) study of consumption practices in the United Kingdom provided a thorough update of Bourdieu's ideas in more contemporary conditions. The social divisions between popular and classical music were found to remain, but it was within the field of popular music that the most intense divisions were occurring. The study found that tastes could be more open and diverse, suggesting that the connection between aesthetic discrimination and cultural capital was becoming less significant. By this time, two areas of social change were emerging as important for music practice (Prior 2013: 188): first the expansion of higher education and its impact on social mobility, including opportunities for musical education in secondary schools, (and reinforced by many of my participants[7]); secondly, and at the core of my thesis, how the digitalisation of music has had massive implications for how people can access and listen to music, potentially liquefying genre categories in the process (ibid. 188). Prior argued that it was hard to see how the habitus could remain static in the face of such dramatic changes.

Bourdieu placed great emphasis in how the habitus was reproduced through education, leading to the reproduction of the social order, often through an unconscious strategic investment in playing by the existing rules for the practical purposes of personal achievement (Calhoun 2011: 367). He also highlighted how in a similar fashion, all the institutions of capitalist modernity tended to promise more than they provide, only to end up reproducing inequalities (ibid. 369). Born was critical of Bourdieu for disregarding the potential for subjective transformation and change, and the subaltern capacity to appropriate cultural materials from dominant others (2010a: 178). Ultimately for Born, Bourdieu's focus on the structural embodied habitus of the individual overlooked the capacity for creative improvisation. While music could function as a way to demarcate the self from others, and define individual and social allegiance, it also provided ways to experiment with new socialities and identities (Born, Lewis & Straw 2017: 5). My research underlines the need to account for the dynamism of artistic

[7] IV (Interview) 16 Ali, IV17 Anton, IV22 Liam, IV24 Travis, IV28 Sam, IV33 Phil, IV38 Amber, IV51 Peter.

codes, creative practice and musical formations, particularly at a time when the social extends across the rhizomatic connections and pedagogical affordances of the Internet.

Born recommended a turn to anthropology for ethnographic accounts where creativity was linked to the product of a social consciousness (Michaels 1994, Feld 1982, Myers 2002). As a discipline that had to engage with the creative practices of the groups they studied, Born considered anthropologists especially sensitive to the shifting categories of creativity and aesthetics, and the specifics of rapidly changing social contexts. A focus on the cultural object was one of the ways Born suggested anthropology was able to bring in the social in an assemblage of material and temporal mediations. Gell's (1998) work on Melanesian and Polynesian art forms showed how a cultural object had a form of career, and his attention to the temporal dimensions of art, its memories of the past and anticipations of the future, I can identify in a practice like modular synthesis[8], or in a meta-genre such as 'Techno' and its attendant social milieu[9]. Born also saw in Pinney's (1997) exploration of Indian photographic portraiture how the dynamism of genre is inherently social (2010a: 186). Here a combination of Hindu cosmologies, imported aesthetic norms, the developing materiality of photographic media and particular social circumstance were all shown to affect the changing ecology of the genre.

DeNora (2000) looked to the ways that music bypasses wider stratifications of taste to affect individual memories, emotional states and to construct personal meanings, forming a central component in the 'conglomerate' of the self (2006: 24) to act as a unifying factor in who people choose to associate with and identify. DeNora saw music as having an agency in itself, capable of world building as people made connections between the music they listened to and wider domains that corresponded to subjective desire. A relationship with music afforded styles of living, consciousness and personality. Hennion (2001/2012) also stressed the mediation of music as an active engagement

[8] Discussed in detail in Chapter 4.

[9] Discussed in detail in Chapter 6.

rather than reflecting predetermined processes of social relationships. Using a historical analysis of Bach's music, he identified the role of amateur practices and individual attachments that endured through time to even affect the music itself through their influence on trends in musical taste. Taste was shown to be the product of individual meaning making and pleasure, and not just the result of imposed patterns of distinction (Prior 2013: 190). Born considered both DeNora and Hennion privileged micro-social aspects of mediation, at the expense of considering the wider networks of social relations within which they were embedded (2012a: 265). My thesis supports Born's criticism that music's 'agency' is in fact the result of a "two-way or co-productive process" (Born 2017: 33). Mediation became the centre of an analytical framework of music that could encompass the relationships, aesthetics and temporalities intrinsic to cultural production.

Electronic Music: Born's Four Planes of Social Mediation

> Musical experience entails and proffers relations between objects and subjects; indeed it construes what might be called a musical assemblage – a series or network of relations between musical sounds, human and other subjects, practices, performances, cosmologies, discourses and representations, technologies, spaces, and social relations. Music is never singular, but always a multiplicity; it exists only in and through its multiple and changing mediations (Born, 2010b: 87-88).

In a 2005 article in *Twentieth-Century Music,* Born introduced a theory of music's social mediation. Building on the above works by DeNora, Hennion and Gell, Born used jazz and improvised electronic music to highlight changing forms of musical creativity in separate yet interacting orders of social mediation (2005: 7). These entered into what Born referred to as the musical "assemblage" (ibid. 8), the Deleuzian notion that refers to a multiplicity of mediations "sonic and social, corporeal and technological, visual and discursive, temporal and ontological" (Born 2012a: 268). Born developed a

conceptual framework for social mediation that took in four distinctive planes of social relations that although irreducible to each other, are interrelated though "relations of synergy, affordance, conditioning or causality" (2011: 378).

The first plane of mediation is most noticeable in musical performance and the micro-sociological level, where music produces its own socialities in ensemble practice, collaboration and associations, as well as in consumption. The laptop in particular has revolutionised musical operation, often dispensing with the requirement for other band members. However, the success of digital audio workstation software (DAWs[10]) like Ableton Live in realising musical ambition have generated new obstacles in enacting convincing public musical displays, where the expectations of putting on a show demand something more than staring at a screen and moving a mouse. Within electronic music, I include in these socialities the non-human, encompassing a range of intelligent machines often intrinsic to the music played and produced. While I recognise the contribution to the debates about non-human agency of Latour (1988, 2005), I find actor-network theory inadequate in dealing with the complexity of contemporary music, where the dynamics of mimesis, influence, innovation and suggestion are rapid and obscure.

The second plane highlights music's ability to generate imagined communities based on musical identifications. This plane took in territory covered by researchers studying the many socialities engendered by electronic music, including subcultures (Muggleton & Weinzierl 2003, Greener & Hollands 2006, Whelan 2006, Dedman 2011) , tribes (Maffesoli 1996, Luckman 2010, St John 2012) and scenes (Straw 1991, 2014). While accounts from Chapters 1 and 6 show that traditional subcultural groups with discernible style still exist, in today's electronic music field such alliances can

[10] DAW stands for digital audio workstation, an all-in-one music software platform that provides a 'studio' complete with instruments, effects and some kind of timeline structure in which to combine the elements of music production together.

take the form of face-to-face and virtual[11] communities with varying degrees of affiliated solidarity and interaction, and often little visible symbolic distinction.

In the third plane, music moves across the wider stratifications of society, from the city to the nation to the world, taking in relations of country, ethnicity, race, religion, class, gender and sexuality. Electronic music is the ultimate 'folks music'[12], where an infinite heterogeneity of sound sources can be inputted, sampled, morphed, remixed and released into completely new forms. The socialities around its production can reflect this sonic cosmopolitanism or crystallise into taste constellations around generic stylistic elements and the affordances of specific historical contexts. Music can also embody the stratified and hierarchical accumulation of cultural capital. The 'genre' of Techno and its attendant social manifestations is used as a case study in Chapter 6 to highlight how particular contextual conditions afford certain kinds of music practice, as well as music's ability and limitations in traversing social difference.

Finally in the fourth plane, music is embedded in the wider institutional influences and constraints that form the foundation for its production, reproduction, evolution and decay. These can be the tertiary institutions that in Adelaide remain an integral part of the electronic music community, the neoliberal economics of networked capitalism, or the information flows of communications technology. Throughout this thesis, inescapable in its centrality and influence, the Internet is at the centre of socialities around music, either in its potential for connecting with others and disseminating product, it's pedagogical and inspirational affordances, or its alienating intrusion in terms of surveillance and distraction.

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[11] I use 'virtual' in this thesis to refer to "online worlds and encounters" (Miller, 2018), viewed 29/03/2018, <https://www.anthroencyclopedia.com/entry/digital-anthropology>.

[12] Inspired by a participant's account from Chapter 5 who claimed that the monthly *Experimental Music Night* (that features as a case study in Chapter 5) was like a modern version of "folk music". I use the term 'folks music' to refer to the communal sharing of multiple forms of experimental music, often made with home-built or second hand equipment. The plural term of 'folks' also refers to the diverse identities performing and listening to the music, lying outside the bounded ethnic or traditional communities usually associated with the meta-genre of folk music.

Straw's theory of musical scenes is the other theoretical model that is a close fit to my ethnographic data[13]. Under Born's methodology, the 'scene' emphasises music's ability to create socialities through the first and second and planes of social mediation. In Straw's (1991) work, this is highlighted by the *communitas* of the dancefloor, and the unions of disparate club goers attracted by its affective atmospheres and generic styles. In turn, Straw shows how these socialities traverse wider identity formations of class, gender and race, and are themselves influenced by institutions such as clubs, radio stations and record shops (Born 2012a: 266). Straw's scene concept remains useful, particularly in its focus on the social context around music practice. However, as I will argue in this thesis, the changes brought on by the spread of information and communication technologies require a consideration of Adelaide's electronic music makers as multiple or micro scenes.

As White succinctly summarises in a study on global youth culture (2015: 31), three major developments are reshaping the experiences of contemporary society worldwide: the international transfer of information, images and ideas; the expansion of social networking technologies; and the challenges to social and environmental well-being of global capitalism and climate change. I argue these contextual factors can be subsumed, as elsewhere in this thesis, into an understanding of the Post-Internet as a global contemporary condition, certainly for an industrialised capitalist milieu such as Adelaide. Just how those engaged in making electronic music are negotiating this reality forms the subject of this thesis.

[13] "Scenes, I suggest, might be seen as all of the following: as collectivities marked by some form of proximity; as spaces of assembly engaged in pulling together the varieties of cultural phenomena; as workplaces engaged (explicitly or implicitly) in the transformation of materials; as ethical worlds shaped by the working out and maintenance of behavioural protocols; as spaces of traversal and preservation through which cultural energies and practices pass at particular speeds and as spaces of mediation which regulate the visibility and invisibility of cultural life and the extent of its intelligibility to others" (Straw 2014: 477).

Methodology

My ethnographic research took place between July 2016 and January 2018 and included participant observation, semi-structured interviews and performance analysis. As well as attending 88 events where electronic music was performed, 62 electronic music practitioners consented to participate in the project, ranging in age from 18 to 52, with a mean average age of 30.25. Except for four participants who I knew personally before commencing the research[14], six whom I knew of by reputation[15], and six others recommended to me through personal connections[16], everyone else (46 in total) I met in the field, with no prior knowledge or connection in any way. All participants were given the opportunity to provide feedback on the finished thesis prior to publication.

My fieldwork has extended to all sorts of electronic music performances, covering clubs, parties, conferences, installations, exhibitions and festivals. This research was mainly conducted within the Adelaide CBD where the majority of the cities' music venues are to be found. Clubs playing the more commercial styles of EDM[17] are mostly congregated in the Hindley Street area to the north-west of the CBD, the closest Adelaide has to a red light district. Wider styles of electronic music can be heard in various venues across town, from pubs to clubs and bars. When attending events, I generally returned and wrote-up my observations as soon as possible afterwards, rather than attempting to write field notes in darkened, public spaces, usually an impractical proposition. I was able to take photographs and occasional audio recordings as memory joggers and draw upon social media publicity

[14] IV01 Gil, IV04 Ed, IV12 Klaus, IV21 Minimax.

[15] IV03 Kyle, IV07 Arvo, IV10 Dan, IV24 Travis, IV39 Rashad, IV54 Clifford.

[16] IV11 Terry, IV20 Red Robin, IV23 Miles, IV35 Brother Lucid, IV41 Andy, IV50 Paul.

[17] Electronic Dance Music; EDM is also the name of a meta-genre of modern commercial club music, characterised by anthemic leads, dramatic build-ups and loud production styles.

for further biographical information and event details. I also kept a diary throughout my fieldwork, to recount my ongoing impressions, thoughts and analysis.

By the time I was approved to conduct fieldwork, several aspects about electronic music practice in Adelaide had become apparent. Firstly, the 'scene'[18] itself was a patchwork of various micro-scenes (Harkness 2013: 158), often with little contact with each other. I felt much of this was due to the polarising effect of social media, particularly Facebook, which was by far the most significant platform for event promotion. Street print media in Adelaide was sparse and seemingly sporadic, of little value in advertising smaller events. There were significant regular titles in the past that were a key part of finding out about what was going on, such as *Rip It Up*, *Onion Magazine* and *db Mag*, but these had closed by 2016, as social media soaked up advertising revenue (Robin 2016). While Facebook was now the place to find out about events, as three informants told me in interviews[19], unless you pay for sponsorship or advertisements, your reach will extend only to those in known friend networks. Consequently, events frequently tend to be niche, often poorly-attended and attract only those in the know.

Despite the fragmented nature of the scene, it was also clear that there was loads going on. Once I began to get more connected on Facebook with people involved in the production of electronic music, I began getting invites to events regularly and was astounded at the extent of what was happening. On many weeks in my fieldwork, I could have gone out every night from Wednesday to Sunday, if I could afford and manage it. Due to the financial constraints of my scholarship, I primarily attended events where there was little or no cover charge, I drove everywhere to reduce costs, and rarely drank more than one beer. This meant I did not attend most of the city's bigger clubs. But since these rarely

[18] I use Straw's definition of the term 'scene' here to denote the multiple aspects of electronic music practice in Adelaide. Subject covered in more detail in Chapters 5 & 6 of the thesis.

[19] IV25 Maurizio, IV35, Brother Lucid, IV48 Martin.

advertised local producers playing live, concentrating more on deejays or interstate and international guests, they were not an important place for accessing research participants.

There was also a huge variety in the music being produced 'electronically'. It soon became clear that nearly all music today was electronic, at least when it got to the mastering stage. Where to draw the line? I soon realised that my aim to cover as many electronic scenes as possible was unworkable, and so I concentrated on two regular events that showcased local electronic music, *Sidechain* and the *Experimental Music Night*. I attended both of these events as often as I could, becoming a 'part of the furniture' as it were, and getting to know many of the regulars. I feel I have been welcomed into these 'communities'[20], and my obvious support and interest for those performing and organising the events appeared sincerely appreciated. Both these events are discussed in detail in Chapter 5. I also chose to focus on the genre of Techno because of its long lineage within Adelaide electronica, and a community around its practice that I felt a strong sense of connection with. The sociality around this musical genre is discussed further in Chapter 6. Aside from these, I continued 'following my nose', as it were, seeing where my senses and intuition led me.

I had initially decided to extend my field to include deejays, since I was fearful of not having enough participants. It quickly became apparent that this was not going to be a problem, quite the opposite. In fact, my research is very much the 'tip of the iceberg', the end of a music making demographic prepared to step out of the 'bedroom' studio and play their music in front of an audience. This is a big step to take, particularly if it is your first time. Being prepared to perform your music live is a step towards 'seriousness' that was one of my main categories for inclusion in the project. I acknowledge that this decision has possibly skewed my research in favour of the more musically gifted and socially confident. A field report after my eighth *Sidechain*[21] highlights my realisation of having to now pick

[20] I unpack further what I mean by community here in Chapter 5.

[21] EV21, 17/11/2016.

and choose who I would approach for an interview, as there were far too many 'controllerists'[22] to practically engage with for research purposes. However, the objective requirements of my research question demanded a broad data base, and I always tried to cover a range of experience and musical styles and to minimise personal bias.

I must also acknowledge a degree of personal choice in selecting potential participants and events to attend, going very much by an instinctive 'feeling' of what would make for an interesting perspective, or who I subjectively perceived as possessing an original 'voice' in their music. This was based very much on my autobiographical experience. I have a long history with electronic music as a promoter, producer, deejay, label manager and enthusiastic clubber, and so the wider electronic music milieu is one in which I therefore have considerable experience. However, I have only lived in Adelaide since 2002 and up until my research had been just peripherally involved with electronic music in the city.

My history of finding research participants can be traced in my diary entries. Despite my decades around electronic music, I began fieldwork with a degree of apprehension at the prospect of hitting the city's nightspots to solicit participants for my research[23]. An interaction at an early *Sidechain* I attended can illustrate the iterative and pragmatic methodological practice I found myself adopting. I approached one of the performers of the evening at the bar, a young 'trendy' man with dreadlocks and a beanie. At first I sensed a hesitant nervousness at the encounter, which I thought could reflect his apprehension at the approach of a strange man twice his age, or the equally understandable desire for some better social 'action'. But once I mentioned I was also a producer, it was like a light-bulb went on his head, and immediately we were deep in conversation about music technology. A similar pattern

[22] I adopt the term "controllerism" from D'Errico (2016: 25), referring to the increasing use of button-based hardware controllers by deejays and producers to manipulate musical parameters from software applications.

[23] DI (Diary Entry) 22 4/8/2016.

was played out again and again in my fieldwork, reflecting what I believe to be the enduring significance of the homophilic social encounter.

The apprehension I felt at meeting new people soon became tempered by the realisation that I was encountering people just as keen to meet other producers as I was. This became something of a practical model for me whereby I would introduce myself as a producer first, anthropologist second. This initial reticence reflected a personal discomfort with my status as a professional researcher, a role that it took a year of fieldwork for me to finally inhabit with pride. It was also the awareness that I was meeting people that could become genuine friends, rather than merely participants or club acquaintances. I resolved that if I felt this way with people, then the friendship should come first, and participation in my project second. I didn't want people to think that my socialisation and attention was purely coming from professional self-interest. As it turned out, it wasn't long before many people knew of my research, and it soon became and remains a first topic of conversation.

Perhaps my long history with electronic music, or because I quickly began playing gigs, meant that anxieties or ethical dilemmas reported by other researchers (Bennett 2002: 460, Rodger 2011: 21) over insider/outsider status never really manifested for me. I considered myself sufficiently removed from a potentially corruptive intimacy with my informants, and instead ethical issues centred on the potential for a parasitic participation in peoples' lives for my own ends. I was always open to developing stronger relationships with many of my participants, with plenty of 'give' on my part, rather than just the 'take' of an interview. Usually this meant trying to turn up at gigs in support or buying music on Bandcamp or other platforms. I have also become friends with many of my participants on social media, initially just Facebook, but later on Twitter and Instagram, as these platforms became significant in terms of music practice, particularly for self-promotion. However, due to ethical considerations, all data ascribed to my participants comes from semi-structured interviews conducted under written consent.

I also promised to keep my participants' identities anonymous, although no-one seemed concerned about this. My reasons also reflect my long experience around what I will respectfully call the artistic ego. I wanted everyone to speak honestly and sincerely without any expectation that what they said would be identified by anyone else and be considered 'cool' or 'correct'. Consequently, I asked people to come up with a pseudonym, or leave it to me to think of one. (A full list of my interview participants can be found in Appendix I, with the date interviews took place, and my participants age). Age quickly became a significant variable that reflected a wider cultural shift in terms of media entertainment. Older participants reminisced about the influence of science fiction, and shows like Doctor Who, with its 'space age' analogue sounds[24]. While for some younger participants, the influence of the 8-bit chip tune sounds of old video games and Japanese cartoons provoked a similar nostalgia that was recreated in their music[25]. This mixture of retro and the future I argue is encouraged by the Internet, its 'long tail' distribution model (Anderson 2006), and constant recycling of fashions and trends (Reynolds 2011).

My interview questions covered the context of commencing electronic music practice, how music was produced, attitudes to digital platforms and their perceived influence, the importance of Adelaide the place and social relationships within music practice, and how my participants' music practice related to their beliefs and values. A list of all my questions can be found in Appendix II. Not all questions were asked at every interview, but I got better, as my fieldwork experience grew, in combining freer discussion and getting my questions answered. Conducting interviews was quite a process for me, involving research into the biographical history of a participant's music practice, and listening to as much of their musical output as possible. Sometimes this amounted to substantial oeuvres, wading through catalogues going back years. Everyone I have interviewed has performed their music 'live' in some capacity, even if it is just deejaying their tracks. Six of my participants were

[24] IV09 Mike, IV27 Sean, IV39 Rashad.

[25] IV08 Wallace, IV25 Maurizio, IV32 Roy, IV33 Phil, IV37 Jordan, IV58 Peter.

primarily deejays, although most moved from 'dabbling' in production to being fully-fledged and self-identified 'producers'.

My questions seemed to generate much open discussion, and several participants reported to me that the interview experience had caused them to think deeply about their practice[26]. I had to adapt some of the questions as I went along, mainly to try and incorporate emerging themes. The most notable of these was around gender. I was initially reluctant to approach this topic, since I considered there to be existing research on what I took to be the common binary assumptions around gender and electronic music. I broadly concur with many of Farrugia's findings in her (2012) ethnography, *Beyond the Dance Floor*, that investigated how women in the United States engaged in the deejay profession and music production. She found only ten percent of deejays were female and identified a range of personal and social obstacles for women building a successful music career. These included gendered discourse in studio environments, commented on by one of my participants[27], and my own observations of structural patriarchal politics in journalism and media. As an example, I took out a subscription to *Future Music* magazine from February 2013 to January 2015, and not one woman was featured in any issue apart from the singer in a band in issue 265.

However, this simple gender binary glosses over many changing demographics within those engaged in music production in Adelaide. While overall, in my subjective opinion, I identified eighty-five per cent of my participants as male, this figure is closer to seventy per cent for those 25 and under. I believe this shows that it is the youthful demographic that are primarily pushing the changes to gender representation around electronic music production. My experiences in the field make me also reluctant to reify such gender binaries by my subjective identification of a participant's gender. During my fieldwork, I sensed in conversations and observations in Adelaide clubland, that attitudes to

[26] IV06 Bloodbottler, IV020 Red Robin, IV55 Erykah.

[27] IV36 Jem.

gender and sexuality were nuanced and fitted more into a fluid spectrum of possibility. Furthermore, I sensed that this was significant to music practice, manifesting in a rejection of generic identifiers.

DeWalt & DeWalt (2010) listed many reports of researcher difficulties due to differences in gender, age and race, as well as the potential to shape responses by your questions. I felt uncomfortable and ill-equipped to probe too deeply into my participants' sexuality as it fell outside of my existing ethics approval. What did seem significant, and what I considered was a part of my approved research, was the influence of the Internet. I do not necessarily mean this in a rigidly deterministic way, but as an incubator of multiple possibilities, and as a medium for personal expression, the online world is in some ways freed up from the restrictions of 'in real life'. It appeared to me, and was confirmed by several of my participants[28], that their music, while produced locally, was in fact located within a spectrum of influences taken from across the online 'mediascape' (Appadurai 1990). It appeared that the permissiveness of the Internet, and the communities forming around niche artists, were leaching back into the offline world, challenging established cultural codes and influencing individuals and communities around music practice, identity and consumption.

My research also does not cover strictly 'bedroom' producers, since accessing them was difficult without some kind of personal connection, a problem summed up in an article by Bell (2015). Bell's research sought to question the democratization of 'playing the studio' afforded by accessible digital technology. His data was obtained by recruiting volunteer participants online In New York, who filled out a survey placed in the 'musicians' category of Craigslist with the incentive of winning a gift card. Other attempts were made, including posting advertisements on producer forums like gearslutz.com with little success (ibid. 133). A total of 104 applicable people from within the city completed the survey, and from it, Bell felt able to deduce that access didn't equate to gender, since only eleven per cent of his respondents were women. Not only does this methodology highlight the difficulty in accessing people outside of personal connection, either through face-to-face encounter or

[28] This subject is dealt with in detail in Chapter 1.

recommendation, Bell's findings offer none of the nuance to be obtained through engaged qualitative research, even if the broad quantitative data is not too different. Chapter 1 includes a lengthy discussion of gender as it manifested in my fieldwork.

Another question I persisted with, even though it was considered generally unimportant by my participants, was the hoary divide between analogue and digital. Thirty-nine of my participants voiced an opinion on the topic, and twenty-six (67%), evenly across the age range, corroborated what Holmes states on the subject: "the difference between the two merely lies in the way electricity is controlled. There are no aesthetic differences between the outcomes, and the listener will probably not be able to tell the difference" (2006: 99). But there were still eleven (28%) who maintained a preference for one or the other, showing that perceptions of distinction still matter. Overall, my participants appeared happy to express their music with whatever came to hand depending on their resources. This pattern persisted through my field work, playing down but not dismissing the significance of accruing and displaying cultural capital through aesthetic taste made by researchers (Bourdieu 1984, Bennett et. al. 2009).

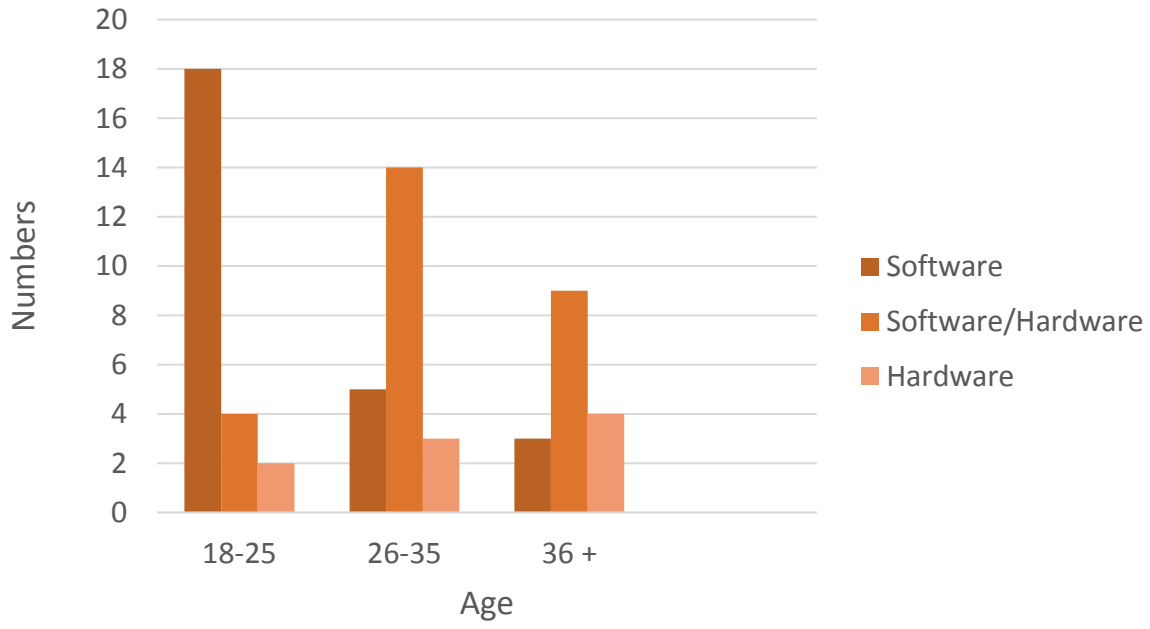


Fig.1 Percentage of participants using software or hardware to make music.

Fig. 1 highlights how the primary (and blurred) binary in my research was between music created using software and hardware. Twenty-seven (46%) of my participants used a mixture of software and hardware to make their music. Of the twenty-six (42%) who only used software, eighteen (69%) were aged 25 and under. Despite Bell's (2015) criticism that affordability does not equal access, my research overwhelmingly puts the popularity of software to make music down to accessibility, especially for young people. The results in Fig. 1 hint at the importance of the age variable in relation to musical practice, with a clear enthusiasm for digital methods of music making as you go down the age range. This predilection is expressed in attitudes towards computer technology elsewhere in life, such as engagement with social media, developing and maintaining friendships online and acquiring musical preferences. It was these attitudes that alerted me to the centrality of the Internet to music practice, from finding, hearing, enjoying, making, performing to communicating about music.

At the same time, I have noticed what appear to be the seeds of a reaction to the prevalence of mass computing and screen mediated technology that manifests in a number of ways. The DIY aspect of circuit-bending and gear modification has been going on for a while, and you can even do a course in Sonic Arts at the University of Adelaide on the subject. The growing trend for modular sound producing set-ups means that the exploratory nature of early synthesis, before the days of preset predictability, is being revisited. Finally, the success of long-running nights in Adelaide dedicated to showcasing new music, such as *Sidechain* and the *Experimental Music Night*, highlight the importance of face-to-face music performance and community in music practice.

By the final interview I considered I had a broad handle on what was happening in the electronic music field in Adelaide. Ideally I would have liked to interview more of those attempting to make or enjoy more mainstream electronic music. Since I didn't generally frequent the venues where this music was played, I didn't meet as many engaged in its production. However, several of my

participants I would identify as falling into this category[29], and these reports did not alter my general conclusions.

My research shows that the availability of music platforms, the guiding presence of online tutorials and the intuitive affordances of the software interfaces themselves have democratised the making of electronic music, overcoming restrictions of expense and experience. Furthermore, the confluence of musical affiliation and digitalization can support a connection to and exploration of marginalised identities, the music emerging through these processes encapsulating a stylistic fluidity that reflects its means of construction, using the infinite sound-shaping capabilities of the digital audio workstation. The Internet provides not only the inspiration of a world of music but the knowledge of how to make it, allowing musical, personal and collective subjectivities to be explored.

Thesis Overview

> The twenty-first century folding of practice and delocalized movement points up the need for a new cartography of music, essential to which is acknowledgement of the heterogeneous co-ordinates of spatiality, the complex intersection of locales through which processes of production, text and consumption are enacted (Prior 2008: 919).

The wider context of electronic music, within a late-industrial and information-rich environment such as Adelaide, requires a methodology that can explore the impact of digital technology at all levels of society. One of the few texts that I argue grasps the full impact of this reality is Bratton's (2016) *The Stack*. Bratton's portrayal of planetary computing as six interconnected levels, from earth layer,

[29] IV03 Kyle, IV04 Ed, IV11 Terry, IV16 Ali, IV17 Anton, Miles IV23, IV24 Travis, Maurizio IV25, IV28 Thijs, IV31 Porter, IV37 Jordan, IV48 Martin, IV49 Moe, IV58 Peter.

through cloud, city, address, interface, to the user layer, highlights our immersion within an expanding web of communications infrastructure. While the popularity of face-to-face performance and 'hands-on' music practices, like modular and machine modification, suggests a reaction against this process, what Bratton sees happening on a mass level, I see manifested on the micro-level of my participants. Global cloud-based platforms that distribute, promote and access music, or the social media channels of communication used to keep people connected, show how the Internet is absolutely central not only to electronic music practice but to peoples' everyday lives. Inspired by Bratton's vision, and armed with Born's theory, this thesis is split into three sections, to investigate the impact of digital technology on electronic music at the level of the subject, the object and their combination in the social, to understand how their mediation informs the dynamics and products of aesthetic practice.

Section One: The Subject

Chapter 1: Music & Identity in the 'Post-Internet'

Electronic music practice is used to explore three ideas articulated by Waugh (2015, 2017) around the Post-Internet. The first section of the Chapter, 'Clubbing in Digitopia' explores Waugh's contention that we are developing symbiotic relationships with our digital devices that could be construed as posthuman[30]. Music's second plane of social mediation is highlighted here in the example of a musical affiliation based mainly around online communication. 'Pasifika Futurism' shows the Internet's capacity for connecting with and exploring marginalised identities, and the leveraging of inexpensive music platforms for multiple creative projects. 'Digital Queering' investigates Waugh's claim that social media personalities are replacing gender as a primary performed identity. Again, music's second plane

[30] According to Smart and Smart (2017: 67), Waugh's use of the term posthuman to describe the enhanced human capabilities afforded by technology is actually closer to transhumanism. I use posthuman in deference to Waugh's use of the term.

of social mediation is highlighted by the novel social formations that come into being around emerging combinations of musical influences, many gleaned from YouTube and Instagram, but also around software platforms as music effects-chains and samples are shared for other users. 'Persona Empires' (after Bewersdorf 2008[31]) shows how for the music maker, career trajectories are moving from an anchorage in scene or generic identifiers, towards multiplatform personal 'brands' that evolve over time.

Chapter 2: Politics of the Personal

The interaction of the first and fourth planes of social mediation are predominant here, as music practice is seen as an interface between creative articulation and capitalist consumption, a place where the pursuit of individual expression is both life and life-line. In 'The Studio as Autonomous Zone', the home studio and digital audio workstation works to facilitate both personal expression and self-actualisation. In 'Transposing Alienation', music functions as a refuge from the melancholy and uncertainty of modernity, and a creative outlet for sonic strategies of resistance[32]. In 'Frequency Response', I describe how some of the most political music I encountered is without words; digital technology is shown to enable ambitious and emotive sound art to articulate an impassioned ecological sensibility. 'Laptop Lyricists' describes how the laptop and MIDI[33]-controller[34] have become the preferred technology for the latest incarnation of this form of music performance, a chance to

[31] "All the marketing materials are just shouted into the roaring whirlpool of the web where they swirl around in the great database with everyone else's personal information empires. I think these persona empires are the great artworks of our time, and they inspire me to keep building my own brand" (Bewersdorf, 2008).

[32] Resistance here is used in both Moore's (2011: 1213) conceptualisations of the term; as "symbolically subversive practices" that can be vulnerable to being subsumed into consumer culture, and the active engagement in resisting "the dominant ideologies encoded in the texts and commodities they consume".

[33] MIDI stands for Musical Instrument Digital Interface, a communications protocol to connect instruments such as synthesizers or samplers via cable or USB so they can 'speak' with each other.

[34] MIDI-controller refers to an expanding range of hardware controllers on the market, many with pads to hit and 'play' notes. They are generally connected to laptops via USB and control music on DAWs housed on the computer.

resonate with, rather than rage against, the machine; the aim to generate empathetic engagement at both the personal and societal level.

Section Two: The Object

Chapter 3: Anyone Can Make It

DAW software and online tutorials are shown to be essential ways that have democratised electronic music making. 'Ableton: Meet the Superstar' introduces a non-human celebrity from my research in the form of a Virtual Studio Technology (VST) software application, Ableton Live. Fifteen (24%) of my participants listed either Ableton or one of its native processing applications as their favourite music technology, and ten of those were aged 25 and under. The motivations to make music of young people is shown to be heavily bound up with accessible DAW technology. Music's role in facilitating social interaction is mentioned by case studies as an important factor for their interest. 'Learning the Tropes' explores how tertiary and private music courses are now educating students to craft music from pop to process-driven experiments. A key part of their attributed value was in providing access to a cohort of fellow music makers. 'Jamming with Myself' articulates the attraction of what I term 'band refugees', established musicians now producing music electronically. Although the collaborative nature of band sociality is escaped from by these producers, their band pedigrees make them keen to flaunt their music on the stage. Finally, 'Code Composers' further expands the first plane of music's social mediation to explore those involved in creating generative music.

Chapter 4: Eurorack Revolution & the Maker Movement

The rise of the practices of modular synthesis and DIY instrument making is in many ways a reaction to the prevalence of screen-based interaction in music-making and life in general. A growing number

of boutique manufacturers have adopted the popular and compact Eurorack modular racking format, and the bespoke and artisanal qualities of modular components are publicised and accessed through online peer communities. Despite the potential for escape into hermetic spaces of introspective creativity, these musical practices are intensely social, as the desire to share sounds and ideas, display set-ups and studio additions appears irresistible. 'Sound Affects' explores the relationship with the sonic I see at the heart of the modular experience. Two case studies position this practice at the intersection of a long-gestating musical habitus, together with the affordances of the present modular market place. 'Bespoke Living' highlights the role of the second and third planes, as music's ability to create communities around sound and practice traverse geographic and knowledge barriers. 'Glad Obsession' explores the intense passions aroused by this practice and the relationship of capitalism and audiophilia. Finally the 'Maker Movement' highlights the mediation of hands-on musicking[35] with social aspirations. Like modular synthesis, circuit-bending and hardware hacking are social pastimes, heavily linked to information sharing, whether online or real time.

Section 3: The Social

Chapter 5: Here and Everywhere

Two regular events in Adelaide's musical landscape are used to explore the processes of social mediation in the performance of electronic music. *Sidechain* is a fortnightly event featuring live electronica where a wide variety of musical styles are mixed together for a crowd that cuts across stratifications of age, gender and ethnicity. 'Interface Aesthetics' (after D'Errico 2016), shows how software users negotiate new forms of technology as part of their social and cultural identities. The

[35] Small's (1998) concept of "musicking" stresses the broad and fundamentally social activities of 'doing' music performance.

'genres' of Future bass[36], Trap[37] and Vaporwave[38], appearing at the event, are discussed as musical styles that depend on the computer and the Internet for their existence. 'Return of the Human' highlights the 'fusionists' who mix electronic methods with more traditional instruments and favour band-like presentations, exploring some of the anxieties voiced around modern digital productions and laptop performance. The monthly *Experimental Music Night* (*EMN*) is a space where novel techniques are incorporated into performances that often eschew categorisations of genre and even 'musicianship', engendering a strong sense of community. The music and event represents a kind of postmodern 'folks music', where performers bring their chosen technologies to 'jam' along amidst their peers. Both events draw upon a local cohort of music makers, yet with no discernible 'Adelaide' sound. Instead, the music incorporates individual elements and inspirations from personal history, social memory, and the stylistic flows and juxtapositions emerging and mutating on the Internet.

Chapter 6: People of the Groove

Attention is turned to the dancefloor as a milieu long associated with socialising around electronic music, focussing on the ways that musically imagined communities and social identities are articulated. 'Techno City' investigates 'Techno' music's present status in Adelaide. Initially defined in relation to geographical place (Detroit), but now a broad globalised classification for a form of electronically-produced (mostly) dance music, in the early 1990s Adelaide was considered a world leader in the genre. 'Genre, Meta-genre, Post-genre' shows how today the scene is smaller but still associated with people who produce the music, reflecting the mediation of the first and second planes. Although in many ways a classic 'scene', many regulars display 'partial allegiance', with omnivorous aesthetic tastes, often producing and consuming other forms of music. In contrast, *Club*

[36] Future bass is a genre associated with modulating bass tones, popularised by Australian producer Flume.

[37] Trap is a style of Hip Hop music originating in the Southern USA; 'trap' refers to the site of drug deals.

[38] Vaporwave is a genre and meme that appropriates music and images from the 1980s and 1990s.

Sync is a sporadic club night, music label and fashion outlet, built around a collision of decontextualized global influences that is indicative of the Internet. All the planes of social mediation are at work. Attracting a predominantly young crowd, mostly under 25, the undefinable music encapsulates the ambiguity and elasticity of identity that I argue reflects its means of construction, mostly using the pitch and time-stretching and sampling capabilities of the DAW. It is music that would be difficult to make without the affordances of today's digital technology.

The structure of the thesis is dialectic. Chapters 1 and 3 concentrate on those of my participants generally most enthusiastic about the shift to the digital for making and performing music. Chapters 2 and 4 chart the reaction. Although they broadly correlate with age, there is no clear demarcation. Chapters 5 and 6 show how these attitudes play out in the social sphere of performance; Chapter 5 focusses primarily on the demographic of participants featured in Chapters 1 and 3 in the example of *Sidechain*, and the demographic from Chapters 2 & 4 in the example of the *EMN*. Chapter 6 reverses this with a study of the Techno genre before the shift to *Club Sync*, outlining where electronic music production and reception maybe heading.

The chapters reveal how music itself is changing through these processes, becoming further entwined in social endeavour whether memetic, generative, open-sourced or pirated. The stories and experiences of Adelaide's music makers provide an empirical example of how technological, social and economic influences intersect, moving beyond a focus on the ubiquity of digital technology, to concentrate on the meanings and milieus of its use. Through exploring multiple genres and micro-scenes, the common threads that connect these dispersed demographics emerge; social media platforms, streaming services, showcase events like *Sidechain*. Born's (2017) emphasis on the social mediation of music practice is broadened to emphasise the non-human agents involved in production and performance, showing how Internet infrastructures, software platforms and hardware components shape and are shaped by the experiences and perceptions of those who use them.

Section 1: The Subject

Section One investigates how networked culture is influencing subjectivity and electronic music practice. Chapter 1 investigates how a symbiosis with technological devices is being harnessed to construct novel sonic assemblages. At the same time, the mediation of social media emerges as a significant influence for the elucidation and contestation of individuality around gender and musical affiliation. Chapter 2 explores the reaction to wider uncertainties around employment, climate and environmental issues of late capitalism, and how they manifest in music's role in confessional expression and subaltern modes of resistance.

Chapter 1: Music & Identity in the 'Post-Internet'

We are the online generation (Amber, 24).

In this chapter I examine music practice and subjectivity. Employing Born's (2011: 378) theoretical framework of music's four planes of social mediation, this chapter explores three ideas articulated by Waugh (2017: 233): that we are living in a Post-Internet condition; that we are developing symbiotic relationships with our digital devices that could be construed as posthuman; and that social media personalities are becoming our primary performed identity. Case studies reinforce Born's argument that music can work to affect change and be transformed itself through its mediation with wider social formations (2017: 41).

In a study that interviewed "fifteen key artists and academics" (2015: 230), Waugh identified a trend among many Post-Internet musicians that he called "digital queering" (2017: 233), drawing heavily on two main theoretical legacies: the gender deconstruction of Butler (1988), and the posthumanism of Haraway (1991) and Hayles (1999). Waugh argued that the options and comparative anonymity of the virtual were making it a space where multiple and mutable selves could flourish; the product of a post-human condition where society, media, technology and bodies exist in a co-determining mesh of intimacy and fractured identity (ibid. 242). Just as he saw contemporary music practice stretching over multiple platforms of self-representation, Waugh argued the self was being extended through devices and online, with access to knowledge and experiences once confined by geography, class, ethnicity and gender. Waugh's (2017) article was celebratory and utopian, seeming to ignore the deeply ingrained cultural norms and societal structures that shape peoples' interactions, manifesting negatively in forms such as online trolling and domestic violence. Yet it was also the closest academic report to what I had encountered among many young Adelaide music makers.

Emerging in the art world (Olson 2008), the term 'Post-Internet' referred to the reflexive use of Internet content in the form of animated gifs, *YouTube* videos, kitsch fonts and images from the past, reinscribed into novel works that both celebrated and criticised the medium. As the movement developed, it began to challenge the primacy of the physical gallery space and the perception of online/offline separation. As connections between devices, users and social media profiles multiplied through mobile and cloud computing, the embedding of the Internet in the everyday became, for the movement's adherents, an assumed fact (Clark 2018).

Castells (2002: 129) suggested "networked individualism" as a term for online socialities based around interests and affinities that offered a new way of being in the world. Nyíri (2008) went further to propose a new type of personality was emerging from these networks, whose thinking was being mediated by the minds of those forming their wider communities; a milieu in which the flows of information had speeded up rapidly. I argue in this chapter that it is these conditions that make it difficult to rely on theories of cultural practice and sociality that predate this reality (Hebdige 1979, Bourdieu 1984, 1993), with their structuralist focus on class identity and aesthetic taste. The reports of my participants suggest the need for a non-proscriptive theory that can account for an emerging 'networked' habitus and its implications for music, subjectivity and social formations.

Born's ethnographic account of the French modernist electronic music institute, IRCAM, provides a valuable insight into how subjectivity gets moulded by prevailing conditions and the collective unconscious (1995: 326). IRCAM in the 1980s was at the crossroads of computer music's transition from the preserve of 'high-end' avant-garde composers using expensive and customized hardware, to the widespread popularity of smaller consumer computing systems. As Born points out, the dominant Modernist ideologies of its charismatic leader overrode dissenting and generational voices that were open to popular aesthetics and technologies. Those involved dealt with these constraints by pragmatic sublimation and partitioning their work into that which 'fit' the prevailing cultural orthodoxies (ibid.

279). The strategies of psychological splitting and fragmentation Born observed at IRCAM can be observed in the requirements to negotiate the online presentation of self for different audiences.

In studying how tattoo artists, street artists, craftivists and performance poets responded to these challenges, Barbour (2015: 61) identified three registers of performance: professional, personal and intimate. All the artists Barbour spoke with reported the need for an online persona to ensure visibility. The professional register required displays of work, skill and novelty, leading to two contradictory experiences: the need to specialise to present a consistent persona, and the need to diversify to increase potential audiences. The personal level allowed an insight into the values and beliefs behind an artist's practice, often at the risk of self-protection, while the intimate exposed an individual's sensitivity and intensity. All of my participants were aware of the necessity of cultivating an online presence, even if they found it difficult and uncomfortable. Barbour's research revealed how the competing demands of the 'artist' as a socially constructed role comes with inherent multiplicities and performances.

Although this chapter primarily draws upon a number of case studies from my research to explore Waugh's hypothesis, the inclusion of quotations from wider participants show that these are a representative sample of wider sentiment in the field. My findings extend the post-subculture debates of Redhead (1997) and Polhemus (1997) that suggested neatly-bounded collective identities around music were dissolving. What one of my participants called the "culture of cultures"[39] that the Internet has revealed, germinated and celebrated appears to be leaching back into 'real' life, influencing musical careers and personal development. Music is shown to be entangled in the emerging hybridities of post-Internet identity, as online experiences become deeply integrated with offline subjectivities and collective formations.

[39] Quote from one of my participants, IV015 Val, referring to how the Internet has made visible many previously niche subcultures.

Music, Internet, Gender and the Self

> "I am so lucky. I love the generation I was born in. You get all these people saying, oh back in the day this, back in the day that…but I am pretty sure back then the negatives were a lot worse in terms of human rights and all that sort of stuff" (Thijs, 21).

The following analysis examines the mediation of the music-making subject with communications technology, software affordances and the contextual conditions of wider cultural processes and contemporary social issues. I argue that online experiences can loosen the constraints of hegemonic social mores, allowing the subject to explore alternative states of being.

A month into my fieldwork, I was waiting outside an inner-city café, waiting for a participant I had never met. A friend of a colleague, all I knew was that he was a deejay and drag queen. With hindsight, I consider the following interview with Terry (28) to be the moment in my fieldwork when I realised that the world had moved on since the time I was deejaying twenty years earlier. Terry's taste in music encompassed commercial artists I had heard of but not listened to, and other artists I hadn't heard of but would soon be enthusiastically seeking out. It was impossible to categorise this diversity by any meta-genre and Terry described to me his cataloguing system that broke a collection of over 10,000 digital tracks into moods or particular 'rooms' where he played. His explanations of editing and looping tracks on the fly through the Traktor digital deejay software were another world away from my Technics 1200 turntables. The subject of the interview turned to social media. Despite a sadness about the demise of Internet forums and the "giant rainbow of communicating" going away, Terry considered its replacement, Facebook, to be "huge", affording the potential to become friends and swap music with people he would never physically encounter in other cities. I asked if there was any dissonance between Terry the person on Facebook and the Terry I was talking to:

> Massively two different people…So Terry on Facebook is quite quiet, and doesn't do anything, on Facebook anyway…. I keep them very separate (Terry, 28).

Towards the end of my field work, I interviewed Clifford (46) a 'mainstay' of the Adelaide electronic scene, a self-styled queer artist with a background in dance, sound art, bands and solo work. He had an up-to-date and extensive web presence spread over various platforms and included separate Bandcamp profiles. When I asked about social media, he expressed his distaste, describing it as "a pool of noise and constant information" that he felt he had to "shout your way into." He was grateful for a manager to take a lot of the pressure of this away. Near the end of my interview when I asked a standard question about whether you consider yourself as part of a science-fiction future, Clifford replied that "he runs screaming from it".

Both attitudes seemed to refute Waugh's effusive argument for digital queering, and the potential to perform multiple 'selves' in the comparative anonymity of the 'virtual' (2017: 240). Terry's offline deejay persona where he plays in drag would be traditionally viewed as the more transgressive, and the "quiet" online persona more conforming and 'managed'. Despite a career interacting with various forms of electronic devices for his art, Clifford preferred nature, animals and trees than to "disappear" into a world of robotics and technology. A queer identity, of course, has had a temporal existence long before the Internet. Waugh argued that for those that were born or reached puberty in the mid-2000s or later, spending their lives surrounded by the digital, thinking itself was now in terms of the network, changing behaviours, and extending the sense of self to incorporate screen-mediated spaces and technological tools. My own research repeatedly revealed a comfort with online expression that appeared supportive of Waugh's claim for the "symbiotic" relationships with technology of the "post-millennial generation"[40] (ibid. 233). Quoting extensively from Jurgenson (2012), Waugh considered

[40] Waugh defines the "post-millennial generation" as differentiating "those that were born or reached pubescence in the mid-2000s or later from those born earlier" (2017: 234).

web spaces were now becoming part of the real world, altering our physical and emotive states and enabling a “synthetic” understanding of technology and society.

As my fieldwork continued, a tolerance and acceptance of non-binary gender and sexual identities often manifested in interviews, in events I attended and in wider conversations at a time when the burning issue in Australia of legalising same-sex marriage was at its zenith. Butler (1988) was seminal in identifying how gender is constructed and performed, changeable and contextualised. Drawing on discourses from anthropology, theatre, philosophy and phenomenology, Butler revealed how gender functioned as a sedimented and historicised survival strategy, installed to ensure the reproductive interests of a given culture, and enacted through the repetition of a set of performative acts (ibid. 522). The theatrical association with performance that Butler underlined, the doing, inhabiting and wearing of repertoires of cultural signifiers associated with hegemonic gender identities, revealed the fiction of any notion of underlying and essential sexual identity (ibid. 528). Central to music’s significance as a plane of creative potential, Butler suggested certain social contexts and conventions allowed acts to become possible and conceivable, as well as allowing them to be challenged, often with punitive consequences. Waugh argued that the Internet, insulated to an extent from the restrictions of hegemonic social conditions, opened-up the potential for innovation and improvisation of gendered identities. The fact that the Internet was now itself being ‘worn’, carried around and readily accessed, meant that these possibilities were increasingly part of the ‘real’ world, existing and intermingling simultaneously.

Haraway (1991) used the metaphor of the “cyborg” to represent the genesis of an integrated human machine system, neither male nor female, as a way out of the binaries that defined patriarchal culture (Sollfrank 2016). Hayles (1999) built on this latent ambiguity, arguing that the classic concept of the unitary Enlightenment human was being replaced by something increasingly defined by its interaction with technology, a process she termed ‘posthumanism’, viewing it as a welcome adaptation that could enhance the human by loosening restrictive boxes of identity. Waugh’s article

described how "the emotional and symbiotic relationship that the Post-Internet generation holds with its technological devices" (2017: 234) was melding with online experiences, making these digital spaces 'posthuman', and providing opportunities for "new and mutable identities to be explored" (ibid. 236). Despite Terry's more "quiet" online presentation and Clifford's criticism of social media, the following case studies from my research show how the Post-Internet ideas identified by Waugh are informing contemporary music production, inspiring the sounds, visuals and self-representation of many electronic musicians I encountered.

Val: Clubbing in 'Digitopia'

> I like this play between our online avatars and real life. I like this fantasy of it and playing with that…I just like the whole thing about identity and malleability, and everyone can be who they like online, and be the fantasy character that they like (Nix 34).

The case study of Val (23) explores Waugh's contention that we are developing symbiotic relationships with our digital devices that could be construed as posthuman (2017: 233). Music's second plane of social mediation is highlighted here in the example of musical affiliation based mainly around online communication.

Early in my fieldwork, I attended a club night recommended to me by a colleague,[41] held in the basement room of a usually very mainstream venue in the city. As I descend the stairs into the club, I saw that nearly everybody was dressed up in a variety of costumes, almost like a scene from the virtual world of *Second Life* (Boellstorff 2008). Two women sat down near me. One had long blue hair and thin strips of neon blue lighting spiralled around her legs that were clad in fish-net-tights. The other

[41] EV18, 12/11/2016.

had a short black skirt and what looked like a rubber singlet. Both had thick-soled platform boots. Someone walked around with a long black cloak going over their head, with a circle of neon lights forming an opening for the face. Someone else had what looked like armour shoulder pads, a dark cloak, and walking stick. Many wore masks, or wet-looking PVC accessories. Wide zipped black trousers were popular, lending an androgynous appearance to those wearing them. Another person had a tail and full dinosaur mask on. Image and identity seemed all-important. Transgression and experimentation were in the mix, and some of the dress was getting into fetish territory.

The energy in the club picked up, the dance floor was happening, but those who were dancing were dancing in small groups facing each other. From what I could tell from trying to identify the tracks being played using the 'Shazam'[42] app on my phone, the music spanned a range of ages and sources, most being made in the last 10 years. There was obviously a 'sound' and it evoked images of manga cartoons, made-up Goths, and a kind of Germanic tectonic/Viking aesthetic. I even heard the Game of Thrones[43] theme mixed in during the night. Someone offered to introduce me to his friend, one of the deejays, so we walked around to an area of the club behind the deejay booth that I hadn't noticed before. There were about 10 people sitting around, many looking at phones, all of whom I had seen elsewhere in the club and by their appearance were obviously into the 'scene'.

Despite suggestions of the cosplay on display at other Adelaide events such as '*Comicon*[44], the club felt like an offline space where people were living out their avatars in real life for the night. There were transgressive gender performances happening, but I also sensed that this crowd were more used to online interaction than real-life socialisation. In our interview, Val (23) seemed to confirm some of my impressions:

[42] Shazam is a music-recognition application

[43] Hugely popular television drama based on George R. R. Martin's fantasy novels.

[44] *Supanova Comic-Con and Gaming Expo* is an annual conference/celebration of comics and gaming culture, providing the opportunity for attendees to indulge in cosplay, (dressing-up in costume to role-play their favourite characters/avatars).

> There are some, to me, very clear social repercussions of the over-presence of easy technological communication, and a lot of what I have noticed is, people my age and younger, more and more don't use visual and facial cues to express emotions; which, even a generation ago, would be totally unheard of. You use your face a lot. But as you get more used to talking online with your friends, you can use text, and you can make emoticons, so that shows how, but the use of words also becomes more important in expressing how you feel. So, I think we have shifted from an emotive way of communicating to an intellective way of communicating (Val, 23).

Val was adamant about not making generalisations, but I found it an interesting perspective. I asked more about the club. Its lineage seemed to begin in an event called *Synastry* and before that, *Necromancy*. Val was involved in this "underground and alternative scene", and from it an 'industrial' fan community emerged. Although this development put the club and its community firmly in the second of Born's planes of social mediation (2011: 381), this appeared to happen primarily through online communication. The club was largely advertised through Facebook invites with all those running the event engaged in getting their friends to come along. Before the club started happening, Val said the club was "a secret community of people who knew people", and all liked 'industrial' music. They had a "think-tank" Facebook group where they posted ideas, and for anything that wasn't dedicated to the club night just messaged each other or had Facebook group chats. Communication was said to be "all pretty Facebook-centric because everyone has got Facebook on their phone, it's easy to keep in touch no matter where anyone is".

Val was the kind of personality that could have stepped right out of Waugh's (2015) research. I asked about the genesis of this musical affiliation and it was traced back to a "best friend" met online:

> We were very close friends, and they would give me music references. And suggestions based on what they listened to, which was no doubt due to their mum who had been a very big Throbbing Gristle fan. So, it sort of trickled down to me, through the Internet (Val, 23).

Val had always owned a computer, recalling that the first was given as a present as early as the age of four. It was clear that a strong sentimental value was attached to electronic possessions, and at certain times every electronic item was given its own name:

> It's common to do in the circles I have been in. Everyone has given their bits and pieces names. So, we like to personify computers…it should definitely be an important step in your life to get a new piece of technology, because it is something that, like phones and stuff, you have at your side until they die, it's like having a pet. You know, it's with you all the time. And now they talk to you, so they are like having a pet (Val, 23).

"Cyberpunk" was the identity that Val most corresponded with, both in terms of sound and the visual, a 1980s literary concept that was claimed to be "modernised and then pushed to a concept of in the future". It seemed a mix of nostalgia and utopia was the attraction and that "the darker, dystopian grungy clothing" of the club also fed into this aesthetic. Val was a big fan of the Japanese anime series, *Ghost in the Shell* that explored posthuman themes, and maintained many newsfeeds to keep on top of interests like Virtual Reality and cybernetic limbs, excited about the potential to interface more with technology:

> A friend of mine, he's got an NFC chip…implanted right there, by his thumb, and so he can unlock his phone with it, he can unlock doors with it, it acts as a digital business card, if you scan his hand, it will give you his website. And so, it is really cool, just bio-connecting, doing things to your own body to see if it will work (Val, 23).

Reinforcing Born's claims for music's animating capabilities (2012a: 266), Val described music as the glue that bonded the disparate personalities of the club community. But with the lines between genres getting more blurred, Val considered it was becoming rarer to define oneself as an artist making one specific genre.

> The Internet has opened up an entire culture; a culture of cultures. There are so many cultures that have been around since before the Internet, that now that the Internet exists, people who didn't know that they were there, now know that they are there, and have to deal with it. So, it's a matter of get used to it, or get left behind (Val, 23).

Val felt that with the way society was progressing, digital technology was becoming increasingly integrated into lives and that a technological future was inevitable. Dystopian fears of technology taking over or going wrong were dismissed as "tech horror" that had its basis in the human sense of superiority at the top of the food chain, and the fear of creating something better. Val believed that technology was improving our lives and society, allowing us to communicate with people all over the world.

> I am hoping for robot bodies…soon we will be able to integrate, we will be able to blur the lines between human and technology. And so maybe one day we won't have to have phones in our pockets, because we will be able to make phone calls with a device implanted in our ear, or something like that. That is where I am hoping we will go as a species (Val, 23).

This "digitopian" (Fleming 2018) perspective sat well with Waugh's (2017: 234) argument for the symbiotic relationship he saw between humans and their technological devices and the fusion of online and offline. The potential for reconfiguring musical, individual and social identities in these developments was being seized upon by those growing up surrounded by the digital and comfortable with these technologies and online spaces.

Sacha: Pasifika Futurism

> The avatars do come in handy when I really am feeling like I cannot be me in a space. It's a bit like the avatar shelters me, or helps me, kind of navigate me through social anxieties (Jem, 24).

Born's third plane of social mediation highlighted how music could inflect and embody the structures of race, gender and sexuality (2012b: 172-3). Waugh's claims for the influence of 'Post-Internet' ideas on modern music production are explored here with the example of Sacha, highlighting how these structures can be contested through the Internet's potential for connecting with and exploring marginalised identities (2015: 163). In addition, it examines ideas of the posthuman through the leveraging of inexpensive music platforms for multiple creative projects.

Waugh's (2017: 236) article included a lengthy investigation of the work of American electronic music producer, Holly Herndon, analysing her track 'Chorus' from the *Platform* album (RVNG Intl 2015). Herndon's music explored themes of the posthuman in digital culture, and 'Chorus' featured voices coming from many different sources including online samples, synthesis and her own voice, all fused into a collaged identity for a work drawn from her own technology. According to Waugh, the track exemplified the posthuman and Post-Internet, "oscillating between organic existence and digital spaces and revealing them to be intrinsically inseparable" (ibid. 237). For Waugh and Herndon, smartphones and social media provided a multitude of options for telling who we are and what we are doing, reshaping norms about exhibitionism and voyeurism. In her interview with Waugh, Herndon acknowledged the "prophetic" work of Haraway and Hayles, but said their work was aimed at a generation not yet in a symbiotic relationship with their technology. Herndon said her own music aimed at presenting a cyborgian vision of herself, intimating that by inputting personal information into their devices, users could become one with them (Ibid). Waugh claimed Herndon's tracks mirrored the self-presentation of the Post-Internet generation; carefully curated streams of text and

visual representations, sourced from organic and digital spaces, reflected a co-dependence between digital spaces and their users.

This contemporary portrait of the self, extended across their music, devices and the Internet, reminded me of another of my participants. We met after a recommendation that if I was interested in 'emotional' music, then Sacha (25) was someone I should contact. Not only was Sacha's music emotional, I found it impossible to categorise. When we met it was soon apparent that Sacha's music corresponded closely with Sacha the personality, a fluid identity resistant to easy classification. Like Herndon, the sampling potential of digital technology and online inspiration seemed important to Sacha's music practice; the 'right' sound to use could come from the environment, the body and particularly from the Internet. Sacha would dig around on YouTube for "weird videos" as sound sources, such as using the sound of Russian telephone towers getting blown up for percussion sounds. This YouTube mining reminded me of the "cybernetic soundscapes" of another of Waugh's interviewees, Mykki Blanco, which were "refusing to be defined as either organic or digital":

> I consider the technology just to be a medium, but music is really important to my identity…the technology just allows me to express what I want to express (Sacha, 23).

The social side to Sacha's music making was shown in deep connections with social media platforms. Sacha subscribed to Reddit forums for song writing, music making in general and inspiration for production, and was also active on Twitter as way to interact with people and overcome social anxiety, to connect to people making music that would not have been possible any other way. Social media had really helped Sacha to expand, saying that while it was difficult to find things to say at the start, you get over it and now felt "pretty addicted" and on it heavily. The original aim was self-promotion as an artist, but Sacha had got really interested in all the different communities using the platform, wanting to talk more about Pacific Islander and queer identity:

> I'm queer and I don't think I have talked explicitly about it in my music. And a lot of the artists I look up to are queer. I want to explore that more (Sacha, 25).

Venezuelan music producer, Arca, one of the artists that Sacha was referring to, was one of those interviewed by Waugh, along with collaborator and video artist Jesse Kanda. Waugh's article devoted much space to discussing Arca's *Xen* release (Mute Records 2014), and the album's accompanying videos were described as "intrinsically, emotive, ambiguous and personal in style" (Waugh 2017: 245). In the interview, Arca described *Xen* as referring to a personality side that was neither male nor female, explored through abstract digital textures that reflected the conflicting emotions that Arca felt in embodying this ungendered self. Kanda used the Internet and computer as both palette and gallery, to create accompanying visuals that amplified "emotional resonances found in colour, texture and motion in ways that are solely expressible through digital animation and enhancement techniques" (ibid. 246).

Sacha told me of a self-made video for a recent track, made using an open source video editing program called Blender. Nearly everyone I spoke to aged 25 or younger had an interest in graphic arts as well as music, the computer being central to both practices. While Waugh acknowledged the interdependence of sound and image in the Post-Internet (2015: 20), the accessibility of digital technology for creative expression was seemingly overlooked. Having little money, Sacha was a big advocate of using whatever you have got:

> You can use anything really; I've made stuff in Audacity[45]. I'm a big advocate of not having any sense of elitism about gear or anything like that…accessibility is the word, the most important (Sacha, 25).

In a video for a track on *YouTube*, Sacha created an androgynous three-dimensional figure, that was being continually stretched out and contorted, the camera jumping to multiple angles as the figure was extended into amorphous shapes, an apt metaphor, I felt, for the mutability of Post-Internet identity. Later in our interview, Sacha outlined an idea for another video. The androgynous face on the self-designed cover of Sacha's latest EP would be turned into a whole body, floating in space,

[45] Audacity is free audio editing software available for download.

flexing and contorting. The body was intended to look like a planet surface, and the figure would be a human shaped planet with "all the tectonic stuff going on, covered in lava". It was finally uploaded to YouTube in January 2018, the video ending with the androgynous figure floating in space, arms outstretched, eventually dissolving into infinity. Sasha expressed an interest in science fiction movies, especially "realistic" ones like *2001: A Space Odyssey* and *Interstellar* and had an "obsession" with space travel, seeing it, like immersive game worlds, as being freedom-related. It was an interest that Sacha was keen to extend, either through music or writing, into an exploration of what was termed "Pasifika[46] Futurism". I asked if Sacha felt the influence of the Internet had made society more tolerant, as well as allowing the individual to feel comfortable in being what you want:

> I definitely think that thing about the Internet allowing people to feel more empowered is definitely true. I didn't know any other Tongan kids and stuff like that, and now I have met other Pacific Islanders through the Internet and other people I could relate to on that level. So that has been really fulfilling…there was like this empty space, and of course other things, not just the Internet affected that. Definitely meeting people online has been significant (Sacha, 25).

Reinforcing Born's theory of music's mediation (2012a: 267), Sacha's account shows not only how music has agency but also how agents use music. Music's third plane of social mediation, its ability to cut across stratifications of money, gender, sexuality, ethnicity and distance, was exemplified. In its entanglement with the contemporary complexity, ambiguity and multiplicity of wider social relations, music was a vehicle for exploring, discovering, recovering and expressing different sides of personality.

[46] Referring to Pacific Islander culture; Sacha has Tongan heritage.

Nico and Alex: 'Digital Queering'

> You look today, peoples' smartphones are them in the existence of the Internet. That is how we are all connected. You are your Instagram profile. Not in that that's all there is to you, but that's just how you interact with people (Korg 21).

The following case studies explore what Waugh terms "digital queering" (2017: 239), a process that suggests social media personalities are functioning as the subject's primary performed identity in the Post-Internet. Music's second plane of social mediation is highlighted by the novel social formations that come into being around emerging combinations of musical influences, many gleaned from YouTube and Instagram, but also around software platforms as music effects chains, synthesizer 'patches'[47] and samples are shared for other users. The examples of Nico and Alex show how the Internet allows subjects to find themselves and each other.

The uses and definitions of 'queer' have shifted in the latter part of the twentieth and early twenty-first centuries, challenging the medical classifications of non-normative sexualities. According to Taylor, "queer now embodies a fruitful anti-essentialising ambiguity that produces a complex and ever shifting set of relationships to the perceived norm for not only gender and sexuality but to all normalizing regimes" (2012: 144). As she points out, the queer subject has been often invisible in discussions around music styles and communities around music. Waugh (2017: 239) argues that the intimacy of Post-Internet relationships is driving explorations of gender and queer identity for many musicians and artists that are working with a Post-Internet aesthetic.

[47] Patches refers to the traditional way of creating sounds using modular synthesis. Sequences of sound generating and sound colouring modules are 'patched' together using wire cables. This process now usually happens within one piece of hardware or software.

Waugh began his exploration into how gender has been queered in online spaces by discussing the work of 18+, an R&B[48] duo comprising Justin and Samia, who used *Second Life* avatars and online identities to explore intimate relationships with technology (ibid. 240). Waugh stated that "the most crucial theme of queer theory is that of fluidity and mutability" (Ibid), which he felt web-based gender explorations were embracing, reflecting a wider interest in performative gender politics (La Ferla 2015). In the interview, 18+ referred to social media's constant promotion of "self-celebritisation" (ibid. 241) as an extreme intimacy that they aimed to reflect in their lyrics and imagery. Such comments are supported by recent research by Abidin (2018) on celebritisation on social media.

Waugh also quoted Tomkins (2014) to suggest another of his informants, Post-Internet video artist Ryan Trecartin, saw gender as an "outmoded concept"; that "personality is replacing gender and how people are defined" (2017: 242). Like Trecartin, Waugh saw social networking personalities becoming the primary way of defining a person's performed identity which was, he stated, "digital queering in practice" (ibid. 243). While the work of Trecartin, like the other artists Waugh investigates, lies at the more 'spectacular' end of the music performer spectrum, I argue the rapid editing and manic juxtapositions of Trecartin's work seem emblematic of the communication-saturated and overstimulated contemporary mediascape.

Two of my participants challenging gender binaries in their lives and music practice were Nico and Alex (22). Arranging an interview with them had been elusive; brief emails for weeks confirming an interest, with no names attached, before an email saying that the time worked, signed by Nico, sent late on a Sunday night. The next day on my way to the interview, I played their sample-heavy tracks again on my phone, a mixture of Foley (self-recorded field sounds) and thick textures (made using time-stretched samples) that spoke to me of a very contemporary club aesthetic. Nico arrived, recognising me though we had never met. Alex arrived 10 mins later. They had a close, almost sibling

[48] Modern music 'genre' incorporating pop, electronic and soul influences, characterised by a smooth and lush production style.

like relationship and I felt like they were linked on a lot of levels. Watching them both was like seeing two aspects of the one character. They seemed attuned to what was at the edge of stylistic trends in music and fashion yet were also very much on the outer in Adelaide clubland. The music they produced was difficult to categorise and not easy to dance to. They told me they started putting on club nights because no one else was playing the music they wanted to listen to.

Marris (1974: 104) stated that conservatism was a fundamental human trait, linked to the survival instinct, and it was the strength of predictability that could drive innovation. Nico and Alex seemed like classic examples. It was fascinating hearing their experiences: their failures and successes; of getting refused entry to a club where they hosted an event because of how they looked; the conservatism of the city and how they were a product of it (traditional, religious Mediterranean families); how they rebelled against it yet drew inspiration and a degree of comfort from it. I thought it an emotionally mature way of being themselves, not alienating themselves from their source, and even including elements of it in the music they produced. They seemed very unaffected by what they were doing, even mentioning casually that they would be appearing in the long-running style icon*, i-D Mag*, with a deejay mix only after I asked if they read any music magazines. Reflecting Born's second plane of music's social mediation, they seemed to hang out online with a select circle of producers that seemed to share an ambiguous gender identity.

I asked about the impetus behind their club and music. They had started in a band playing in the Adelaide experimental/noise scene, but as Italian/Greek, found these scenes to be mono-cultured, nostalgic and quite stagnant in their social dynamics which they felt was preventing new people from coming in. This coincided with discovering on the Internet artists like Berlin producer Lotic, and American deejay Venus X's 'ghetto gothic parties' that played hip hop, Marilyn Manson and experimental club music, meshing it all together. Having fun and dancing seemed appealing in contrast with the arty band shows. They considered Adelaide's existing deejay scenes to be male dominated

and heterosexual, and until they did their first club night, didn't know there would be a community in Australia that would be into it.

> Having a space where you could wear what you wanted to in a club, as simple as that sounds, it was such a big thing. We could feel comfortable wearing a tight shirt, and not get heckled. It was a bit of a shock when we could put on shows and wear see-through dresses and it not be an issue. Wear a tight singlet and it not be an issue (Nico, 22).

Their club highlighted the mediation of Born's second and third planes of social mediation (2012a: 266). A week after the first party, they saw Venus X was coming to Australia, went to Melbourne to see her, and met a host of other like-minded communities. They told me they discovered Lotic through "intense research", allured by their look in an article on the Internet music magazine, *Fact Mag.* Alex said it was "6 months of hating it and loving it simultaneously"; the music was so new, and they could recognize the Ableton warp algorithms in the music. This interest snowballed into other artists like MESH and the Berlin Janus crew[49]. It was all found through the Internet, as they didn't have anyone they could talk to about it. They also namechecked as influences US rapper, Young Thug, who declared "there's no such thing as gender" (Geffen 2016); Arca; and the enigmatic American musician Yves Tumor. All artists experimented with fluid gender performances and conducted a web presence that conflates with what Bewersdorf (2008) calls "persona empires"; art that is now based on brands developed over time, rather than solely based on objects or projects.

Nico and Alex used samples from YouTube in their music and processed them in Ableton, liking the ability to transform sounds that aren't music and making them musical. When they had the band, samples were an accessible way to play electronic music and use sounds they didn't know how to make yet. I could see a possible connection to their 'post-genre' musical process and a post-gender

[49] Lotic, MESH and Kablam are all part of the Janus club night in Berlin.

identity, suggesting, as Waugh does (although at the time I was unaware of his work), a link to the diversity of identities online:

> PC: Another reason I like your music is that it is post-genre, it seems to tie in with post-gender that I see emerging. Maybe it is the multiplicities of identities on the Internet. I have been around underground club music for a long time and it's always had that edge, but I see it more in the mainstream, people I'm talking to that aren't from those sorts of scenes. I wonder what your views are on that.
>
> A: I think you said it pretty well. Both of us don't necessarily identify with the genders we were born as. It definitely has implications to our music of not wanting to be, like neither of us identify as trans, but as non-binary it does very much fit into that idea of not being stuck in a certain sound and a constant rediscovery of your own personal identity in terms of many things, gender being one of those (Alex, 22).

Nico gave the example of Kablam, a deejay with Berlin's Janus crew, fusing femininity and aggression, or artists like Amara electronic musician Elysia Crampton and Argentinian producer Moro that incorporate traditional folk elements into their music. Even if their transgressive artist personas may be shunned by the traditional elements they were drawing from, they used these influences because they considered it was still part of them. Nico believed this tension was necessary as a healing process, a way of taking these parts of a personal identity and "owning them" as a means of understanding and interpreting the self and place within a bigger context, further accentuating music's social role:

> There is definitely an inspiration, I feel, that comes from the kind of communities surrounding the musicians we really like, and how they put forward expressing their identity, or transgressing it through their music (Nico, 22).

Alex explained that the Internet gave them a terminology to understand these ideas, a way to understand internal feelings they had felt for a while, but coming from conservative backgrounds, didn't necessarily have the terminology to express before, especially in a music and vocabulary sense. Their comments articulated many of the points of Waugh's research; the sense of authenticity felt in

the expression of a shared cultural and contextual experience (2015: 12), and how the online world could open you up to new connections and the freedom to experiment with your sense of self (ibid. 167). Music's role in this process seemed both a catalyst and lubricant:

> 100%. Even things like, and it seems weird to bring it up with gender identity, the user libraries in (Native Instruments') Reaktor and (Ableton's) Max 4 Live, of people being a multitude of identities, and so many different little options that you can use for yourself and find out about yourself through is very indicative of the Internet and the communities that do exist on the Internet, which do help overcome a lot of the binaries that exist within this structure, especially in a place like Adelaide (Alex, 22).

Nico and Alex relied on Instagram to keep in touch with their favorite artists, and social media emerged as a key part of presenting as an artist over several platforms. The significance of music's first plane of social mediation emerged when Alex told me they could see the limitations of the various mediums in which they existed; that only making music and being an artist in your studio had negative social implications as it prevented greater social interaction:

> Music and the club don't exist in a bubble. All these things impact it, so we want to have a platform that does explore all these different factors (Alex, 22).

The 'theoretical' reading they now did was gleaned from reading snippets on social media from people interacting with the issues they were interested in on a day to day basis. They made the point that the reified social theories from the 1960s, 70s and 80s were from people that they felt didn't have much experience of the issues they and their peers were facing. Instead, social media like Instagram was a "live feed" of what was happening:

> In terms of seeing what people are doing I generally just get deep on social media, Instagram and things like that. I think the magazines have release schedules that they have to adhere to. Instagram just feels a bit more immediate. Also, only so much can go through a magazine, whereas Instagram you can snowball, and see that they are following this person, and then follow that person (Alex, 22).

Despite their celebration of online transgression and minority collectives pushing boundaries, Nico and Alex were aware of conservatism increasing, with a "dangerous trend" of technology being used to nullify and pacify struggles. Alex told me how it was easy to build a false sense of security, a "problem" with the Internet. "Sometimes, I wouldn't have gone out of the house, or my close-knit social circle for a couple of weeks, and then I leave… I can't really walk through the city, I get abused left, right and centre." They said social media was like a mirror to society, and as much as there was more information online, there remained a "massive restriction on information based on class and race". But for now, they were happy to use technology to create something that was radical and felt their club had encouraged people to start producing music, to come out and be themselves.

> As much as people criticize time on social media…things like Instagram give you so much access to how people are operating, different aesthetics that are emerging. Things that are often considered shallow have deep implications (Alex, 22).

The examples of Nico and Alex give a powerful impression of the affordances of the online environment offering multiple opportunities for connecting to homophilic others, and in doing so, finding yourself. As Born pointed out (Born 2011: 381), it is the autonomy of such socialities of music practice that makes them potent vehicles for social experimentation.

Travis and Moe: 'Persona Empires'

> You do have to portray yourself as someone different…People aren't going into a music store, borrowing it, going home, listening to that record until next pay. They're downloading 50 albums at a time, and if you don't stand out, right then and there, you're not going to grab anyone (Jay, 39).

In his ethnography of identity and interaction on Breakcore[50] producer forums, Whelan referred to the persona as an "actor's mask" (2008: 90), an online version of the 'self' "peculiarly distinct from its offline, 'real life' manifestation" (Ibid). Such a persona may be connected to certain elements in the real self that they want to display, but also possibly to a more sincere form of self-conception that may be possible to exhibit offline. Another facet of online affordance, related to the development of social media, is the opportunity to extend music practice though strategies of self-promotion to directly communicate with fans and followers. The following case studies chart the extension of music practice into areas of textual and visual performance. Given the difficulties of making a living through making music (Baym 2018: 16, Krukowski 2018: 14), this chapter section shows how career trajectories are moving from an anchorage in scene or generic identifiers, towards multiplatform personal 'brands' that evolve over time.

By the time my fieldwork was over, Instagram had been added to the Facebook and Twitter platforms I also used. I followed a variety of Adelaide artists, not always my participants, in an effort to both preserve anonymity and allow for a wider perspective of the platforms' uses. Overtime, it became inescapably clear that a dedicated social media practice definitely helped in building an artists' profile. For many, this seemed to come completely naturally, an ability to expose themselves and their

[50] Breakcore is a genre of electronic music that fuses fast breakbeat rhythms with samples frequently taken from Jamaican 'dancehall' reggae and wider popular culture.

opinions, respond to other peoples' posts, and establish connections with people all over the world. Like making music, this was a talent that also needed to be done 'right'.

Travis (24) was an Adelaide artist I interviewed who I was a fan of before my fieldwork commenced, owning numerous digital tracks, a viny record and a mix shared on a well-known UK music site. I first heard about his music on a local website, now defunct, called *Rip It Up*, and his music although lesser known in his hometown, was popular in England and Japan. Travis maintained up-to-date social media pages, and I found his posts to be succinct, articulate and possessing a distinct, yet hard-to-define, sense of 'cool'. I had only ever seen him in nightclubs, always with other people, where he appeared to be a habitué in such environments. At our interview, his black t-shirt seemed new and had the word FAME emblazoned on flame-coloured large letters on the front, the sort of t-shirt you could imagine a US rapper wearing with lots of 'bling'[51]. He also wore a new-looking gold watch that didn't seem expensive yet accessorised well with his shirt. Together with black shorts, it was a clever mix of casual and classy, young and sharp. He thoroughly read the participant sheet before signing, suggesting to me a familiarity with contractual obligations. In our interview he was 'switched on', his answers thought out, precisely delivered and on point.

Music's social affordances were seized upon by Travis early on in his career. During his second year of a Bachelor of Arts degree, he sent the first couple of tracks he was happy with over to two producers in London he had encountered over the Internet. They all followed the same radio shows in the capital, even if Travis lived on the other side of the world. Because many others were following these two tastemakers, Travis's reputation soon exponentially grew through Europe, America and Asia and he was still in touch with this network of producers. Travis's story was one of having the right product, connecting with an online network on the same wavelength, and having the requisite social media skills. Twitter and SoundCloud were the main platforms at this stage of his career and he also had his own website. Travis called promotion a "weird game", and that if you wanted to be proactive in

[51] Chunky jewellery.

establishing relations with like-minded individuals, you had to go out of your way to be active on certain platforms. He considered Twitter easy to both spread your music out there and allow you to "shine your personality"; in contrast to how Facebook had developed, Twitter "cuts all the fat". Showing you were active kept fans and potential fans interested. The key seemed to be a form of drip-feed hype, what Travis called putting out all "all these little bits and pieces". However, he admitted it was a balance and once you had a name, you could step back a little as you could go to hard.

Travis's story shows that it is not only the music that establishes and traverses communities, but the active role of the music maker themselves. Music's mediation in the third and fourth planes was reflected in the wider field of networked culture, one that afforded opportunities to forge and establish personal connections which seem as essential as having 'good' music in the first place. Both seem necessary to get your music heard by anyone else who is not in your physical proximity to its performance. The music Travis made he "got into" via the Internet. Growing up in Australia he said there were few avenues for checking out different music, outside of a few niche music stores. As a teenager, he would go to places like *Big Star*[52] and go crate digging. That rolled over to hunting on the Internet, because (like Val, Sacha, Nico and Alex) he would talk to people elsewhere in the world online and through recommendations discover a lot of different music.

In the last few years, he cited changes in the Facebook algorithm around how you see posts as making it difficult to engage with fans. He felt Facebook had leaned towards visual receptors as being more effective, as opposed to text posts. Travis used text, because he said it allowed him to get his message across better; you had to be "very discerning" if you used the visual, which had turned him off Facebook. However, he still felt it was important because "everyone is on it, basically" and that everyone in Adelaide and the world checked up on events through Facebook.

[52] Well-known Adelaide record shop.

Interestingly, when I asked Travis my final (and standard) interview question on where he thought humanity was heading, he wanted people to be less dependent on technology. He sensed humanity had had a "misstep", that we were all guilty of it and things that were once common in society had been lost. He did acknowledge that this perception could be more down to his social anxiety in large crowds, where he had to use his phone for comfort. He felt it was harder to have intimate connections without being so dependent on technology; it helped connection at the start, but it could become dependent and overtake human interaction and development. Echoing Val's comments about losing the interpersonal nuances of face-to-face communication, he wanted to see people "regain that humanity" and get off their phones.

In contrast to the ubiquitous screen-based mediation of the under 25s, someone a little older than this age group was one of the most adept I encountered at building their own persona empire, albeit with their own disquiet at some of its implications. Moe (29) was a veteran of bands in her role as a singer, but on moving to Adelaide began moving into production. The Internet was critical to her learning the necessary skills, utilising both tutorials and collaborating with producers as far afield as Italy and the United States. Like Travis, Moe's example speaks to music's third and fourth planes of social mediation; her production history required its own socialities of pedagogy and performance, and the global networks afforded by communications technology facilitated them.

I had met Moe before our interview and found her to have a gregarious personality that could be summed up as 'bubbly'. As well as an aspiring producer, Moe had become a professional deejay, and labelled herself with a characteristic laugh as the "social media queen"; it was vital to her job and she admitted it could get intense. She claimed it was not just for getting likes, but also for sharing stuff with friends and family, making sure they were aware of what was happening in her life. It was also for the venues she was booked to play at:

> You want to show support for the people that are hiring you, have their faith in you, so you want to give back and show you really are excited about being there and playing for their patrons (Moe, 29).

Her regular photos posted on social media were nearly all from social situations, and commonly displayed smiling happy people in a celebratory atmosphere. When I said that from her posts it looked like the party never stopped, she laughed again and said it didn't. The week before our interview she had gigs on Monday and Tuesday, as well as the weekend and it literally didn't stop.

Social media wasn't the whole story however, and she said at the beginning she had to "hustle". When she dyed her hair to create a deejay persona, her work at the time "cracked it" and said she needed to change it. She refused and left with six dollars in her account. She then hustled for as many deejay jobs as she could, spoke to managers and promoters, and didn't stop because if she did she wouldn't get paid. Now she could just wake up and have job offers. It was working as hard as she could at the start, having a positive attitude and showing how keen she was. Her taste in music reflected these aspects of her personality; popular, accessible and synonymous with a good time.

I commented that the photos she shared on social media, taken at venues, always looked of good quality and made it look like people were having fun, which was quite an art in itself. She replied that you had to be, not arrogant, but confident. Her success with social media was the same as in any other field; practice. She agreed with Travis that it was hugely important, that you never knew who may be looking at your profile and they could be anyone from anywhere around the world. As evidence, she thought she could be playing on a South Pacific island in a few weeks' time (this happened).

I asked her if there was anything about social media that was distracting or disillusioning. Because there was a certain persona that she had to maintain, being happy and bubbly, she had to be aware and choosy about what she said, how she said it, and to whom. On the other hand, when she went through rough times, depression or sickness, she didn't share that on social media. She neither wanted to show weakness, look like she wanted sympathy or that she was after that sort of attention. While people could be really nice and be comforting, she didn't like being drawn attention to when she was not at her best. It was difficult because she would like to raise more awareness about mental illness, for people who do need help sometimes. Facebook was considered the most important platform, the

most “connected”, and now that you could do videos and play music from there, it made self-promotion very accessible.

When I asked her where she saw humanity heading, she was optimistic and said she tried to put as much positive influence into the world as she could, even if she was having a bad day:

> I think we are going towards a very accepting humanity, like there’s lots of movements towards anti-bullying, more inclusive, the LGBT community, there are lots of people embracing that stuff. Overall, humanity, we are going in the right way (Moe, 29).

Moe was very much a part of the more mainstream side of Adelaide electronica, which made her progressive views on many subjects appear to move beyond the social fringes. As Whelan observed, “a persona is mediated, ‘ideal’ rather than ‘real’” (ibid. 92). The example of Moe and the experiences of Alex in the previous section show how the Internet can foster openness and tolerance while engendering its opposite in the form of harassment and threats.

Conclusion

> In the future, when we have Google thought, we are going to have these intense, very loud bandwidths open to us potentially, so it will be streaming obscenity and beauty… but at the same time joining each other in ways that are useful (Nathan, 32).

Waugh’s (2015, 2017) claims for the influence of Post-Internet ideas on music practice cohere with Born’s contention that music is mediated by (and can transform) wider social formations (2017: 41). Music’s role in animating imagined communities and traversing demographic stratifications is closely mediated by the affordances of the macro-structures of communication technologies and the

homophilic societies they engender (Chun 2018: 61). On the individual level, these influences can lead to profound shifts in personal self-construction.

On music's first plane of social mediation, music production and consumption for the case studies in this chapter is shown to be closely connected to what can be seen as an increasing co-dependence with digital devices, not necessarily directly involved in actually making music. Successful realization of musical aims relied on a range of virtual mediations; communities of fellow producers and fans, pedagogical sources of knowledge, the discovery and inspiration of the like-minded and the ability to share the music made and enjoyed. All speak to music's ability to engender imagined communities on the second plane based on shared affinities.

On the third plane, music can be seen to act as a connecting agent, modifying subjectivity and wider social relations. The structures of class, ethnicity, gender and sexuality that can work to divide and separate are traversed by music's affective powers. On the fourth plane, the large-scale cultural and economic processes that provide for music's production, dissemination and reception mediate with strategies of self-identity, musical direction and personal branding. Born's (2010b: 83) emphasis on the intrinsic social dimensions of music can help buttress Waugh's (2017: 233) claims for how Post-Internet themes are informing modern musical production.

A criticism levelled by Taylor at classic subcultural theory, that of its fixation on the often spectacular "deviant sensibilities of youth" (2012: 146) could be a used to counter Waugh's rather celebratory argument for contemporary identity politics. As Waugh's himself acknowledges (2015: 252), his decision to focus on a small cohort of artists at the margins of mainstream music as evidence for his hypothesis could be suggested as insufficient for any kind of empirical claims of wider cultural change. Nevertheless, Waugh shows how commercially successful artists like Kanye West, Beyoncé, Bjork and Aphex Twin have also utilised artists and aesthetics from the Post-Internet milieu, evidencing an 'authenticity' that he saw coming from a self-conscious engagement with the same digital context as the audience for their music (ibid. 251).

There are several reasons I argue Waugh's findings have a wider resonance. Firstly, the quotes I have included from other participants suggest that the chapter's themes are reflected more widely than just the case studies. I suggest that the issues bought up in this chapter are indicative of wider movements in contemporary Australian society, reflecting tolerant and open attitudes to gender and sexuality revealed in the clear support for same sex marriage in the country's high-profile referendum that took place at the end of my fieldwork.

Secondly, my case studies are by no means the most 'spectacular' among my 62 research participants. Indeed, this wide cast of colourful characters resists any reductionist move to essentialise identity based around class, ethnicity, gender, sexuality, and age, let alone musical style. The only things they all shared were spatial proximity, command of the English language, participation in my research project, and of course a love of music. The fact that these are people being themselves and living their lives, largely outside of the glare of the global art/festival circuit that Waugh drew his participants from, further underscores his article's points.

Thirdly, Waugh stressed challenges to heteronormative binaries among the artists he interviewed, that were reflected in my research. I would argue that this should not be considered an unexpected development. Not only is Adelaide a multicultural city in a globalised world, all my participants had access to networked communication and the Internet's infinite smorgasbord of niche interest communities and esoteric art forms. Perhaps a better question to be asking today is what exactly is normative?

Waugh's three key claims: that we are living in a Post-Internet condition; that we are developing symbiotic relationships with our digital devices that could be construed as posthuman; and that social media personalities were engaged in an iterative relationship with gender, challenging it as a primary performed identity, were reinforced by my research. But there is also a collateral ontological instability in these processes that is potentially unsettling; the accessibility of knowledge and information, post-truth uncertainties, climate and environmental issues, precarity of employment, and heavy screen

interaction seem to generate both anxiety and alienation as well as an embrace of the liberatory potentialities proliferating online. The next chapter will explore how Adelaide electronic music makers are responding to these challenges in their creative practice.

Chapter 2: Politics of the Personal

It isn't about you

It's about me

I don't even care like that anymore

It's just what I'm left with

All My Skin on the Air, (Lonelyspeck 2017)

This chapter explores the reaction to the contextual conditions implicated in processes of connectivity through Internet infrastructures. The motivations that drive agency are highlighted, as producers situate themselves within a spectrum of social, economic, technological and aesthetic mediations. Case studies will show how wider uncertainties around the existential, environmental and institutional issues of late capitalism, are wrapped up in music's role for confessional expression and subaltern modes of resistance.

While Chapter One focussed on the affordances of the network for constructing identity, such technological developments have been seen as a lubricant for the spread of globalisation and neoliberalism (Taylor 2015) and to inculcate what Fisher (2009: 4) has called the pervasive ideology of "capitalist realism", extending Jameson's (1991: 49) view that even the "unconscious" had been colonised by capitalism's inevitability. In this chapter, the interaction of the first and fourth of Born's planes of social mediation are predominant (2011: 378). Electronic music practice forms an interzone between creativity and consumption, a place where the pursuit of individual expression is both life and life-line.

The subject in contemporary networked society is embedded in the capitalist endorsement and facilitation of highly personal and private forms; personalised Internet experiences, infinite modes of human encounter online and access to multiple creative channels. Graeber (2004: 74) views this as "a

process of the privatisation of desire". In the Web 2.0 era, data-harvesting and pre-emptive marketing make our 'choices' even more illusory. Yet this confluence of factors also provides new modes of resistance to "consumer culture" (Moore 2011: 1213), facilitating independent and bespoke forms of expression outside of state and societal gatekeeping systems that seek to classify and market cultural products. The autonomy of the home studio and digital audio workstation, together with Internet access to freeware and expertise, works to facilitate deeply personal expression. Music functions as a refuge from the melancholy of modernity (Jeong 2017: 4), a site of co-option or comprehension in the current moment, or a strategy of resistance and subversion.

I liken the site of electronic music production, the 'studio', to what Bey (1991) termed a TAZ, or Temporary Autonomous Zone, an impermanent space outside structures of control. Born makes a similar comparison, utilising Agamben's (2005) *State of Exception* to argue musical practice can function as a "space of exception to larger structures of social power" (2010c: 235). Drawing inspiration from Stirner's (1845) philosophy of "ownness", I argue that music practice enables the individual to achieve a meaningful sense of ontological freedom (Newman 2017: 2). While not seeking to portray my participants as identifying with any political ideology, I argue in this chapter that ownness can work as a theoretical tool for understanding the studio as a self-directed space; music becomes an empowering practice of creative self-mastery and personal fulfilment.

Music's perennial potential for rebellion forges a practice suggestive of Stirnerian strategies of self-construction and purposely counter-hegemonic expression, in the face of institutional conditions seen as manipulative and alienating. Music's third plane of mediation is also shown by the potential of these musical forms and allegiances to cut across social and spatial stratifications, affecting disparate people through online platforms and public performance. In both instances, the aim behind production is to generate empathetic engagement at both the individual and societal level.

Thirty-seven percent of my participants reported that music practice for them functioned as personal therapy[53]. With its connotations of self-help, rehabilitation and healing, therapy at first appeared an odd reason to be making music. It certainly didn't correspond with perceptions of myself and others in the hedonistic rave era of the 1990s. Recent research by Gross and Musgrave (2017: 7) confirmed the importance of music to a person's well-being and sense of self-identity but stressed the precarity and conditions of the environment they worked in as the source of their problems with mental health. My ethnographic research, focusing on the motivations, values and beliefs of those engaged with electronic music, similarly underscores how practice can be therapeutic and empowering, and a vital component of constructing the subject. Like Gross and Musgrave, I argue that it is not music practice but its context that is the source of alienation, unpredictability and vulnerability.

Sixty percent of my participants told me that the wider context of world events and social issues was significantly reflected in their music practice[54]. What I call a 'politics of the personal' characterises the case studies in this chapter, with music functioning as a therapeutic 'safe space' to deal with the stresses and pressures of modernity. Yet there was always an intended audience for the music getting made. It might be intensely personal, but music is eternally social.

[53] 23 of 62 participants said their practice functioned as a form of therapy, with an average age of 30.6.

[54] 28 of 47, with an average age of 30.5 replied that the wider context of world events and social issues was significantly reflected in their music practice, 2 of 47, with an average age of 27.5) were unsure and 17 of 47 average age of 29) said that there was no connection.

Music, Freedom & Modernity

> Ownness is an experience of freedom that starts from the concrete actuality and singularity of the Individual and her experience, capacity and power (Newman, 2017:7).

In many of the societies anthropology has and continues to study, a characteristic feature has been the adjustment to modernity (Giddens 1990: 39). Here I take modernity to begin with the industrial revolution, a time when technological advances and factory production began supplanting artisanal crafts and creating complex divisions of labour. Globalization, cheap commodities produced by economies of scale and population growth led to increases in migration and high demand for consumer goods. Over the last 30 years, neoliberal ideologies have emphasised individual aspiration while reducing state involvement in the economic system. At the same time, the social climate has taken a turn for the negative, as gloomy predictions of ecological collapse, populist solutions and necro-politics stoke nostalgia and paranoia (Braidotti 2013: 9). The ubiquity of digital communication has allowed people to envisage themselves as active producers of information, knowledge and meaning (Stalder 2016: 22).

Anarchism and anthropology have long held an "elective affinity" (Morris 2014: 218), with the discipline having studied most existing non-market economies and self-governing communities (Graeber 2004: 11). Mauss's *The Gift* (1925: 66) highlighted what he argued was the communistic basis behind human social interactions. Evans-Pritchard described the Nuer's kinship-based, non-hierarchical political organisation as "ordered anarchy" (1940: 181). According to Graeber, Radcliffe-Brown also drew upon 'anarchy' to describe the communities he studied (2004: 16)**.** Rapport (2003: 3) championed the power of the individual to "create personally meaningful and viable environments and to traverse these in the pursuit of their own life-projects"; a potential in everyone to apply a

seriousness and commitment to practice that allows the subject to escape from the control and influence of external forces.

Max Stirner was as an early critic of modernity, particularly as it is manifested in liberal humanism. Unpacking what he saw as a subservient identification with abstract notions such as freedom and morality, what he termed the "spooks" of our humanist age (1971: 56), Stirner championed self-realisation as the only meaningful path to a healthy society of 'egoists'. His philosophy of 'ownness' placed responsibility for liberation on individual behaviour, rather than seeking change through shifting external conditions or a dependency on outside agents. Stirner believed in an innate 'ontological freedom' of the individual, a permanent property of the self regardless of circumstances of experience. For Stirner, this intrinsic egoism affirmed the self even in the absence of external freedom and formed the basis for self-liberation. It is in this context that I see music's mediation with the individual, manifested in a determination, persistence and commitment to personal practice.

Within the broad tenets of anarchism, Stirner was something of an outlier even for this most radical of political philosophies. In contrast to the mutualism of Proudhon who advocated societal ownership of property (1840/1994: 215), the collectivist anarchism of Bakunin, which sought to replace nation states with autonomous communes (Marshall 2010: 479), and the mutual aid of Kropotkin as evolutionary strategy (1972: 222), Stirner emphasised individual approaches for liberation. Unlike his contemporary Karl Marx, he saw private property offering a potential for self-expression and autonomy, a problem of access rather than individual ownership. To be free in a real sense, Stirner believed one must become an 'owner' in terms of self-will and self-possession (1971: 238). Ownness was:

> An ethical work conducted on ourselves, so that the self may be affirmed over the external constraints and power relations that appear to hem it in (Newman 2017: 13).

I see a connection here to what Born & Prosser (2001: 13) and Born (2002: 86) identified as the ethical driver in creative practice. In her (2004) ethnography of cultural production at the BBC, Born

described how the aesthetics of performance reflected the ethical orientation of the producer (Szczepanik 2013: 111). I have found a similar ethical principle underlying my participants' music practice. For the case studies in this chapter, music is an explicit part of an ethical identity to express and comment upon the experiences of day to day living. Newman (2017) emphasised a poststructuralist aspect to Stirner's anarchism, rejecting notions of an essential form of subjectivity, and instead emphasizing the subject's ongoing self-constitution:

> We should not think of freedom as an object to be attained or a goal to be achieved, but rather as an ontologically anarchic space of subjectification, which gives the subject the freedom to define her own singular path, or paths, of freedom (Newman 2017:18).

In this chapter, music is not considered to possess an essentialised aesthetic character, somehow outside the sociology of its construction (Born 1993: 224). Instead, electronic music is analysed as both a literal place of practice and metaphorical *modas vivendi*; an intrinsically anarchic space of do-it-yourself becoming.

Brother Lucid & Kyle: The Studio as Autonomous Zone

> I'm not sure if it reaches the psychological level of self-actualisation, but it is close enough to it because I wouldn't have known how to express myself if it wasn't for music (Kyle, 34).

The 'studio' in electronic music is presented here as a site for self-creation as well as musical expression. It can take the form of a bed, a bedroom, or a dedicated room, from a laptop to thousands of dollars of hardware. Whatever the material context, the studio, together with Internet access, is shown to facilitate intensely personal expression.

Standing out among the eclectic assortment of my research participants was Brother Lucid (37), even on the edge of what I could call an electronic musician. I first encountered him at the

Experimental Music Night[55], walking into the end of a set of looped beats and skilfully-executed guitar that left me wanting more. Luckily I got it fifteen days later at iconic Adelaide pub venue, The Exeter[56]. It was good to catch a whole set of his feedback-heavy guitar played over laptop beats and synth drone. Over the top of it all he sang some quite 'gothic'-sounding vocals [57]. It was a striking show of musicianship, but at this early stage of my research, just too outside of the 'producer' box for what I considered my field. And so it would probably have stayed, if it were not for a chance meeting with a freelance writer at a seminar six months later[58]. With a confidence and sociability that belied a long clubbing history, a woman asked if I knew 'Brother Lucid' as she felt he would be a good person to interview. By now my methodology was a lot more 'organic', I took this as a sign and accepted her offer of facilitating a connection.

At our interview a fortnight later, Brother Lucid recounted an autobiography of various bands where the fine line between 'success' and might have been, even in the crucible of the UK at the height of post-punk revival of the early 2000s, was all too apparent. When the Virgin Megastore where he worked collapsed after the GFC, he and his partner came to Adelaide, attracted by cheap rents, sunshine and "more room to breathe". However, it was the diagnosis of ADHD[59] two and a half years earlier that had provided the greatest insight into a lifelong career of emotionally intense creation.

Brother Lucid was yet another of my participants that *had* to make music. Although he seemed to crave success in terms of having an audience, he steadfastly refused to compromise on a personal sense of originality and remained committed to improvisation as process. With every track he needed

[55] EV13, 12/10.2016.

[56] EV 17, 27/10/2016.

[57] I use 'gothic' in this context to reflect a "dark" lyrical aesthetic (Hodkinson 2012: 134).

[58] DI, 28/04/2017.

[59] "Attention deficit disorder (ADHD or ADD) is a neurological condition defined by symptoms of…hyperactive impulsivity that interferes with daily functioning in at least two settings — for example, at work and at home". (https://www.additudemag.com/adult-test-for-add-adhd/).

to be doing something that he hadn't heard anyone else do, a constant challenge as his DIY approach to music-making equipment meant adapting whatever was at hand. Like others with ADHD, the need to block out internal and external distractions meant he would get "mad scientist in the laboratory" about his studio work, hyper-focussed and not eating. Unsurprisingly considering the improvisation backstory, the theme of 'freedom' often came up, particularly around the attraction or seduction of technology use. He agreed on the paradoxical nature of the freedom/control binary that seemed such a part of the digital realm. The Internet created seemingly infinite possibility but was also very restrictive; while many in society were struggling for an ultimate freedom and a safe place, the other side was the completely dystopian drive of the powerful. He described it as a swirl of opposites, commenting on the need to pay Facebook to promote your page, or even pay for fake likes to look "more magical than you are". He even considered the 'resistance' to being boxed in to identities of genre was illusionary:

> So everyone doesn't want to be boxed in and be non-co-opted, but at the same time, you try and send music to blogs, and they have very specific guidelines, apart from a few very experimental ones that I have found...If you make something that people are expecting, with the same bog standard artwork and copy the trendy thing that's happening, it will be a million times easier to get reviewed all over the place (Brother Lucid, 37).

While he claimed everything wanted to be anarchic but was totally trapped by all this "genre stuff", he considered his own music by contrast often finished up in a different place to where he started. Where this felt like a positive organic process, blog sites had an expectation that his music didn't satisfy. Saying it was hard when you made "weird music", he could see why blogs had the reaction to such an individual statement; it was not expedient, and their mentality was comfortable.

Submerging myself into his music for the interview helped me understand its deliberateness, its originality and its centrality to his life; it was music that you had to get immersed in to start discerning how good it really was. The focus on a personal sense of quality came at the sacrifice of easy accessibility, seemingly destined to inhabit a tiny bandwidth of the audience spectrum, its imagined

community marginal, cult-like and committed. Brother Lucid made music with a total devotion to his own sound, music which generated its own micro-socialities of performance in an ethical process of autonomy and self-realisation.

In contrast to Brother Lucid, Kyle (34) was in the enviable position of being able to make a living from his music. I was keen to see the perspective from a position that others[60] had expressed as a main goal of where they would like to be. Kyle's own journey with electronic music began at an early age, a combination of his long-standing fascination with space and the cosmos, and the sounds of Jean Michel Jarre and Vangelis that he felt were designed for expressing this subject matter. He also acknowledged with hindsight that he was attracted by the detuned and "organic" imperfections of the analogue sounds themselves. Despite his commercial success, the attraction for these sounds, quite unlike what he was known for, remained a major and possibly distracting source of inspiration.

Like Brother Lucid, Kyle found it difficult to think about what he would do if he didn't have music or a creative outlet. Music technology had always been a way of capturing and expressing times of hardship that he felt were difficult to convey. Now that it was his job, he was careful not to think of it in that way in case it was not enjoyable anymore. He now viewed his occupation in a "cold" detached way as essentially having a company with stakeholders that needed to be satisfied. While there were times when this had to be thought of, at other times it was okay to be selfish, do something for himself and completely disregard the market.

The aesthetic seductions of successfully adapting to shifting tastes were clear. Kyle thought many artists were not in tune with the market and thus not imposing or challenging new ideas. He saw this desire for himself at a psychological level of self-activation, describing his music as a form of self-expression that could connect with people on a fundamental level. His music functioned as a medium for this drive, and the need to upgrade this vehicle with more forms of self-expression was important.

[60] IV014 Korg, IV016 Ali, IV023 Miles, IV25 Maurizio, IV32 Roy, IV38 Amber, IV43 Sacha, IV47 Julian, IV49 Moe, IV50 Paul, IV52 Jane, IV58 Peter.

The danger was that the requirement to have a personal brand could end up dictating your social life and you as a person, taking over and consuming you; “you become the product, rather than the other way around”.

While he never deliberately set out to make music that related to the prevailing social context, he admitted it was a factor. He said we were going through interesting times with a rise in conservative nationalism, “people who want to maintain their identity, and their own societies and cultures and countries”. He saw technology as implicated in this process, with a kind of lynch mob mentality on social media that jumped on anyone that may say anything remotely offensive to a particular faction; that the algorithms of social media fed into subjects that were trending, bringing out and amplifying often polarising opinions, fuelling the fire, giving people a voice, even if they were not really informed. However, he also admitted to being very much indebted to social media and the Internet for his own success.

Kyle described his own music as a juxtaposition of human emotional elements with a cosmological influence, a mix of nostalgia and futurism. He confided that he went through his own low periods of self-doubt, and his practice was about making music against this side of himself that would drag him down, a work against his shadow side. For both Brother Lucid and Kyle, men at similar ages and life stages, their practice was an ethical work of creative subjectivity; their studio a space of autonomy, solace and self-realisation.

Nix & Bloodbottler: Transposing Alienation

> It does actually challenge you to create something that is worth coming back to, and through the music writing sense of all that, it means to create something meaningful in a world where everything is pretty disposable (Rachel, 24).

Another aspect of my research was to show how music functioned as a creative outlet for sonic schemes of resistance. The study of "cross-scalar articulations (or relations)" (Born 2010c: 233) between music practice and broader structures of power was necessary to highlight the processes of mediation behind musical performance.

Like Brother Lucid, I first met Nix (34) at an *Experimental Music Night (EMN)*[61]. A description from my fieldwork diary[62] lists a "hippy/freaky looking guy with long dreadlocked hair, shorts with colourful long-johns underneath". Most of his gear was housed in a home-made road-case on a self-built table. Nix would occasionally play bass on a mother keyboard, loop the sounds and layer various elements on top, some looped high-pitched percussive noises hitting my pleasure/pain sweet spot. He also had an old analogue Vermona drum machine, a small mixer, an Akai MPC[63] for triggering samples, and other various sound modules and effects pedals. Performing with him was a woman doing live poetry and moaning through effects, including lots of reverb. The performance reminded me of Gilli Smythe from the UK band Gong[64]. She read from a notebook, and her vocals seemed to be about a trip into the desert, and later she started talking about watching the Olympics on television (then taking place).

[61] EV05, 10/08/2016.

[62] DI28, 10/08/2016.

[63] The Akai MPC, a MIDI controller/sequencer where you can play in notes in by hitting pads. There have been several models and the unit has a good reputation for being sturdy, reliable and with good 'swing' settings to imitate 'real' playing. Other participants who eulogise their merits include IV09 Mike and IV41 Andy.

[64] Psychedelic jazz-rock band from the 1970s.

All the music was improvised, and along with the confident, confessional and eccentric spoken word created an atmosphere that was described on their SoundCloud page as “atmospheric”, “ambient”, “dark”, and “preapocalyptic”.

We next caught up at our interview in a communal art space near to the city. Uncannily, Nix and the other two people I met there reminded me strongly of old friends. The space itself was obviously a venue of sorts. We sat upstairs in a back room, which contained a mattress, and lots of books, almost enough for a second-hand bookshop. I asked Nix more about the *EMN* performance and he told me they had just spent a month camping including attendance at two festivals: one an anti-uranium event, the other a “DIY survivalist kind-of thing”. The mix of protest, conversation, beautiful landscapes, interesting music and inspiring characters had been galvanising.

Nix was a great interviewee, knowledgeable and sincere. He had played in bands for around 15 years, mostly “verging on experimental” like free jazz and psych rock. Like me, he had spent years making electronic music on a computer using Logic, but now wanted to perform live and not on his laptop. He felt it was important to be interactive. His music was loop-based, with a timecode going underneath to keep everything in time and he could bring various elements in and out. He could also go into more ambient areas, where the time signature wasn’t applicable, and just play. He included drum phrases that he had programmed into two drum machines, and his MPC had sound effects that he had pre-recorded; lots of nature sounds, percussion sounds, but no pre-programmed sequences. So, his sets were mainly improvised.

On a philosophical level, Nix told me he could see a lot of individualisation in society and felt people were now more accepting of differences, potentially embracing it a bit more. Contrary to misconceptions that Adelaide was cliquey with people “stuck in their little bubbles”, he felt this wasn’t the case, the city was open-minded with a balance between individualistic autonomy and community involvement: “actually connecting with people, not alienating yourself as a complete different thing”.

Nix's music practice supported Born's assertion that performance socialities could work to "reconfigure social norms and social antagonisms" (2011: 380). He saw music as not just entertainment, bus as "a sort of energetic thing…a magical thing in a way". It was about delivering or transmitting emotions or energies, which was why he considered dance music was so important because it got people on their feet and dancing. He saw the musician's role going back to the shaman or traditional healer who used dance and music to restore health. That was his stated aim with music, though not always as obvious as making something happy or uplifting. He felt people often needed challenging music, to go into dark areas to be able to understand and uncover that side of themselves. He saw the music as "coming out" of himself:

> I just can't help but play and share music for other people, and when you can make music that can get people to come out and feel inspired or uplifted or intense or whatever, if you can affect people then that's great. It feels good, and you do feel a bit more like you've got a role, you know. Rather than feeling like you're just another little nothing amid everything (Nix, 34).

In common with others in this chapter, Nix found that he was often attempting to do the opposite to what was commercially popular, instead trying to create completely new sounds that people had never heard before. Nix felt a strong connection between music and his own "personal mythology" and "personal path". He felt this was connected to his online persona, especially the times when he had been more active on forums more:

> When I have been able to just be this person that is unrestricted and be whoever I want. I think it is interesting in a way, there is definitely something very different about this generation now that we're sort of dealing with that (Nix, 34).

He considered his music and art was all part of a process of "constant self-development and transformation" that tied into a spiritual understanding of himself as a "part of everything else". His music was an attempt to help catalyse and transform the people and everything around him, to get "myself and people moving to the next step where they need to be, keep going forward and growing,

not in some linear evolutionary terms, but just however you want to see it". Nix's comments seemed to fuse a Stirnerian sense of self-mastery with a distinctly social dimension, fusing music's potential for instigating a personal sense of renewal with a wider social project. This mediation of musical socialities was shared by another or my participants.

My initial encounter with Bloodbottler (27) marked the first moment in my fieldwork where I asked for an interview with no hesitation. He wore a 'smiley' t-shirt with "fucking sick rave" written in texta. On the back, also in texta, was scrawled "24 hour party people". His co-performer at their *Sidechain*[65] set contributed occasional rapping, and their tracks featured lots of live sampling from a keyboard controller linked to the Reason[66] Digital Audio Workstation (DAW) on a laptop, as well as a Korg Electribe[67]. The music style was a kind of audio collage, what Whelan (2008: 6) refers to as "plunderphonic sampling", juxtaposing saccharine 80s pop songs with brutal Gabba[68]. The best tracks were the slower ones where the rapper got a chance to shine. Overall, it was raucous and very 'live', using satire to make a statement. I found the set refreshing to hear in the *Sidechain* context often dominated by an understandable earnestness.

As soon as they packed up, I knew I simply had to go out and meet them and see if they would take part in the project. Bloodbottler, to my relief, said he would love to. On the day of our interview, I pulled up outside an anonymous block of brick-built flats off a main road. He was in the process of moving out, and the flat was quite empty, apart from lots of artwork much of which he had done himself, an old Mac laptop, a customised Casio chiptune synthesizer and an old organ-like wooden instrument. I accepted his offer of a cuppa, which came in one of those mugs that when they are hot,

[65] EV07 18/08/2016.

[66] Reason is a 'studio in a box' DAW software platform by Swedish company, Propellerhead Software.

[67] Drum machine and analogue modelling synthesizer by Korg.

[68] Very fast, brutal dance music that originated in Holland in the 1990s.

the lingerie of the woman on the side dissolved. Bloodbottler's open and direct attitude to life manifested in his practice:

> I hate clicking with a mouse. If you have something in front of you, you can really get into it and you can use it more like a live instrument. Like pour your emotion into it, you know what I mean? You can't seem to do that on computers, even with MIDI controllers. They just don't seem to work the same (Bloodbottler 27).

He described the Korg Electribe as his path into music, an iconic piece of hardware that turned up in other participant collections[69]. The ability to easily construct and sequence beats and timbres made it an ideal introduction to programming, sampling and sound design. After an earlier phase of listening and making Drum 'n' Bass, he was now making a form of fast breakbeat music that fused electronica with his first musical passion of heavy metal. I remarked on the dynamism of his live set, which I described as being almost like a punk gig. He explained how glad he was to hear this, since the reason he loved his present style of music so much was because he felt it had so many of the aesthetics of 80s and 90s punk, "just the whole belief system that goes with it, the attitude with it and everything". He claimed his style of audio bricolage was partly for novelty value, that dropping a well-known Blondie sample, for example, was "just stupid and funny"; but it was also the fact that he liked Blondie as well, and a lot of old music, which he felt had "more soul to it". He said Jungle, as opposed to Drum 'n' Bass, had a similar quality, which he felt a lot of electronic music was lacking.

His present influences included Aphex Twin, (a well-established experimental artist), as well the more obscure Venetian Snares, Shitmatt, and Bong Ra. It was clear that tempo was a factor:

> I had a section of my life where I was obsessed by Bong Ra, and all that Raggacore kind of stuff. I mean to me it was just like Jungle but twice as fast. Which made it twice as good, you know what I mean? Those

[69] IV05 Nix, IV22 Liam, IV60 Glyph

> snares were even heavier. It just felt it had something that Jungle were lacking. It was like, more power (Bloodbottler, 27).

He now had two musical projects going, separated it seemed to me, more by the attitude behind their construction than musical style. One was what he termed "pretty much straight forward", which I took to mean a more 'generic' or 'serious' electronic dance music act. The other, which I had witnessed at *Sidechain*, was more personal:

> I'm not quite sure exactly what that is, it's just offensive I know that much, that's the main thing I try and go for. As longs as it offends people. And it's all tongue in cheek as well, like, it's not really supposed to be taken seriously at all…I think that's important. As soon as you start taking anything too seriously, you stop having fun (Bloodbottler, 27).

Bloodbottler was keen to expand this project into three-dimensional "visualisations" and performance art and said there was a meaning to each performance. I recognised some longer vocal samples from films, and he confessed to being a cult film buff, loving the messages in the movies of auteurs like David Cronenberg[70] and Russ Meyer[71]. He described himself as "really anti-government and a bit of an anarchist at heart". He felt we were controlled by fear and that his music tried to work against that:

> Hopefully it can make them question something, or at least piss them off (laughs). At least get a reaction out of them, bringing it to the surface, so it's on peoples' minds…I don't understand how some people cannot just see through how manipulated we all are (Bloodbottler, 27).

When I asked if the 'market' was an important consideration, he told me he had considered in the past that if he was making and playing Drum 'n' Bass, he would get more gigs, but this just took the

[70] Canadian film maker, famous for horror movies depicting bodily transformation.

[71] American 'sexploitation' film maker whose movies included satirical undercurrents and (for the era) novel rapid-editing techniques.

creativity out of the process. He felt sticking to his own sound, even if it had "crazy" elements, was preferable; that as long as he could release his music and play it out he was happy:

> As long as people are listening to my stuff, that's the main thing. I just want to have an outlet to get my music out there (Bloodbottler, 27).

Bloodbottler felt it was a lot easier to get involved in music scenes in Adelaide, simply because there were less people. Trying to meet promoters and get opportunities for shows in other places was hard because all the spots were already filled. Whereas in Adelaide, it was easier to meet people, and everyone knew each other. Like over sixty percent of my participants[72], music was considered a big part of self-development, what he termed "learning and growing", every new piece of equipment an opportunity to extend the self and learn more: "the better I get at producing, the better I get as a person".

Unsurprisingly, my final question on where he thought humanity was heading led to an extended discussion that saw us both feeding off each other. His response very much encapsulated the entangled binary that seemed emblematic of this entire thesis. He referenced Huxley's *Brave New World* and Orwell's *1984* as the two sides, utopic and dystopic that seemed almost tangibly within reach thanks to digital technology. While he considered the generative musical possibilities of digital exciting, he wondered if a wider "merging" with technology would be forced or chosen; would we be "happy slaves"? He was not alone in such existential contradictions.

These two case studies show how music can alleviate the alienation of the late-capitalist surveillance state, working to survive or subvert these conditions. Music achieved this in two separate but connected ways: as a personally-meaningful creative outlet, and as a communicative medium for social change. In the following case studies, I further develop this analysis by highlighting how instrumental music and 'sound art' can represent personal and political statements.

[72] 38 out of 62 participants commented that music was an important part of self-development.

Klaus, Red Robin & Clifford: Frequency Response

> Because all of the problems that we are encountering now, like global climate change…we are going to have to communicate across big scales, and communicate quickly, and act quickly, and I think the Internet is facilitating that. I think it is itself part of this paradoxical thing, where it's both good and bad (Klaus, 27).

Some of the most consciously political music getting made in Adelaide didn't use lyrics, vocal samples or pummelling beats to convey its messages. It took the form of what I struggle to contain in the catch-all term of 'ambient'. Here, personal meaning and moral values manifested in beat-less musical manifestos, their meanings suggested in track titles, their philosophies enshrined in process and entwined in sonic textures. Music practice functioned as a rejoinder to the existential threat of environmental catastrophe, a chill-out retort to global warming; metaphorically and literally giving peace a chance.

I first encountered the music of Klaus (27) at the back room of the Hotel Metropolitan one Friday night for a set of intense minimalism. He began by looping a really simple line from his bass guitar, before putting it down, picking up a guitar and turning on a compressor pedal. As he played the guitar, it started feeding back in a tonal and lush way. He told me later he used his fretting hand to hold down a couple of notes and playing hand to control the volume and pick-up switch. His set involved constantly turning up the volume to create the feedback, but then dialling it down if it got too loud. He occasionally played or held down the strings on particular notes to create a different waveform and feedback loop with the amp. What he considered "cool" in this process was that the bass loop caused the guitar to feedback, and the guitar feedback warped the bass loop once it started getting loud enough.

> I am personally in a dialogue with not only the guitar and the amp, but also the room, because each room produces different resonances, which then makes the feedbacks interact in different ways…so I am constantly moving around the room to try and find spots where the feedback occurs more than other places (Klaus, 27).

At our later interview, Klaus revealed the philosophy behind the performance. After a recent trip to India, he found himself experiencing things he didn't know how to express verbally or literally. He mentioned the profound experience of beauty in the Indian Himalayas, contrasted with the rubbish and effluent that littered the streets. His present process of approaching music was a conceptual attempt to come to terms with the overriding paradox of contemporary living. Seeing extremes getting more extreme, he started making music that that was "simultaneously noisy and ambient." Klaus felt it was the role of art to facilitate the expression of something that you don't otherwise know how to express:

> Instead of sitting down and trying to have a long conversation about the paradoxical nature of contemporary living with people, I'll just play music I think might hopefully help them feel nicer about the extremes that they are always feeling (Klaus, 27).

This sense of an ethical compass behind music was echoed by Red Robin (35), a prolific musician with an extensive catalogue of acoustic and electronic music and a similar commitment to conceptual process. Like Klaus, Red saw his practice as an attempt to express his understanding of the world he lived in, trying to make the world a "better" place though whatever means and skills he had to do so. He had recently been working on a long-running piece of sound art that explored the famous (1865) Goyder's Line that delineated the boundary of land in South Australia that received sufficient rainfall to allow cropping. Due to climate change, recent projections had brought the line further southwards.

I found this work characteristic of many of his recordings, bringing together a strong sense of place and an ecological sensibility. At its essence, the work consisted of two saw tooth waves being fed into a vocoder. The first one, which was a carrier frequency, was based upon the traditional Goyder's Line.

The second saw tooth wave was the modulation frequency being fed into a vocoder that consisted of a prediction of the future trajectory of Goyder's Line, based on climate change and weather systems. They essentially played against each other, with the later Goyder's Line modulating the carrier frequency, through the vocoder, and then through additional outboard effects, which created a drone and subtle modulations. The programming software Max MSP in Ableton Live was used to map the lines. I listened to the work being played at a public performance as part of an electronic music conference[73]. Red tweaked the settings on his effects to try and build the drones into a climax of sorts as the piece progressed. I found myself quite hypnotised by the music, and it was necessary to try and stay attentive to the nuance, yet also be passive and let the whole experience wash over me. The piece spoke to my memories of the sparseness of the landscape that inspired Red's work. I found it beautiful and fine, with the reverb of the hall we were in adding to the effect of the drones themselves.

Red frankly admitted he was "terrified" of climate change and that his music was an escape. He felt an obligation to keep moving and doing things, being good to people, listening and sharing ideas, citing one of his inspirations, Brian Eno, as someone else he saw getting more personal and political in his music and announcements. Red summarised the motivation for his practice:

> The best thing I can do for the sake of my optimism and my mental health, and sustaining relationships and friendships with people, before I take to the streets with a sandwich board shouting the end is nigh, is really working within my own space (Red Robin, 35).

The social *raison d'etre* behind music was also commented on by Clifford (46). While he said he was completely self-taught, this descriptor seemed to gloss over a very social process of learning. His musical career began when he took part in a competition for (long-established Adelaide community radio station) Three D Radio with a friend and they came second. He went on to form other guitar bands but was always interested in using all kinds of instruments and experimenting in sound, a

[73] EV79 *Do Androids Dream of Computer Music?* 2017/09/30.

“strange” mix of song writing and sonic soundscapes. He said he always learned from being around others, experiencing, watching and listening.

In our interview I told him I had first encountered his music as part of an experimental performance work over a decade earlier. He alluded to the fact that, as a Gemini, he was often attracted to a multitude of different projects, but at this stage of life, wanted to mainly be associated with music. I asked many producer questions about how he did his tracks and picked one piece from his most recent release with hypnotic modulating tones that had made a particular impression. It was a cello sample to begin with, taken from an original short piece for a dance performance he worked on in Sydney. He began time stretching the sample in Ableton, and then started using lots of distortion plug-ins, reverbs, and basically built the track with five or six layers of that one loop. Clifford had designed his own effects chains that he could apply to pieces, because it gave a glacial, open feeling, almost oceanic at times. I asked him about the co-creation aspect (with the software) of using this platform, and he was initially dismissive, before eventually acknowledging that there may be some truth to it. He admitted the track was a definite interplay between himself and the technology, the “accident” of dropping something in and letting the software do its thing. He said there were moments like that when you could feel lucky and it could work.

Technology was integral to Clifford’s art and identity because he depended on being able to work quickly to deadlines, and for the accessibility and affordability to be able to reproduce music live. In terms of marketing, it was about knowing where to direct information, who to let in on what he was doing and trying to find the right people who wanted to hear it. He understood and was reconciled to having a small audience for his kind of music, and not disappointed about the wider attention that other people were getting. Like Brother Lucid and Bloodbottler, he said you have to find your niche and focus in on that, and then you will be happy. Otherwise you live a life of disappointment and frustration which doesn’t help the creativity. It came back to being as authentic as possible and making what you want to hear yourself, rather than the trap of making something that might be potentially

popular. He felt you always knew when it had worked when people said they had been affected by something.

Clifford sensed a zeitgeist, even in popular music, where there was a distancing between emotion and the world, an obsession with creating something that was losing its sense of connection to "nature". Despite his use of technology for music, he didn't want to be in a technologically advanced wold where the technology did more and more for us:

> The only thing that makes sense to me is to respond is through sound and melody. And to connect back to the elements and nature, and probably even to speak back to humans. There is a lot of people who don't want to acknowledge what is happening in the world as it is slowly falling apart around our ears. But on the other side, by doing music, you are actually creating a bit of hope, or at least it is what I am trying (Clifford 46).

All three music makers were using sound to communicate with others, articulate their fears, relieve their existential anxieties and offer some kind of statement on the macro-structural context of everyday life. Music functioned as mixture of interface and interpreter, a mediation between the producer, audience and the shared hyperobject[74] of climate change and environmental collapse.

[74] After Morton (2013: 37), a hyperobject is a huge distributed entity that cannot be seen or touched but can be "thought and computed".

Ali & Miles: Laptop Lyricists

> We are all telling stories, and we are all telling very personal emotional things. But it's done now through a completely different medium; whereas it would have been done with an acoustic guitar and a harmonica, now it's done with a MIDI-controller (Wallace, 23).

One of the emerging features of the Adelaide electronic music scene in my research has been the rise of the singer-songwriter. Unencumbered by any need to make people dance, I encountered producers singing or speaking along to their own productions, the lyrics a personal statement about themselves, their relationships, vulnerabilities and values; the struggles of life in the gig economy. Rather than being overtly political in the sense of protest, it was expressed as "writing music that relates to people in terms of a realism people can relate to"[75]. Discursive symbolism was leveraged to technological affordance in the hope of engendering a sense of solidarity in shared experience.

Ali (22), a student in the University of Adelaide's Bachelor of Music (Popular Music) course, performed solo with a laptop and microphone. After hearing the quality of her music, I was surprised to learn that Ali's 'studio' only contained a laptop, software, and an inexpensive Audio Technica microphone with a sock as a pop filter. She used the 'qwerty' keyboard on her laptop to play in notes. She felt that at the rate technology was improving, if you worked hard at it, listened to the kinds of music you like as a reference and have an ear for what you want it to sound like, that anyone could make music. The ability to make something "radio-worthy" herself via this electronic process was the main reason she decided to take this route into music.

Although a trained and experienced musician, Ali felt able to bypass her own limitations with traditional instruments, such as an inability to play drums, by programming in the sounds through

[75] Interview, IV16 Ali.

MIDI[76]. She summed up the attraction of electronic music for many young people as providing more of a field to play on. MIDI allowed you to make music without being necessarily able to play the instruments, and she used cracked versions to circumvent the difficulties of getting expensive software. She told me that after only one class using Ableton at university, she "connected" with the software. Through the whole summer of that year she was using the platform every single day.

Ali summarised her motivation as not having to work in hospitality for the rest of her life, but despite this ambition, she had a mature view on just accepting what you were. Her politics seemed an extension of this, not taking a particular stance but writing about how it was for her and her peers, making a social statement through reflecting on her own life and issues through her music. She could see her own self-doubts as something to overcome: "a symptom of being creative" and seemed to have made music a major life vocation at a young age. I detected an 80s influence on her music and she said getting into electronic music in the 80s was because it was the future and getting into it now was because it was the way to be successful.

Unlike others in this chapter, Ali listened mostly to commercial, well-produced music, and was aiming for that aesthetic. Electronic music was less about wanting to be part of something new and innovative, and more about wanting, or knowing, what was and wasn't going to be popular. She had peers that played each other songs and shared production and song-writing advice. The importance of community, in this case a real-life community of practice, had become very important, and most of her friends over the last few years had been encountered through Futuresounds (promoters of *Sidechain*[77]) or the University. The feelings for her hometown were mixed. Although she claimed to love Adelaide and that it had shaped her, she also felt herself and her peer group were "held down"

[76] MIDI stands for Musical Instrument Digital Interface, to connect instruments such as synthesizers or samplers via cable or USB so they can communicate with each other. Ali is referring to the ability to program notes on a DAW timeline that can trigger drum sounds on the laptop but could also potentially play the same notes on an external device.

[77] Regular electronic music showcase event, covered in detail in Chapter 5.

by it. I thought at first this was a common refrain, that the grass was always greener no matter where you were, but she made the point that while Adelaide may be a big city, there were no big record labels there to work for.

A contradiction in Ali's musical world was the mixture of a confessional writing style and performance, with an aversion to self-promotion on social media.

> I loathe the idea of self-promotions…every now and then, if I put something on SoundCloud, I will post it on Facebook, be like hey, I did a thing. But it took me literally for ever to actually make a Facebook page for my music. And even now I cringe at the thought of having one (Ali, 22).

She considered that some people thrived in social situations but she felt like a more introverted kind of person. She loved to talk to people and have a big group of friends but didn't like the conversation to be about herself. She also played in two different acts that she described in terms of two different personalities. Her collaboration with another musician was more "laid back", whereas her solo work was just her:

> Whoever you are talking to, like me right now, is me on stage. Some people love it, some people hate it. A lot of people can't handle my banter when I'm on stage, because they are like, why are you talking about this stuff? You stop singing and then you open your mouth and everything goes to shit, and I'm like, oh but it's just me (Ali, 22).

She described her music as "really personal", and recent songs had been based around mediocrity in life, music that she felt related to people her age in terms of how it was to be alive:

> Living in your own bubble, rather than worrying about Trump in America, or something like that…yeah, just living in a crappy share house, and drinking a lot of booze. And having to work in a café, making breakfast for rich people, and that is what really influences my music (Ali, 22).

Her primary influences were her own mental state and people that she knew, the realization that everybody had a life that they were living that you didn't know anything about, except they were living

it. Her ultimate aim was to produce music or write songs for other people. It took away the part that was difficult for her, which was separating the song from her personal life, "like not feeling anything for the song, just doing it because it is a good pop song…write lyrics that don't mean anything to you because they don't have to mean anything to you".

Miles (21) performed music with a controller linked to a laptop DAW, in his case a Novation Launchpad[78] controller connected to Ableton. He preferred making music on a DAW because he felt in control, defending his limited set-up of equipment and musical process by saying "I like things that allow you to be free". His song-writing usually tried to capture a moment in time, or a mood, and he emphasised the importance of being "free" when you begin to create. One popular name in contemporary music that came up for many younger producers was (Sydney-based) Flume. Another solo producer/songwriter, Flume's brand of Future bass-style music was currently very influential locally and seemed to have set a template for the solo songwriter. Although he namechecked Flume, Skrillex, and Lil Yachty as key influences, Miles was adamant that he was not trying to emulate them. He began on his own making music and considered it a blessing that he didn't know anyone as he was able to create something uniquely his:

> Flume, he's been doing it since he was 12. So he has got to be good at age 23. Skrillex has been doing it his whole life…the easiest way to create is don't compare, gauge off your life and what you see, and only create from you and your background…I roll, I create something different, it doesn't have to be pop (Miles, 21).

At our interview Miles filled me in on the back stage to his engaging and magnetic live performances. After school, his father found him work as a tradesman in the motor industry, but he found it an ordeal that initially pushed him further away from music. He was getting down and depressed, before sensing a conviction that the music was in him; he had a talent and was going to

[78] Popular MIDI controller, that connects to a laptop via USB, featuring 64 square and coloured pads for triggering and composing notes, chords, musical sequences and samples.

follow it. He submitted a track to Triple J Unearthed, which got noticed by Patrick Lang of *Sidechain* who contacted him through Facebook to play. He described his nerves at his first gig but practiced hugely to get it right. The gig was a stepping stone that gave him direction.

Miles described connecting with *Sidechain* as a pivotal moment and considered himself at the beginning of a long career. I first encountered him performing at the event[79]. He stood out, wearing a brown jacket with zips on the side, and had a loud gregarious personality to match. There was no let-up in quality in his energetic performance. He would start each song from his controller, then sing, jump about and shout a few vocal stabs at all the right places.

I ended up seeing Miles perform several times during my fieldwork, each set reflecting a steady increase in confidence, stagecraft and song-writing ability. In our interview he seemed happy and chatty, revealing a single-minded dedication that was essential to success in this most difficult and competitive of industries. Like his performances, he was fun and animated, with more than a hint of a shadow side of susceptibility and self-doubt. Music offered Miles a safe space to get up there and express this vulnerability. He loved Adelaide but found it "annoying", describing it as "a small click" and you had to fit in, which he found difficult at first.

Music's centrality in terms of identity and personal meaning was stressed when I asked him what he would do without his music making technology:

> I know this is really dark, I probably wouldn't be sitting here right now. I would probably be already dead. Yeah. It's almost like I was meant to be born at this time of life so I can express myself that way (Miles, 21).

The interview often veered off course, as Miles digressed from autobiography to what he saw as wrong with the world. His own political views were similar to Bloodbottler, an outspoken mix of libertarian and left-field, railing against governments and closed-minded people. It was a very contemporary (and

[79] EV04, 2016_08_04.

YouTube friendly) mix of conspiracies and compassion, from someone who wanted to open people's minds through his own journey of music and metanoia:

> Get your own look, you know who you are…if you don't have a relationship with yourself, you're never gonna know who you love, you're never gonna know what you want, you're not going to know yourself truly. You need to be able to talk to yourself, you need to know yourself before you can move on (Miles, 21).

Like Ali, however, Miles was not that active on social media. Instead he adhered to the old music industry paradigm of playing as many shows as possible to make it. I considered both to be talented and driven enough to forge careers in the industry, but unlike Travis and Moe in the previous chapter, seemed at this stage unwilling or unable to fully participate in attempting an imperial conquest of the 'virtual'. With so much of the music industry migrating onto the Internet, from streaming services to social media promotion, this was beginning to emerge as a potential handicap. What Stalder identified as the potentially coercive nature of the "power of sociability" (2018: 99), the obligation to participate in the general economization of relations on mass social media, was ameliorated, if you were lucky, by the mediation of dedicated management.

Adorno famously criticised music's commodification under capitalism, astutely connecting musical and wider social structures, even if his often reductive analysis ignored the complexity of music's manifold mediations (Born, 2005: 13). Both Ali and Miles' accounts of their career ambitions temper any Adorno-esque perspective of popular music being a compromised dilution of music's supposedly 'essential' ontology by economic determinism. Firmly attuned to what was fashionable in the present, their own values and experiences were the bedrock of the music they made, nurtured through self-reflexive processes and manifested with the musical means available. Although they wanted success, it was perceived as being dependent as much through a faithfulness to their own sense of an 'authentic' aesthetic as adhering to successful formulas.

Conclusion

> I build a sort of mythology around the work that I create...a personal studio space just has an almost quasi-religious devotion (Red Robin, 35).

Born argued that music generated its own socialities (2010c: 232). Although she talked of orchestral and band scenarios, and institutional forms like IRCAM, in electronic music the sociality in its most immediate sense in often the individual with their music making technologies. Although this could be interpreted as part of a wider hyper-individualisation in the capitalist West, this section has emphasised the social mediations involved in the cultural texts produced. The psychological drivers of its makers, their aims and motivations, are a confluence of individual and social aspiration; the desire to be heard, understood, challenge and provide pleasure a vital component.

There was also a clear ethical component to music practice. The aspirations toward aesthetic quality were seen as being buttressed by following one's own personal code, rather than a requirement to compromise. I was reminded of the "ethics and aesthetics" driving programme making in the creative field of television production in Born's ethnography of the BBC (2004: 372). I argue the importance of expressing personal values, such as an uncompromising originality, the integrity of conceptual process, and considerations of authenticity, underpin the practice of many more than these case studies and are especially evident later in Chapter 6.

Given the amount of my participants that talked of music practice as some kind of therapy, it is possible to see it as a reaction to a form of spiritual and philosophical estrangement from many aspects of the "digital condition" (Stalder 2018: vii); fears of oppressive technologies of control, the growing disparity of wealth, the spectre of climate change, the mediation of so many social interactions through communications platforms. These themes are mentioned by those that are uncomfortable about where they see humanity heading.

Resonating relationships, not only with human beings, but with nature or practice are identified by Harmut et.al. (2017: 67) as an antidote to what they call the alienation of "acceleration-based causes for a bad life in late-modern societies". They are the 'other' to a context of escalatory growth, competition and acquisition; the non-alienated relationships that are truly significant for the subject. Normally found in the family and intimate friendships, I argue music practice and other time-intensive creative engagements serve to augment or supplement these affiliations. Music makers like the sound artists and 'cyber-songwriters' in this chapter seek succour and strength in studio work, their practice an opportunity to find themselves, experience a sense of liberation, and an opportunity to affect others. Subjectivity is a 'work in process' achieved, as Stirner predicted a century and a half earlier, by creating a literal and psychological 'space' of self-realisation.

Both chapters in this section show how subjectivity is constructed in studios and bedrooms, enacted in processes and techniques, assisted with skills and technologies, and achieved with dedication and perseverance; an age-old yet thoroughly 'modern' story of self-realisation and personal reinvention, immanence and becoming. Stirner perceptively saw through the hollow phantasms of the emerging political and economic landscape, the sacrificial subservience to freedom, religion and democracy. His exhortation to conscious egoism as the best path to liberation appears a more practical approach than waiting for government policy, benevolent capitalism, or revolutionary upheaval. I argue that in spirit at least, many music makers have come to a similar conclusion.

Section 2: The Object

The next section turns the focus on the mediation between the subject and the music-making 'object' in its physical or software form. The first 'object' in question is the software application known as the Digital Audio Workstation (DAW), which manifests in a number of guises, but overwhelmingly in my research in the form of Ableton Live. The coupling of DAW software, available as freeware, at a range of price points and often illegally, combined with the power and portability of modern computer hardware, reflects the mobility and information flows of modern networked society. The second 'object' is bespoke music-making hardware, and the motivations behind modular synthesis and DIO (do-it-ourselves) instrument making and customisation are explored. The popularity of both is entwined with the democratisation of knowledge and accessibility facilitated by the Internet. In the mediation of the object, this section seeks to understand the co-productive processes of music's social mediation, whether human or non-human.

Chapter 3: Anyone Can Make It

> If you have the Internet, you can do anything (Ali, 22).

The chapter explores how software music-making platforms have affected the ability to make electronic music, and the impact of the Internet in providing access to tools, knowledge and inspiration. Special emphasis is given to the pedagogical and authorial implications of these processes, and the range of co-productive relationships intrinsic to the cultural texts produced. The wider electronic music milieu in Adelaide reflects what Stalder (2018: 5) identified as the three recognizable forms of the "digital condition": *referentiality*, the selection and combining of existing cultural materials for one's own production; *communality*, how meanings are stabilised and resources made available through shared collective structures, such as online interest groups; and *algorithmicity*, how automated decision-making processes extract accessible information from big data.

Central to Born's analysis of creativity was that it is social (2005: 15). Born drew upon on the work of Gell (1998), who stressed the dispersed agency of subjects upon each other within artistic production, rather than a focus on the effect of a work of art in itself. Using the example of a Maori meeting house, individual styles and genres were shown to merge into a higher order unity, the result of an extended mind of human processes (Miller 2005: 13). Influenced by Gell, Born (2005: 27) challenged the ontology of the musical work with the composer at the apex by stressing the wider social relations involved in production.

This chapter expands these relations to emphasise the affordances of software. To overcome the obvious limitations of letting 'objects' speak, Miller's admonition to move beyond the dualism between persons and things is achieved by letting those who use the technology speak about it; to show "how the things people make, make people" (2005: 38). On the first plane of music's social mediation, the human-non-human socialities of music performance suggest what Miller & Sinanan

(2014: 12) propose as a "theory of attainment" that redefines the human to include all the things we have a capacity to be in the future.

I use Born's (2012a: 266) theory of music's social mediation to emphasise the role of the non-human, providing further empirical evidence to explore Waugh's (2017: 234) contention that symbiotic relationships are being formed between people and their digital devices in the Post-Internet. These mediations go further than the ability to more effectively explore and control musical parameters, to include a host of non-human agents active in musical practice: the algorithms of social media are hugely important in suggesting and directing aesthetic taste[80]; the generative capabilities of digital audio workstations (DAWs) are increasingly being utilised to add elements into the compositional process that obfuscate authorial identity; and the intuitive refinements of the DAW interfaces themselves are affording an accessibility into music that can circumvent barriers of music theory and ability.

Many participants confided that being able to easily get hold of and experiment with music platforms was important in them adopting music as a serious practice: sixty-three percent[81] reported that the availability of samples, music software and online educational materials were significant to their music practice; fifty-four percent[82] felt that peer-to-peer networks of online knowledge-sharing, either through forums or user groups were important; seventy-seven percent of my participants

[80] Many scholars are examining the persuasive aspects or 'soft power' of algorithms to shape the everyday experience of the user. Seaver (2018: 3) conflates them with the metaphor of the 'trap' and what he terms "captology"; Karakayali et al. find they can act as intimate experts in creative self-transformation (2018: 16).

[81] 19 of 30 (63%) of participants reported positively about using online tutorials and/or sample packs, 3 of 30 (10%) said they were against sample pack use and 8 of 30 (27%) felt ambivalent around the subject, occasionally using either one or the other.

[82] 26 of 48 (54%) reported forums or user groups as significant now or in the past in their music practice, 22 of 48 (46%) said they were not important.

considered it was now easier to make electronic music[83]. If you want to make music and have access to a laptop and the Internet then it seems it really is true; anyone *can* make it.

The DAW & the Future of Pedagogy

> Some of my favourite artists are younger than me, like 17 years old. How are you this good? (Thijs, 21).

The Digital Audio Workstation is a site for the convergence of multiple sound producing tools and techniques within one piece of software. The intuitive affordances of the software interfaces themselves, coupled with user-generated online content around music practice, highlight the co-productive mediations around electronic music. Such developments are part of wider changes in computing technology that have seen activities like computer games shift from linear experiences to virtual worlds that users can explore (D'Errico 2016: 3). The interface in both music and gaming environments is crucial to the success of their adoption, with sound a key part of the mechanics of the experience. As D'Errico claimed, and Section 1 confirmed, software can be more than a tool, becoming a "platform for the expression of individual and collective identities, values and politics" (ibid. 4). I explore the human relationship with the DAW as a window onto a wider media environment that significantly affects the practices, as well as the subjectivities, of music producers.

A key point of D'Errico's thesis into how music making was being influenced by software design, was that sound was becoming more of an experience than an object, increasingly conceived and discussed in the abstract. This is especially noticeable in the compressed world of the digital where the subtleties of analogue noise have been sacrificed for the efficiencies of streaming the signal (Krukowski 2017: 11). Connected with this was the shift toward "process-oriented exploration"

[83] 20 of 26 (77%) claimed it was now easier to make music, 3 (11.5%) said no, and 3 (11%) were unsure.

(D'Errico (2016: 6) in digital media design. In electronic music, these developments have resulted in the addition of multiple 'plug-ins' to expand the options available to the user, further encouraging the drive to experiment and discover. Finally, the 'skeuomorphic' placement of interface elements as metaphors for 'real' objects, such as knobs and faders, has shifted with the advent of mobile media, towards touch-based actions, with D'Errico considering sound and interface more as a holistic media "environment" (ibid. 8). The DAW encourages a more elastic notion of music within a broader ecology of media processes, exemplified by many in this chapter[84] in the utilisation of video, digital images, Foley[85] and digital samples from games and other texts.

Theberge's (1997) seminal work on the conflation of creativity and consumption within the field of electronic music, described the changes in music practices following the introduction of microprocessor technologies into music production in the 1980s. He argued that musicians acted increasingly as consumers of technology, and it was this process that structured their musical production. In particular, he described how the drive to home studios had supercharged the music industry in that everyone wanted their own sequencer, synths, mixer, and computer; but also how this process had changed the domestic space and made music production more of an isolated form of activity. Theberge identified this practice as "participatory consumption" (1997: 252), which he saw as being facilitated by the growth of the Internet. This desire to "create, communicate, and consume" (Ibid. 255) made it necessary to adopt increasingly mediated forms of communication with one another within a context of technical innovation and aggressive marketing. In a confirmation of Stalder's (2018: 79) notion of *communality*, Theberge argued that "learning 'to manage', both with and without new technology, had become one of the essential ways in which many contemporary musicians learned to define themselves, their relations with others, and the 'sound' of their music" (1997: 252).

[84] IV07 Arvo, IV32 Roy, IV33 Phil, IV52 Jane, IV56 Tim.

[85] Foley is the name of field recorded sound effects, named after sound effects artist Jack Foley.

In another example of *communality*, Waldron (2013) investigated music learning and teaching on a Banjo Hangout forum. One of the major themes to emerge from her data was the convergence of the online and offline community, "tightly interwoven with music learning and teaching in both on- and offline settings" (ibid. 97). It seemed the site served to facilitate online connections that led to an offline community. Like my own research, Waldron's participants were voracious users of technology (ibid. 100), using software, hardware, multiple recording and producing technologies, and online resources when necessary. The importance of the Internet for learning was clear, with positive reciprocity being one of the most significant factors (ibid. 101). Waldron stressed the importance of YouTube for teaching, as videos from the site served as music teaching and learning aids, and as "vehicles of agency to promote and engage participatory culture" (Ibid.). Participants on the Banjo Hangout posted YouTube videos or MP3s to initiate discussion and shared experiences, acting as an offline global community independent of any school music culture or one based upon it (Ibid.).

One of my participants, Chad (33) made video tutorials for YouTube. After an internship where he made video tutorials for an American music technology company, Chad decided to make his own after taking so long to work out how to use a Virus[86] syntheziser. Because he considered the existing tutorials for operating this synth were "terrible", he decided to "make one that people can actually watch". This led to the desire to create more and possibly turn it into a job:

> I have already had people who have left comments and saying, "this is a good video"; "another great video". And then I have also had people saying, "what music is in the background?" And I gave them a link to my SoundCloud, and I thought, if I use my music in the background, it is promoting myself as an artist, and I am also helping people with videos. So I see it as a win win (Chad, 33).

D'Errico also commented on the rise of "amateur-to-amateur" learning (Miller 2012, quoted D'Errico 2016: 18), resulting in predominantly online networks of knowledge-sharing that highlight music's

[86] Virus is the name of a range of expensive but highly regarded synthesizers made by German company Access Music GmbH.

second and third planes of social mediation. Like the affordances of software interfaces, my research shows how these sources of techniques, information and feedback are important for music makers of all ages.

Large electronic music producer forums emerged in the 2000s as a site for discussion between music makers of varying levels of experience, and as a resource for researching and reviewing music making equipment. The biggest of them include Futureproducers.com, *Gearslutz* and Homerecording.com, but there were also numerous smaller forums associated with electronic equipment companies, or more specific pieces of equipment, such as *KVRAudio* for audio plug-ins, *MPC-Forums* for Akai MPC sequencing equipment, the *Ableton Community* for the Ableton DAW and other equipment associated with the program, and the Swedish music hardware company Elektron's *Elektronauts* Forum.

Salavuo's (2006, 2008) studies of forum use in Finland explored the motivation for participation and found that online music forums could function as an opportunity for pedagogical change (2008: 121). In contrast to the traditional instructivist approach to teaching, where knowledge was acquired from being passed down, Salavuo found skills were now increasingly developed through active participation or interaction in a community. It was the expertise that surfaced in an ad-hoc manner on profile posts that Salavuo believed had the potential to be significant for informal learning (2008: 125). He found that primarily musical incentives lead to online activity for participants' music practice, including feedback and musical collaboration. Although social networking, particularly on social media platforms like Facebook, SoundCloud and Twitter was seen as essential, it was the need to get their music heard by others and get feedback that mattered. Like Stalder, Salavuo found that the social environment of such communities was important for motivation and the sense of belonging that he believed could catalyse it.

While I was undertaking research, it became apparent that the popularity of the large producer forums had waned with the advent of social media, as YouTube channels (like *Sonic State*[87]) Facebook groups around music styles and equipment (like *Aussie Wigglers*[88]) had become the convenient means to keep informed. What was perhaps surprising from my research, was the resilience of educational institutions amidst these 'democratising' developments. I argue they reflect the continued importance of real-time social affiliation to ground the opportunities of online connection and guide new opportunities for creative expression.

My analysis shows how the DAW, together with online content around music practice, signals the key positives of the Post-Internet condition for making electronic music: the affordances for individual creativity; the importance of social mediation in terms of positive reciprocity; the significance of new forms of pedagogy and the strong connections between online and offline communality. In the next section, these are encapsulated in the stories around one piece of software.

Ableton: Meet the Superstar

> You don't have to be a classically-trained violinist. The barrier for entry is so low. You just need a laptop, everyone has a laptop. You need connection to the Internet. A program, which most people download illegally, but you can buy. That's it (Wallace, 23).

The following case studies introduce the digital audio workstation, and one in particular, Ableton Live. The breadth of opportunities this program offers, the intuitiveness of its use, and its accessibility

[87] A UK gear-review site, with industry conference updates, and interviews with music equipment makers.

[88] Facebook group that mainly focuses as a buy and sell website for music hardware, predominantly for modular synthesis).

through piracy, have all contributed to its popularity among Adelaide's music makers. In practice, the program's use raises questions of authorship around the musical texts produced through the co-productive processes between software and the human.

Popular DAWs such as FL Studio, Logic, Cubase and Reason are all powerful 'studio in a box' applications that are all you ever need to make high quality recorded music. By far the most popular and passionately discussed was a non-human 'celebrity' from my research, Ableton Live. In the mid-2000s, Live became the leading software for producing electronic music (D'Errico 2016: 23), introducing a non-linear 'Session View' for auditioning musical ideas, as well as the standard timeline-based 'Arrangement View'. Fifteen (24%) of my participants listed either Ableton or one of its native processing applications as their favourite music technology. In contrast, only four participants mentioned computer hardware as a favourite, and two of those used Ableton. As Prior commented (2008: 920), it is the software that transforms the computer into a music-making machine. Ableton, heavily marketed toward playing live, has undoubtedly revolutionised music production and performance since its development in 2001. Its 'warp' capabilities for time-stretching and pitch-shifting audio have contributed to 'elastic' and hybridised musical forms (ibid. 924).

Given the ease with which it is now possible to begin making electronic music, something often lost in debates around accessibility is the technological knowledge required to actually use these creative tools. If it is mentioned, it has often been within the context of gender; how males, either though structural affordances or the cliquey camaraderie within the studio or forum space, are assumed to be better able to negotiate the technical elements of sound design (Reitsamer 2011: 33, Farrugia 2012: 118, Stamper 2015: 18). What is lost in this focus is that a lack of knowledge is actually common across many demographic divides. A case in point is Anton (21). On the surface, Anton had everything going for him to begin making electronic music; young and an accomplished musician, computer literate and enrolled in a university music course. But as he confided, the learning curve in using the technology was his biggest difficulty and main obstacle.

Anton was a fan of more commercially popular electronic music, often derided in the underground (Thornton 1995: 156) for its formulaic and 'cheesy' elements such as auto-tuned vocals and anthemic melodies. Such tracks, as Anton pointed out, were also generally well-structured, immaculately produced and dynamically effective in sound design for maximum impact on club and festival sound systems. As a classically-trained musician, Anton appreciated the exposition and development of the melodic elements in this music, although he said he could also appreciate "Bass[89] music", which he said was more focused on the "nature" of the sound.

> Even if you are a musician who is used to playing instruments, there is a certain way of thinking about sound when you get into the electronic side of things, you break down sound into fundamental building blocks, thinking about sine waves, and building up from sine waves. You don't really think about how you bow your violin or something like that, you are thinking about what frequencies do I need to make this sound juicy (Anton 21).

Anton recounted tales of searching online for advice on audio compression, ending up at technical advice on audio engineering websites. Far more valuable to him were his university course and the intuitive guides in the Ableton interface itself:

> You can learn the software through the software…that has been a major way of me learning as well, experimentation, and trying to be perceptive of what is in the software, or what help the software has given me to what I want to do (Anton, 21).

Anton found it encouraging that all the equipment that would have once filled a university studio could now be condensed into one piece of music-making software on a laptop. He had always been fascinated with technology and appreciated his university course because he learnt about processes that were "pretty cutting edge"; different from just upgrading a software but implementing whole new concepts like gestural controllers that used the hands to control musical parameters. Further

[89] 'Bass' music is a meta-genre covering much post-2000s underground club music, including genres like Dubstep, Grime and Drum 'n' Bass, where the bass line is a predominant feature.

emphasising *communality*, Anton also mentioned a local Ableton user group where artists could share their knowledge. He saw electronic music as essentially two fields; those who were into what he called "banger culture" – conventional dance music, and those who treated electronic music as an "another artistic medium". He felt torn between both worlds.

The example of Anton succinctly summarises the complexities of the contemporary musician's relationship with their technology. The accessibility of software made them useful tools, but it didn't take a lot of probing to bring up some fundamental ontological conundrums over what so-called 'human' creativity actually was. Anton could sense the "immense opportunity" in technology, but also the need to "take myself away from that and become more human".

I first met another young Ableton user, Jane (19), in an inner-city venue playing a selection of what I would subjectively describe as 'hard ambience', that while far from conventional dance music, was still identifiable by its feel and sonic atmospheres as belonging in 'the club.' This uncompromising and quite daring set piqued my interest, and I later introduced myself and asked whether any of the music playing was her own. It turned out some of it was, and I later searched online and found, on the platforms of SoundCloud and Bandcamp, a number of tracks available either for listening or buying. One of these tracks she later told me, featured a sample from the Detroit Techno band Drexciya, an important influence, that she had cleverly looped and smothered in lots of reverb and overlaid some Korg M1[90] vocal synthesis.

Jane told me she had been making electronic music since "around 2014" but wanting to all her life. She had been exposed to electronic music from an early age, growing up listening to Bjork, Portishead, and Massive Attack. In an example of Stalder's concept of *algorithmicity*, as soon as Jane discovered the Internet, especially YouTube and its autoplay function, it helped her "mature my tastes a lot more". The power and utility of such algorithms, their ability to sort through and select from huge

[90] The Korg M1 is a hardware music 'workstation'; a sample-based synthesizer, sequencer and sound module all in one.

amounts of data, appeared crucial in guiding several musical careers[91]. She also namechecked Discogs, the buy and sell website for vinyl and CDs, as a great place to find music, particularly for old Techno labels. Jane confided she never thought she would be able to actually make music until she "brute-forced" her way into it, downloading the Ableton DAW one day and starting to experiment. She described herself as a "visual girl", and it was the intuitive and "comfortable" graphic user interface of Ableton that made the difference.

For Jane, genre had its place for social reasons, for communities around music. She admitted to a lot of different tastes, which was reflected in her deejaying mixes:

> My track selection is very confusing, all over the place. I go through my download folder on *Soulseek*[92] and look for anything. It's a little bit chaotic, but that's what I like. I like to keep people guessing (Jane, 19).

Apart from her dependence on the Internet both for discovering electronic music and the means to make it, she was also an enthusiastic user of social media. Highlighting the second plane of music's social mediation, she described music as the best thing ever to happen to her socially; she was always bad at making friends but the connections she had established with close peers through music were now really important. She depended on this online network of producers for recommendations of music technology to use, "and then pirates," making good use of the accessibility of music and software on torrent sites to assist her music career.

Reinforcing Stalder's notion of *referentiality* (2018: 59), her practice involved trawling through lots of sound effect libraries for specific sounds, particularly movie trailers and video games that often featured very well-crafted sound design. She told me how many gamers rip all the sounds from games and upload them to the Internet in zip files, which she was then able to download and sift through to

[91] IV08 Rachel, IV31 Porter, IV44 William, IV47 Julian, IV52 Jane, IV56 Tim.

[92] A peer-2-peer file-sharing network running since 2000.

find what might work. I questioned her further about her reliance on ready-made sample packs, which could be a divisive issue within producer circles[93]. Jane felt that many producers didn't think enough about their choice, and therefore didn't sound original. In contrast, she described herself as "very picky" and if she couldn't find a specific sound, would make it herself through layering sounds together. The blurred line between creation and curation comes up again later in the chapter with the example of John.

The importance and affordances of the Internet were also underlined by Roy (18), who I first encountered playing live at *Sidechain*[94]. It was to be a memorable interview for me in that it gave a deep impression on the effects of growing up as a digital native:

> With smartphones we basically got a supercomputer in our hands, you could take that anywhere, do anything we want to, we have access to almost the entirety of the world's information in the palm of our hands. That is pretty crazy (Roy, 18).

With the optimism of youth, Roy had ambitions to leave a mark in the same way as Prince or David Bowie, and enthused about the attraction of electronic music practice: "the freedom it gives, the freedom to just create anything." He credited Daft Punk as the first group he appreciated as an electronic duo at the impressionable age of seven. When he was 12, at the peak of Skrillex's Dubstep[95] popularity, he decided to explore how the music was made. Roy said turning to Ableton after recommendations from other producer friends was like "another planet".

Once he became familiar with its features and workflow, Roy found Ableton flexible and free, like a "big blank canvas". While he acknowledged receiving a lot of engineering and mixing advice from other producers, a part of the process he found tedious, for the most part his learning process had

[93] IV09 Mike, IV25 Maurizio, IV39 Rashad, IV49 Moe; all interviewees complain about the use of sample packs.

[94] EV14, 6/10/2016.

[95] Dubstep is an electronic music genre that emerged from South London in the early 2000s. Following the success of US artist Skrillex, the genre had a brief explosion of mass global popularity around 2012, before rapidly fading from popular consciousness.

been self-taught; the intuitiveness of Ableton, "fiddling with everything" that a program or plug-in offered, getting a natural feel for it, was how he learnt. Seeing the program's capabilities and potential, Roy didn't like how people confined themselves to particular genres. He decided on his present moniker, an adaptation of his own name, in order to free himself up to do whatever he wanted. This attitude extended to his personal philosophy which he believed was very individual. He was critical of what he perceived as people sharing a mindset, wanting to follow the same beliefs and morals as everyone else, the same way of speaking, like adhering to a cultural fashion:

> All of this is wearing a mask, the whole robotic thing going on. And I just feel like we are only at the outer crust, the shell as to what people can really be, what people can really do (Roy, 18).

Ableton, therefore, has been 'instrumental' in the construction of both individual and musical personalities, a 'game-changer' for many, especially those growing up comfortable with negotiating graphic user interfaces. Despite the clear affordances of the Ableton program, accessed through its vaunted intuitive interface, this was often not sufficient to exclude the perceived value of human guidance, either through an institution or socialities of practice. Following my field work, I was later to discover that Roy had enrolled in a tertiary music program.

Learning the Tropes

> I just started because I wanted to broaden my musical abilities. That was a way to do it (Arvo, 24).

Despite the democratising potential of digital audio workstations and online tutorials, my research revealed that the resilience of musical institutions lay in providing access to a cohort of fellow music makers, and the direct mediation of knowledgeable guides in a face-to-face relationship. The iterative and empathetic nature of these relationships seemed as necessary as the symbolic capital of a qualification itself.

Techno's heyday in the early 1990s may have put Adelaide on the electronic music map worldwide, but the city has had a long history of association with electronic music. Synthesizer pioneer Tristram Cary moved as Visiting Composer to the University of Adelaide in 1974, bringing in most of the equipment from his long-established studio in England (Riley 2008). After the Second World War, Cary had been something of a Tofflerian[96] 'techno rebel', repurposing obsolete radar equipment and other wartime electronics to make noise-making 'instruments' (Ayres 2008). The University of Adelaide structured their first electronic music course in 1970, having acquired a huge modular Moog Synthesizer Mark III (Wilkie 2008). The University now provides a Bachelor of Music (Sonic Arts) and Bachelor of Music (Popular Music) that several of my participants are or have been involved with. Two of my participants, Ed (39) and Minimax (39) completed Tafe[97] courses in electronic music, and there are also courses in audio engineering and sound production at the privately-run SAE College. I found that Adelaide University and the SAE in particular have had a significant impact on the local music scene, and their popularity attests to a desire to make music into a significant life practice.

An event I attended in my research highlights the enduring relevance of institutional learning, as well as providing an interesting example of how music generates its own socialities of performance. As part of the University of Adelaide's regular Friday lunchtime recitals, an electronic music performance took place that was situated firmly within the classical repertoire. The centrepiece of the event was Steve Whittington, head of the University of Adelaide's Sonic Arts course, playing the University's vintage Moog modular synthesizer in a recreation of *Switched on Bach* by Wendy Carlos[98]. I had long wanted to hear this synth, particularly after reading of its history in Pinch & Trocco's *Analog Days* (2002. There were probably about 200 people in attendance, mostly the elderly recital 'regulars' and a smattering of students. The famous Moog modular was assembled like a monolith at the back

[96] Referring to Alvin Toffler's (1981) concept of repurposing technology.

[97] Tafe refers to Technical and further education institutions that in Australia teach a variety of primarily vocational courses.

[98] EV11 16/09/2016.

of the stage. This was one of the first models of this instrument, and one that Bob Moog and the original team would have worked on. Maybe it was my imagination, but I seemed to sense a 'presence' emanating from this large box of knobs and patch cables.

I read the programme I had been handed from one of the ushers at the concert door and was amazed to find there would be six acts featuring a range of students from the Sonic Arts course, all playing various Bach pieces. I recognised a few names from line-ups at *Sidechain,* a fortnightly electronic showcase discussed in Chapter 5. Steven arrived on stage and delivered a brief and witty introduction, with an apology and warning that the Moog could easily go out of tune. He then sat down at the synth to begin playing the first act, accompanying a vinyl record of *Switched on Bach*. I got a taste of the famous warm Moog bass sound, before my attention became irresistibly distracted by the sound of the Moog quickly falling out of tune.

Act 2 featured five students that arrived on stage to play a Bach piece on their laptops. They all looked serious and dressed for the occasion, wearing shirts, trousers and shoes. It might not have been the regular black-tie classical wear, but an effort, a gesture, had been made, which did seem to make a difference to the gravitas of proceedings given the setting of the Hall. After some uncertain moments, the piece really came together at the end, more through synth washes than filigree moments. It was hard to know exactly what was going on, but it did seem that the various performers had a strategy so that the piece was in some way being played 'together'.

Next up, Sonic Arts staff member Sebastian Tomczak (Little Scale) played some Bach music via Ableton and a modified Sega Mega drive gaming console. Sebastian had a calm and unruffled presence on stage, twiddling the custom-made box in front of him with a look of contented amusement. I wasn't sure what the regulars made of all this, but he got a generous round of applause at the end. Act 4 was time for five more Sonic Arts students to play Bach, using what looked like X-Box Connect controllers in their hands to control the sounds from their laptops. Steve played along on the Moog, which again started to go out of tune again very quickly. Then four more students played a Bach score on laptops

in something that loosely resembled the genre of Dubstep in style, accompanied by a classical pianist on a concert grand. Finally, Steven played the grand piano accompanied by a saxophone player, in turn incorporating feedback from the sounds mixed live by Iran Sanazahdeh. It was good to finally see a woman on stage, as so far it had been male performers all the way. Although ostensibly the event's focus was on Bach's music and a vintage synthesizer, it had provided a tantalising glimpse of the possibilities and inadequacies of the laptop and software as an ensemble instrument.

That so many students had enrolled full-time in music education courses highlights the need felt by many to seek extra guidance, despite the ubiquity of information freely available on the Internet. Such courses not only provide the knowledge to help further a career in music, but crucially they offer support towards entering a variety of pathways that may not have been considered before, the opportunity to establish connections in the industry and strategies for self-promotion. Just as important, they offer *communality*, access to a cohort of like-minded producers in a real-world setting, which could be vital for establishing an identity and the means to perform and release music. I was to discover that music courses were integral to the electronic music scene in Adelaide, highlighting the significance of the fourth plane of music's social mediation.

The University's Popular Music course revealed how the need to tailor one's music to the demands of the contemporary market entail knowing what will be successful and how to craft popular songs. While almost everyone is now capable of being a cultural producer, few 'amateurs' are able to reach a substantial audience with large firms able to control the marketing and publicity of their particular products (Hesmondhalgh 2019: 6). Recent research by Arditi (2018: 307) confirms a shift in the recording industry from a business model dependent on selling commodities to one based on subscriptions and streaming, a strategy he saw as creating "unending consumption". Streaming services have become the preferred medium to access music, as well the most effective way that the music industry has resisted the challenge to the copyright system that the easy reproducibility of music

had threatened. According to Hesmondhalgh & Meier (2018: 1562), "mobile telephony-driven music streaming…looks set to be the most important development, on a par with the introduction of the phonograph, vinyl records and the CD, and producing new dynamics of personalisation and mobility".

The growth of streaming services has intensified the shift from album to single release, creating new conflicts over suitable remuneration (Klein, Meyer & Powers 2016: 226). *BuzzAngle* music reported that 99% of streaming plays the 10% most popularly-streamed tracks (Krukowski 2018), highlighting the difficulties in getting your music heard via this medium. Just like YouTub*e*'s autoplay algorithm, the playlist is aimed at capturing a listener's attention for as long as possible, the stream or be skipped competitiveness amplified by the requirements of a song to be played for at least 30 seconds to count as a play and be eligible for a royalty payment (Hogan 2017). Catchiness is king, and Hogan listed the various strategies employed by popular songwriters to ensnare listener attention: the "pop drop[99]" taken from EDM's sonic arsenal, lyrical themes of universal yet personal resonance, and production techniques that conveyed intimacy, particularly when listened to on headphones.

While digitalization has meant opportunities for more unsigned musicians, increased competition has meant the need to focus on formerly supplementary revenue streams – "touring, merchandise, sponsorship, and various licensing opportunities" (Klein, Meyer & Powers 2016: 225). With marketing and business practices that turn the artist into a brand now almost an inseparable part of modern music making, university courses can help students respond to the challenges of forging a career in a hyper-competitive environment (Thompson & Stevenson 2015: 211).

In contrast to the Popular Music course, the University of Adelaide's Sonic Arts course focused more on process and performance-driven pathways. John (27), a graduate of Sonic Arts, discovered electronic music after a request to score a film. Faced with the task of creating orchestral music

[99] The "drop" is a key compositional feature of much dance music, particularly on so called 'main-room' sound systems, where a change in the music is preceded by a build-up and break in the sound.

quickly, he found that it could be done more easily and effectively with software. He began using a cracked copy of Ableton, and eventually bought the "real deal". (Ali, featured in Chapter 2, had explained to me that record labels will not deal with you if you make music on a cracked version). With a background playing traditional instruments, John enrolled in Sonic Arts as a vehicle for focussing and refining his film score skills. He told me he probably wouldn't be doing what he was now doing without meeting the people in Sonic Arts; seeing the way others approached music had informed his practice, even though he brought his own ideas about it.

John was now interested in how computers could make music, excited and fascinated about the questions of authorship that came up. However the agency of technology in this creative process sometimes made him uncomfortable, feeling that music could be more a result of the gear you chose to use and thus more about curation than creation. Sometimes in the creative process, he felt like he was cheating, the root of many of his creative blocks as it felt too easy to pull all the elements together and say that he made it. He wanted to challenge this in himself. Like D'Errico (2016), he considered the greater sonic possibilities of the software were a positive thing, but he also "subscribed" to what he termed "Brian Eno's concept of arbitrary constraints" because he often felt paralysed by the possibilities of the electronic field, saying there was too much freedom[100].

Another Sonic Arts student, Arvo (24), was introduced to Ableton in the last year of high school, soon discovering that the platform worked well with how his brain worked. His comments speak to D'Ericco's (ibid. 5) reports about music as an exploration and experience:

> I think with Ableton you can create a space for whatever's in your head. I could do whatever in my head I wanted to do. It was like, let's see what this thing can do, and push it as far as it can go…so the tools shape a lot of what I make (Arvo, 24).

[100] Another participant, Mike IV09 in Chapter 4, makes a similar point.

His friend gave him a “dodgy version” which used to crash every half an hour or so. Consequently, Arvo got good at getting results quickly, otherwise the program would die before he got anything done. Like Jane, when he started making electronic music he used a lot of samples that he found online, chopping them up and adding effects. Now he still did the same thing, but the samples were ones he recorded himself. Arvo believed that once you had a computer you had access to all that you needed. He began with a laptop and iPod headphones and didn’t have much more now. He found a lot of the things that he wanted to do musically he could do once he had Ableton. The main problems he now encountered were conceptual rather than technical, introspective problems that he had to figure out for himself. He joined the Sonic Arts course because he felt he needed to get out of his comfort zone and learn the basics because he didn’t know a lot of theory. However, the course turned out to be more conceptual and it had taken him in a whole new direction that he was really happy with, particularly the performance aspect of the course**.**

The Internet and the social connections he made there were also very important to Arvo’s practice. At the time he began seriously making music, SoundCloud was a new platform:

> SoundCloud was really what kept me going. Because of that community, I was able to upload (music), and there were lots of other people in my position, just starting out, around the same age. It was completely online… so SoundCloud really started it. If I didn’t have that platform to use, I don’t think I would have kept going. Because I wouldn’t have been able to have that feedback (Arvo, 24).

Unlike the ‘trolling’ comments common to YouTube, Arvo considered the feedback on SoundCloud was generally positive and he felt a rapport with people on the platform even though they had never met. People would check out each other’s music and he said it felt “definitely like this little community”.

Arvo, John and another participant, William (23), had formed something of a producer cohort, built around instrumental, process-driven electronica that could be loosely described as ‘power ambience’.

I met another member of the cohort at a Drum 'n' Bass night[101] when I bumped into Arvo again after our interview. Arvo introduced me to Tim (23) who he suggested would be good to interview. Not only was he Arvo's friend, but I instinctively sensed from his porcelain complexion, black t-shirt and posture, the signs of an intense producer personality.

It ended up being one of my last fieldwork interviews[102]. At an inner city basement café where I conducted many of my meetings, Tim's request for a "single shot long black" seemed reflective of the bespoke, precise and restrained sonic palette of his music. I wasn't surprised when he mentioned Ableton's 'Granulator' plug-in as his favourite bit of kit which he said was almost the sole reason his music sounded the way it did. The plug-in, using the process of granular synthesis[103], opened the possibilities for the complex movement of sound, a fundamental element he was exploring in his music, using as an example what it would sound like in the middle of an earthquake. The sonic processes of his music built on the metaphorical association of a granular synthesizer using grains of sound with rocks being made up of grains of sand. He extended the geological metaphor with a visual aesthetic that had a similar 'rocky' and dark palette. He used photos he had taken of rocks, zooming in and cropping a really close part of an image and boosting up the contrast. It was this approach that he also attempted sonically, producing a musical style suggestive of vast landscapes, distant and washed out, but zooming in on crumbling crashing sounds. He didn't want to over-emphasise this relationship, preferring the audience to envision what they wanted. Like so many young people, the computer was both a sonic and visual tool:

[101] EV33, 3/2/2017.

[102] IV56, 19/09/2017

[103] In a process similar to sampling, in granular synthesis the sound is built up from micro-sonic elements called grains. These micro-samples can be mixed-up and played though different parameters to produce novel sounds (Aikin 2013: 72).

> I think it goes back to when I was starting out, I was fucking around with Photoshop as well. Just because of everyone's ability to get access to software through piracy, I think if you were a little bit creatively inclined, you just downloaded everything you can try and then stick with it (Tim, 23).

The mediation of music's fourth plane was highlighted by Tim's experiences growing up in a country town, where the discovery of electronic music was through the Internet and all "the rabbit holes it allows you to go down". As an example of *algorithmicity*, Tim referred to the "interconnectedness" of music on the Internet; his own taste extended from an attraction for UK Bass music to a love of post rock and post metal. He said it was "crazy" to think how the Internet could be the sole source of where you were discovering music now. Reinforcing Waugh's notion of human symbiosis with technology for self-creation, Karakayali et al. (2017: 17) saw in online recommender systems "the capacity to form intimate and permanent bonds with their users, accompanying them in their various affairs".

Overall, Tim came across as I expected from his music and my first impressions; focussed, quite obsessive, and a perfectionist. He said he had been "toying around" with Ableton since he was 17, but only in the last 18 months had he been seriously committed to it in his own mind. The Sonic Arts course had been important in exposing him to different music and ways in thinking about sound, and he had found the staff "really good". He admitted he didn't have a strong theoretical grounding, and even now didn't really think about theory, notation, or structures; instead he knew how to achieve what he wanted through the different tools of Ableton Live.

In an example of first and second plane social mediation, his "little crew" (that included John, Arvo and William) were like a forum/support group where they sent each other stuff, helped each other out, and shared skills. Tim described it as like a big collaborative effort that felt better than a lot of forums, because forums could have a lot of "competing egos" and not as much "pure support". With their group it felt more "wholesome", less about self-promotion, and more about the augmentation of each other's work and trying to push each other further. He didn't follow any forums actively

himself, but said they were good to find tips on how to achieve a certain sound, or mix-down[104] questions. He felt there was a benefit to them and YouTube for people starting out as a point of reference for places to learn from.

Another formal pedagogical avenue into electronic music was offered by the SAE[105] music school in Adelaide, a private college specialising in sound engineering and production courses[106]. A current student, Phil (18), told me his electronic music journey began at 12 years old when one of his teachers showed him Apple's Garageband music software and he "fell in love with it". When I asked why, he replied with disarming honesty that he thought he would look cool if he did well with it, and it was fun. He also enjoyed being the one making the decisions about his music, a common theme discussed later in the chapter:

> You are making something that you want to make. I have really got used to the introvertedness of it all. You are the one making the music, and you are the one making the final decision for everything. I used to be in a band with some friends, and I didn't always get to do it my way (Phil, 18).

Phil was adamant about not pirating for moral reasons. There were some things he would love to get but he had to wait and was basically happy with what he had. He used the latest version of the Logic Pro X DAW, and enjoyed experimenting with time signatures, pushing what he saw as the "EDM[107] formula". When I asked him about genre, he reasoned that EDM was so popular because many of the artists making it were undereducated in music theory; that conforming to genre was the default theory for these producers. This was an interesting take on genre in music and he also gave as an example what he called the "Skrillex formula" of 2012 that turbo-charged Dubstep's short-lived

[104] The mix-down is when multiple channels are mixed down to a 2-track stereo master, a crucial stage of the musical process.

[105] The SAE is a privately-run "creative media institute" teaching courses in music production, as well as digital animation, design, film, games, web and mobile technologies.

[106] https://sae.edu.au/campuses/adelaide/.

[107] EDM, Electronic Dance Music, is both the name for a broad range of electronic music genres, and the name given in an attempt to rebrand rave music for an American market in the early 2010s (Reynolds, 2012).

rise to global popularity. Genre to Phil was a way of understanding how to produce something by reproducing the familiar aesthetic tropes of a musical style in your own way.

Although he had only lived in Adelaide for four years, the importance of music's second plane of mediation was reflected in Phil's belief that the city was special because it had a strong community for audio that made him feel at home. Having lost contact with high school friends, becoming part of groups centred on music had helped him break the ice with others. Phil worked in his bedroom on headphones, and occasionally borrowed a studio from the SAE. He found his present educational environment a refreshing change after high school, a place where people cared about what they learned, rather than just learning for the sake of it. If he had problems, he usually talked to a producer friend or other people in his course.

A recent graduate from SAE was Liam (28), someone who when I encountered him at *Sidechain*[108] told me he had made music for 12 years but had never shared it with anyone, due to what he called a "confidence thing". I was interested in this because I was keen to meet so-called 'bedroom producers' (Whelan 2008: 18) and arranged an interview. It seemed that Liam had felt an early affinity with music, playing the bass and viola in his primary school, and drums and other instruments in high school. After the interview, he played me some of his tunes; House music, very upbeat, plus some instrumental Hip Hop.

Liam worked 'in the box[109]', using Ableton and Reason, but also Reaper[110] for recording. He told me he had always stuck with music because he loved it and felt it was where he was meant to be. After first meeting him, Liam had made a SoundCloud page and three days later was contacted by *Sidechain* to play. For his first gig, he chopped up sound files in Ableton and played them with his Novation

[108] EV14, 6/10/2016.

[109] 'Box' refers to the computer.

[110] Reaper stands of Rapid Environment for Audio Production, Engineering and Recording – a DAW developed by the American technology company, Cockos Inc.

Launchpad. A lot of his tracks used samples, which the SAE had turned him onto as a musical process. His tutor had brought in a vinyl record, and the class made music just from the samples taken from it. He described the process as “good fun”, offering the possibility of further variation. The SAE course, by his own admission, had given him a lot of confidence. In particular, the presence of a guide/teacher he considered important. Liam said he had always wanted to be an audio engineer and the course had provided the opportunity.

Liam’s biography also highlighted the significance of alternative forms of pedagogy even among the enthusiastic students in tertiary education. Prior to the course, Liam had used the *Gearslutz* forum for troubleshooting, and YouTube tutorials to progress faster on the DAW. He also felt a ‘relation’ with his tools going on, building attachments through familiarity. The intuitiveness of Ableton was passionately endorsed and he said the technology itself had led him though the DAW’s plug-ins. Liam felt everyone was artistic, and computers and the Internet had unlocked this for many people.

The mediation of music on the fourth plane, that of macro-structural processes like Internet infrastructures and platforms, together with the institutions included in this chapter, show how important it was for conceptual directions, personal connections and the sharing of ideas and encouragement. Like the software platforms they teach about, formal educational institutions themselves facilitate opportunities to discover new music, fresh ideas and ways to think about sound differently. As the Bach recital demonstrated, software platforms had also impacted the traditional socialities of music on the first plane, providing new opportunities for collective practice, as well an alternative for those looking to bypass the compromises of collaborative human creation.

Jamming with Myself: Who Needs a Band?

> The difficulties with the band are because you've got to get four people, three people, five people, in a room on the same day, all in good moods with no hangovers…being able to sit in my room with a bunch of machines and just write whatever I want is awesome (Rolando, 31).

The attractions of electronic music practice with the DAW were not confined to the young, impoverished and inexperienced any more than the avant-garde and experimental. An unexpected demographic emerged in my research; 'refugees' from the established band scene in Adelaide[111]. Access to a DAW or home studio space meant musicians could get away without the creative compromises of playing with others. Even for seemingly established performers, this could be a life-changing situation. However, the lure of an audience was never far from the mind.

I met Erykah (36) at what turned out to be her first solo gig[112], even though it was clear from her confidence and demeanour that she was comfortable on stage and it was not her first time performing. She had a long history in various bands and many connections in the Adelaide scene. She would happily bring in friends to play synth lines, or just to record a stack of music to possibly use later. Collaborating in this way, the process of working on tracks could be divided into jamming, editing, arranging, adding vocals, and mixing down, often without the need to be physically present in the same place. This process allowed her greater individual expression of creative vision than was often the case in a live rehearsal situation. Erykah was more interested in "trying to find me" with her music, as opposed to trying to fit in, which she felt she did in the past and it was never fulfilling. Now she was slowly understanding what her sound was. In bands, she felt she was always playing what she

[111] Apart from the case studies in this chapter section, this demographic included Nix IV05, Sean IV27, Phil IV33, Jordan IV37, Gary IV42, Rolando IV57 and Peter IV58.

[112] EV64, 15/7/2017.

thought others wanted, but now she didn't have to do that, she could just pick one sound and be that and work on it:

> I always felt like if other people felt I was good then I'm good…This is the first time I haven't felt that. It's purely the achievement at every step of the way of playing something and nailing something with your little electronic band that is sitting in front of you (Erykah, 36).

Erykah told me she had always wanted to do something more electronic and buying the Logic DAW at the age of 28 was the beginning of independence and not having to rely on others. She now used Ableton after seeing how fluid the workflow was. Unlike 'digital native' Jane, she didn't like the interface at first, but now she wouldn't go back: "once you got it, the penny dropped with everything". Erykah told me she spent time each day learning a plug-in or watching interviews with producers on the *Red Bull* YouTube channel and a lot of TED talks. Despite her long musical history, she had no formal musical training. She had thought about studying, but that because there was now so much access online, when you didn't know something you could just "Google it" and someone had done a tutorial. She also mentioned a platform called Splice, a subscription service providing access to high quality copyright-free samples for producers that had been mentioned by another participant[113]. She intended to start using it because it made the music process easier: "it is all about workflow, especially when you are time poor". From a song writing perspective, she said the quicker you could access things the better and she could create quickly. Echoing Waugh's (2017) claims about our symbiosis with technological tools, she told me:

> We always have our phones. You can sing basslines in, and then in the car, I find I can talk to Siri, and tell 'her' to record something and name it. You can talk everything in, we are becoming like robots but not in the sense that we thought. We are not all mechanical parts, we are using technology (Erykah, 36).

Paul (28) was another experienced musician in the Adelaide band scene that credited tutorials and online forums with making it much easier to make electronic music. He described himself as "in awe"

[113] IV28 Thijs.

of the freedom of software and what it allowed but cautioned that you still needed determination. A skilled musician, Paul overcame his limitations in the drumming department by going on a sample site, finding a style, and looping a sample. He then played layers of guitar, bass, keys and effects and sculpted the layers as he went. He felt this gave a sense of human character to his recorded music as he claimed you could discern the difference if an instrument had been played and not programmed. His regular band project was still "going strong", but he found he could write fast on his own and have multitudes of material that would have taken too long to turn into band music. In rehearsals he said it would take four hours to get through two tracks of new material, and even then, there was no guarantee they could memorise them. He described band composition as an "organic process" which he was able to "cheat" by recording elements into Ableton and then selectively pruning. He likened his portfolio of tracks on SoundCloud as "musical landscaping".

The creation of music on Ableton for both Erykah and Paul generated its own socialities of performance, discussed further in Chapter 5 in the example of *Sidechain*. Paul used Ableton for the options and freedom it offered, but also because it worked very well live. Although he said it was fun to be a "bedroom mastermind", he still saw himself as a live musician, what I term in Chapter 5 as a "fusionist', combining a mixture of computer and traditional instruments. He used Ableton on an old notebook PC he had fixed up and only used for the program. He then added a controller so that he could launch pitch-perfect musical scenes on the fly while playing over the top, recognising that the "live scene" still needed to witness you doing something spontaneous. On a deeper level, he saw in technology the potential to win and lose. The freedom we had didn't necessarily mean we are free:

> When you are focussed on digital, you are limited so much to what the device can do. It might say it can do all these things but you as a human can't (Paul, 28).

These case studies show the impact of the DAW on the first plane of music's social mediation, facilitating its own hyper-individualistic socialities of performance. However, the potential of software didn't end there. A vanguard in my research were creatively exploring the use of software code to

produce music. Such a direction offered the tantalising prospect of a 'brave new world' of generative composition.

Code Composers: Who needs a Human?

> There has been a lot of talk about automation in recent times, saying it's within the next four years. Well sure, but in the Sixties they were saying we'd have cyborgs in a decade (Minimax, 39).

The examples of the following music makers explore how generative music created by music platforms may obfuscate the authorial process. A development in electronic music currently growing in popularity is the "algorave" (Armitage 2018: 32), where the music at a 'dance party' is generative and coded (Savery 2018: 47). Goodman (2010: 124) extolled a transgressive potential in these sonic algorithms, what he termed "artificial acoustic agencies"; how digitisation had injected novel vibrations with "a contagious mathematical dimension", an agency allowing them to "evolve, mutate and spread." Several of my participants had enthusiastically explored coding their music, using a variety of free and proprietary software, including Max MSP, SuperCollider and Pure Data. John from this chapter, Nathan from Chapter 4 and Glyph from Chapter 6 were all busy coding music, performing it or sharing the results online. However, no-one I encountered had been engaged in this process longer than Minimax (39). Listening to his story, so intrinsically bound up in the cutting edge of electronica, it was astonishing that he had composed completely outside of the city's clubbing culture. In the mid-90s, he was busy playing in bands and didn't know the Techno crew in Adelaide.

Rather than the likes of Autechre[114] and Aphex Twin, Minimax listed Varèse[115] and Cage[116] as important influences. He originally encountered electronic music while doing a degree in composition, a course which began with a study of what he called the "weird stuff". Like so many others I spoke to, he enjoyed the timbral qualities of music and could see early on the potential of electronic music. The rise of the Internet was a further pointer to the future. When he began getting commissions, he found it cheaper to write for a computer than an actual string quartet, and much more economical to create a piece using electronics. Even now he only used live musicians sparingly, and still insisted on getting paid before he made any music, as opposed to putting an album out there and hoping someone noticed it or it sold.

Minimax told me he got interested in artificial life after exploring process music for a while. He liked how Artificial Intelligence (AI) used its self-organisational properties to drive a process that would self-organise to make musical things, from chaos to form and structure. Echoing the close links with musical AI and the military that Born mentioned in her IRCAM ethnography (1995: 160-161), he recounted a story that after he got a paper published, he was asked to present at an air force academy with lots of army people. They obviously wanted to see if he had something 'out of the box' they could use. He began looking at improvised music and how this tended to self-organise in ways that weren't pre-planned, trying to get a computer to mimic some of the interactions that occurred among improvising musicians. He saw it as a first step to communicating with a 'sentient' AI.

I asked him where he thought we were heading with AI music. While he said he had "deviated off to game theory and behavioural modelling", he mentioned a friend who had played "AI music" in the

[114] Electronic duo from England that have been going since 1987, and well-known for producing instrumental music using cutting-edge technologies including generative software. Also referenced in interviews: IV13, IV46.

[115] Edgard Varèse was a French-born composer with an open and experimental conception of music.

[116] John Cage was an American avant-garde composer, arguably most famous for his 4'33" composition where the players only have to be present for the duration of its performance, with the contextual environmental sounds comprising the work itself.

Boiler Room[117] and it had gone down well. Fascinatingly, he claimed to have his own compositional voice; he coded with MaxMSP[118] and occasionally Supercollider and said he had been told that even the algorithms he had set up sounded like him. He explained that this was where technique came in; if you asked the computer the right questions, you got something that sounded good and original. When I asked about anthropomorphising technology, he told me that in his agential programs, the agents displayed quite human behaviours, antagonism and cooperation, just like with human interactions and dynamics. However, he didn't think we were going to get replaced by machines. Supporting Born's theory of social mediation, he felt music was an inherent part of being human, that people were always going to want to make music, to see a performance and be part of a community around that.

Oren (24), another with experience in coding, had come to similar conclusions. She said that the fact that we had these tools gave a false sense of accuracy in sound practice and made us feel like we were being much more scientific, but in reality, we were bound by our skills and perception. Unless you had trained your ears, she described how they will not hear the exact things they think they hear (as shown by a spectral analyser). She felt humans were the same as always, getting better at all our abilities as we invent things, but not essentially changing. Like Bourdieu's *habitus*, she said our conditions of birth and formative years define us and will continue to do so; we were becoming more extreme versions of what we had always been like.

Ableton had been instrumental in her initial choice of a career in music, because it had a friendly user interface that was easy to get used to and there were lots of hardware controllers that worked with it easily. She said she easily picked it up as a 14-year-old but now didn't use it so much and didn't enjoy solo performance behind a laptop. I asked how she made one of her tracks on SoundCloud, and

[117] The Boiler Room is a room dedicated to electronic music at long running Australian music festival, *The Big Day Out*.

[118] MaxMSP is a visual coding program for music and multimedia, developed by American Software Company Cycling '74.

she said it was with SuperCollider, Ableton, Pure Data and a short sample of a music box. I found the sound in the track constantly shifting and quite hypnotic, its frequencies both uncomfortable, but also a bit delicious, and asked for her perspective. She said she looked at a spectral analyser when coming up with the sounds and admitted to not producing her own tracks 'very well'. She didn't care about the 'comfortable' part of sound:

> Computer music allows you to explore the boundaries in new ways, other than trying to sound like 'real' instruments for example, which is what attracts me to it. Those frequency bands that we don't hear in other music are just as valid. I make sure that the music is not painful and cannot your damage ears (Oren, 24).

When I suggested that we had moved on from the 'this isn't real music' debate, she had an interesting perspective; that this attitude was all about preconceptions about the music, rather than the instruments themselves. Her own problems with music were financial. Software was expensive, it was hard to torrent on the new OS systems and she didn't want glitches. Quoting McLuhan, she said we were led by our technology; "we shape our tools and thereafter our tools shape us". As an example, she reported making different music on SuperCollider than she did on Ableton, because it "nudges you in a different direction and allows you to do different things". Like Arvo earlier in the chapter, she said it was much more interesting to interact with technology than having a musical vision and wanting to manifest that.

I took the opportunity to ask a personal question about music. Was there an objectivity in sound or was listening very subjective? She believed there were things that generally had the same effect on people, musically speaking; a tendency to have the same responses to bass and the role of bass. But once a sound wasn't there by itself and was part of a piece of music, there were things that were generally felt by most people but it came down to what that sound was doing with other variables; for example, how much you knew or appreciated that style of music. She explained it took her a long time to like new things. A lot of training in your own head contributed to that, and some people were more

open. The frequency bands in her music were quite unusual, but she maintained that if they became familiar, or were presented better, they could be appreciated more easily. Her point explained a lot about aesthetic taste, the avant-garde and the importance of music's social mediation.

The accounts of Minimax and Oren highlight both the novel potential and practical limitations of software music that are always in the background, despite the undoubtedly democratising potential of platforms like Ableton to allow music making to be more available and unlimited. While a coding program like Supercollider is freeware, accessible to anyone with the Internet, knowledge and technique soon become paramount if you have any aspiration for originality or an audience. Listening to the unusual frequencies of generative music, I reflected that while theoretically anyone could make it, perhaps not anyone wanted to listen.

Conclusion

> It does come down to being able to tell a story, and you can do that with any minimal amount of tools. The computer itself is probably the main thing. That is the centre of everything. If I lost that, in this day and age, I lose my production ability, I lose my online capability…because that is the thing that ties everything together (Maurizio, 26).

The numerous examples from this chapter highlight the ways humans are engaged in meaningful two-way co-productive processes with software technologies in music creation. Reinforcing a "theory of attainment" (Miller & Sinanan 2016: 12), highlighting how technology can unlock latent human potential, much of the music produced by those in this chapter simply could not exist outside of these agglomerations of the human and non-human, challenging definitions of what can be considered 'natural', 'musical' or the product of a singular author. Just as *algorithmicity* was often instrumental

in guiding musical directions, new frontiers of expression seem immanent in some of these fusions of human and artificial intelligence.

It is clear from the numerous reports eulogising the intuitive affordances of Ableton that D'Errico's (2016) argument for the importance of the interface is supported as the software itself has been significant in establishing literacies of practice. Ableton's encouragement for music as an exploration and experience, rather than a vehicle for the exposition of theory and physical technique, seems supported by many of my research participants. Perhaps the role of learning institutions in teaching these elements of musicology fills a gap in what a program like Ableton can offer. Their lasting importance shows the significance of institutional mediation on the fourth plane and its entanglement with engendering and facilitating musical communities on the second plane.

Nevertheless, it is the Internet that emerges as the major pedagogical institution around music. As well as all the tutorials on music production, the *communality* of online forums and special interest groups were shown to provide solidarity and support. Even for those engaged in music courses, the Internet's access to tools and inspiration has done much to make music making more accessible, and the key to *referentiality* in the form of unlimited sound sources and musical references. Despite this, real time human interaction was still valued by my participants, even as the affordances of online socialisation and knowledge sharing were seized upon.

Digital mediation does not lead to any kind of uniform transformation of musical aesthetics and as Valiquet (2014: 21) argued, the possibilities and potential of digital technologies and the Internet are always situational. The example of Ableton Live, using the lens of music's four planes of social mediation, provides an appreciation for the uncertain and independent nature of these relations. Where I disagree with D'Errico are his claims that in the broader technological milieu of "digital maximalism" (2016: 23), the more 'connected' you were the better. The examples of John or Arvo highlight how for many electronic music makers, less is often more.

With the practical utility of musical software making it “the staple of the industry” (Prior 2008: 922), its undoubted success has, perhaps inevitably, led to a reaction. So omnipresent has the DAW become, that ubiquity has led to perceptions of predictability. The next chapter explores the alternative to software music creation in the seductions and tactile pleasures of real-time sonic manipulation, closely entwined with the very human desire for status and distinction. Although these are by no means new motivations for music making, the Internet has turbo-charged avenues for new and bespoke forms of music practice, generating fresh markets and sonic communities in the process.

Chapter 4: Eurorack Revolution & the Maker Movement

> The trend I'm seeing now is you've got people developing digital brains that hook into modular networks of analogue processes, it's all coming together into much more of an organism, and that's really exciting to see (Glyph, 32).

This chapter charts the reaction to the prevalence and convenience of DAW-led music practice in the forms of modular synthesis, instrument making and gear modification. Yet in their own way, these practices rely on the accessibility of expertise, skills and resources that the Internet provides (Turner, 2018: S164). A personal relationship with sound and the tangible intimacy of hardware components are shown to be firmly entangled in multiple levels of the social.

The use of modular synthesizers that comprise single specialised sound components connected by patch cords, has experienced a marked rise in popularity in this decade. Once the esoteric preserve of rock stars, university conservatories and wealthy enthusiasts, the financial and knowledge barriers to modular music making have fallen through Internet-facilitated knowledge-sharing. A growing number of boutique manufacturers adopting the popular and compact Eurorack format have been joined by a range of modular-compatible synthesizers now being released by big-brand companies. The bespoke and artisanal qualities of modular component construction, accessed and publicised through online peer communities, situate the modular resurgence within a contemporary ecology of networked capitalism.

Concurrently with these developments has been a rise in do-it-yourself instrument making, also called doing-it-ourselves after the social nature of much of this activity in what has been dubbed the 'maker movement' (Anderson 2012). I argue that both the modular revival and the maker movement owe much of their popularity to the knowledge-sharing affordances of the Internet. They can be considered what Jonathan Sterne calls a "crystallization of social organized action" (2003: 367), where

the habitus of embodied social dispositions interacts with a field of enthusiasts and manufacturers. I use Born's (2011: 378) theory of social mediation to build upon Bourdieu's triad of *habitus*, *field* and *capital,* prioritising music's social dimensions from the micro-relationships of human-machine-sound, to the macro-communities that promulgate its global popularity.

The current renaissance of modular synthesis and DIY electronics reflects the intersection of a number of facets of contemporary musical creativity. In the all-encompassing and co-opted cultural experience of late capitalism, a sense of community, support for artisanal manufacture, and the tangibility of the physical artefact have become a way of distinction and "symbolically subversive" resistance (Moore, 2011: 1213). A musical practice such as modular feeds a desire for the bespoke and the possibility to create something uniquely and unquestionably your own. Despite the practice foregrounding a personal relationship with sound, Internet-based interest groups and product distribution break down previous barriers to accessibility, while creating the potential for connection with like-minded communities of practice through performance and knowledge-sharing. Since much of this networking involves a discussion of process and gear owned, displays of cultural capital in the form of studio equipment are inevitable if not always intentionally foregrounded.

While Bourdieu's notion of distinction is obvious in the comments of my case studies, I argue that issues often raised in academic discussion around the communal construction of authenticity (Waugh 2015: 71) are less significant here. While this 'taste community' often set themselves and their practice apart from what they see as conventional and commonplace, their decisions are firmly rooted in biographical experience, following a personal path to musical satisfaction that shared connections can support. The resonance steering the following music makers towards a sense of the authentic is fundamentally sonic rather than social.

The revival of modular synthesis in recent times is becoming phenomenal. Of the 62 participants who participated in my ethnography, six[119] were already actively pursuing the modular path, a number that grew to eight by the end of my fieldwork[120]. It was not a field I had intended to explore, but its significance made it impossible to ignore, particularly as I saw the practice move out from the niche venues of the experimental and into club-based settings. My research suggests that the competitive possession and display of cultural capital in terms of knowledge, equipment and performative skills, seems of less significance than the inspiration provided by the accessibility of customised audio components in an adaptable creative process. I argue that the modular synthesis revival and the maker movement are driven primarily by the opportunities for an intimate affiliation with sound and facilitated through the connection and influence of global networks of expertise.

[119] While all six are men, this article does not focus on gender as a structural influence, acknowledging women's wider participation in electronic music in Adelaide, and in modular practice elsewhere (Moog 2000; Pinch & Trocco 2002, Rodgers 2010).

[120] By the end of writing up this thesis, the author had helped facilitate South Australia's first two "mod meets" at a room in the University of Adelaide's Electronic Music Unit. The Facebook group had grown to 38 members.

To exist is to be affected by noise (Thompson, 2017a: 14).

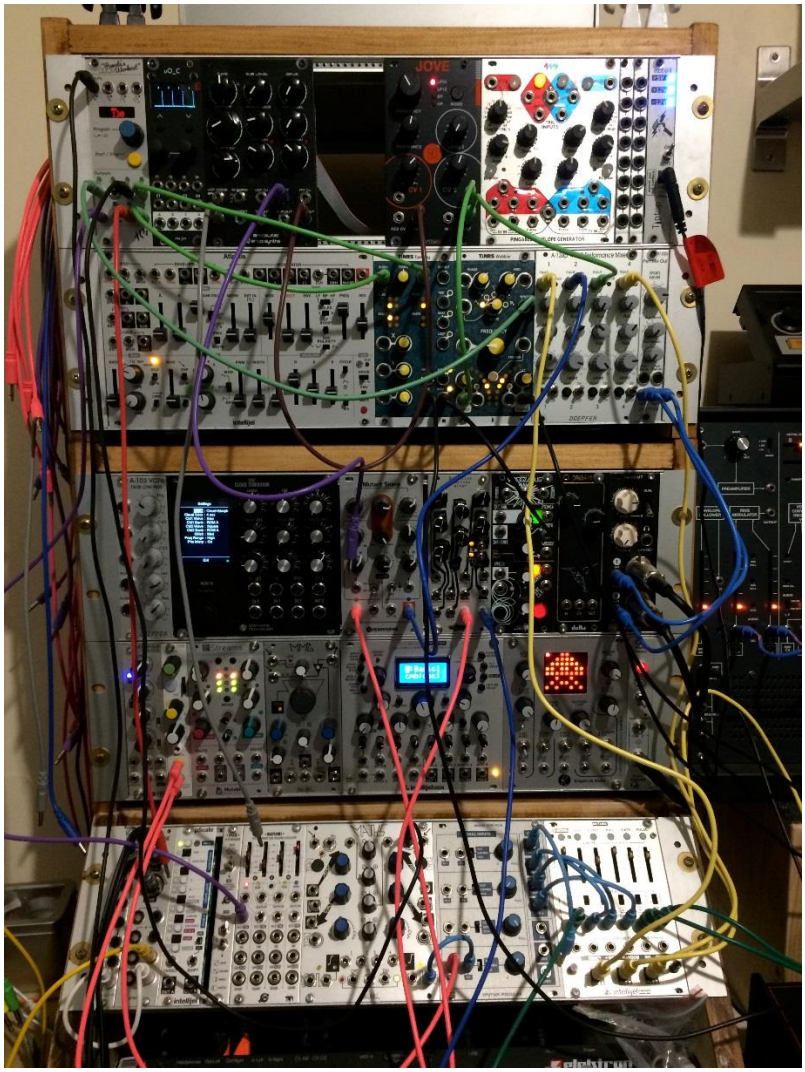


Fig. 2. A home studio modular set-up in Adelaide. Photo: Paul Chambers.

I first heard about the resurgence in popularity for hardware modular components in 2013, when a magazine I subscribed to, *Future Music*, featured a special on the subject[121]. What stood out in my memory were the pictures of anonymous-looking equipment, stacked in racks with multi-coloured

[121] 'Modular Synths', *Future Music*, Issue 262, pp. 28-36.

patch-wires protruding all over the place. At the time I wasn't in a hurry to get involved; it all looked hopelessly complicated and despairingly expensive. Another article appeared in 2014, this time in UK club bible *Mix Mag*[122]. Entitled 'Synth I left You', it suggested the practice may be "dance music's most dangerous obsession", quite a claim given the regular moral panics around hedonistic behaviour at clubs and festivals. The producer interviewed in the article described the practice as "like Lego for adults" and how it had taken over his life[123]. Since those articles, the compact *Eurorack* format developed by Doepfer Musikelektronik GmbH, which allows different modules to fit in the same powered case[124], has emerged as the most popular racking system for both manufacturers and musicians.

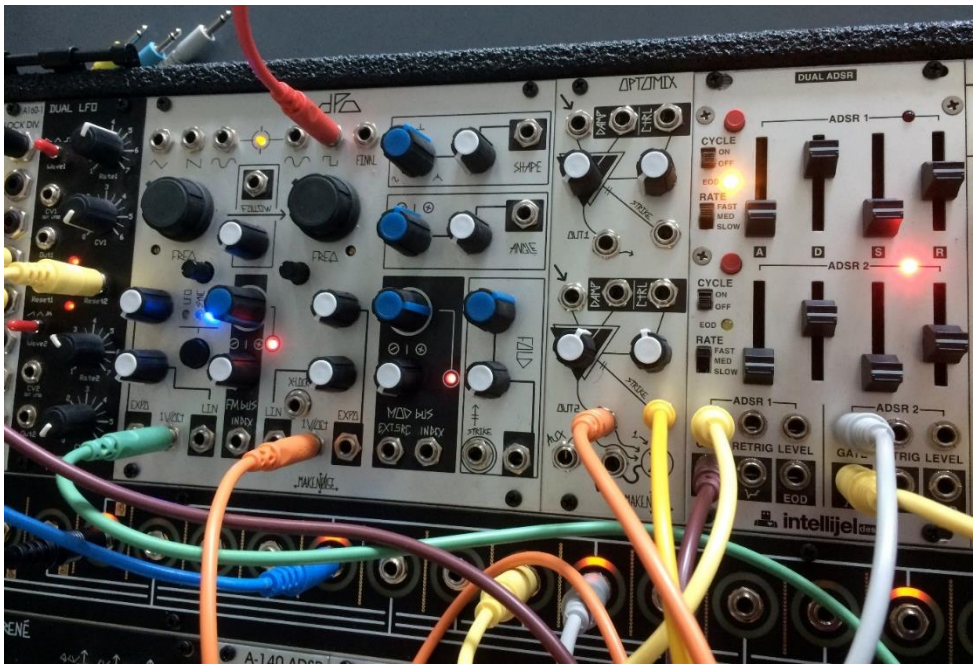


Fig. 3. Eurorack case and modules. Photo: Paul Chambers.

[122] Raven, B 2014, 'Synth I Left You', *Mix Mag*, May 2014, 276.

[123] Thopa Borrachero, described in the article as an "addict".

[124] All modules are built to uniform specifications to fit neatly into a shared powered case and communicate with each other. According to the Doepfer Musikelektronik website: "Module front panels are all 3U high (1U = 1.75 inch = 1.75" = 44.45mm, 3U = 133.4 mm). The final height of the front panels is a bit less than 133.4 mm as the rim of the mounting rails has to take into consideration. Consequently the final height is 128.5 mm for all A-100 front panels" <http://www.doepfer.de/a100_man/a100m_e.htm>.

In a wonderful example of music's social mediation, Pinch & Trocco (2002: 9) in their history of analogue synthesis, highlight how the different technological frames of the seminal Moog and Buchla synthesizers were shaped by the wider cultural context of their development. Buchla's open-ended exploratory devices emerged from the more artistic San Francisco countercultural scene, and Moog's musician-orientated machines reflected a conservative 1950's and Protestant lower middle-class work ethic. Their book revealed that production and consumption were not separate worlds and how consumers played a crucial role in shaping the market. Theberge (1999: 12) showed how the same creative and entrepreneurial drive that fuelled the early synthesizer manufacturers, also manifested in initiatives like the rise in the 1980s of a cottage industry of preset sound manufacturers and the electronic musicians' magazine industry. This process continues with modular synthesis and a specialised, if growing, group of consumers. Online user groups, such as the popular and influential muffwiggler.com, interface with boutique manufacturers to form an often idealistic community identified with objects of consumption. Curiously unexplored in detail in the synthesizer history, perhaps because of its strongly subjective aspect, is the personal relationship with sound itself?

Sonic ontologists explore the nature of sound, which Cox (2009: 19) likens to an "anonymous flux to which human expressions contribute but which precedes and exceeds these expressions". Focusing on sound art, Cox referred to a virtual domain of sound that had become prominent throughout the twentieth century, which he called noise, in contrast with music, speech and signal. This binary is related to another long-running debate in music, between analogue and digital. According to Goodman (2010: 119), the limits of the formal binary code are what provides its power in precision, calculability and replicability, but this exactness is imprecise because residual analogue detail, the noise, is lost in the process of conversion. My participants revealed an awareness of these implications, valorising the sonic properties of analogue components, but also the range, accuracy and generative novelty of digital modules. They sought the best of both worlds.

Scholars like Cox have been criticised by those who stress the need to explore sound in particular cultural and social contexts. Goh (2017: 294) argued sonic ontology privileges the listening subject as normatively white, European and male, and only values femininity when it appears in the feminist object of nature. This theme was taken up by Thompson (2017b: 273) who criticised the speculative turn for pursuing the 'nature of sound', thus uncritically naturalizing a specific "ontological figuration, born of a particular historical, geographic, social, aesthetic, epistemological and technological milieu". Discussing the recent return to affect, she believed it implied an opening up of the body to "shared and collective registers of the experiential" (2017a: 11) in between subjects, objects and environments, an argument in 'resonance' with my own investigations.

Many scholars, including Thompson, have sought to apply the ideas of Gilles Deleuze to musical research, and the open-ended and experimental processes of modular seem ripe for this kind of analysis. Deleuze was himself influenced by the development of the synthesizer, using it as a metaphorical paradigm for a way of thinking that combined "traditionally stratified zones of inquiry into a destratified *plane of consistency*" (Scherzinger 2010: 109 author's italics). Moisala et al (2014) used Deleuzian approaches to show how music emerges from sets of relationships in the times and places that they occur. Their approach moves on from the primacy of meaning, signification and human agency into a wider scope of material, tactile and social forms. The Deleuzian notion of the *assemblage*, as a constellation of heterogeneous components brought together in a stable, but not static grouping could be applied to a modular set-up where technologies and contexts are active components of the music process.

Born (2010b: 82) refers to Feld's (1996) 'acoustemology' of the Kaluli experience in the Bosavi rainforest of Papua New Guinea to show how local conditions of senses and knowledge are embodied in a particular sense of place. This has a significance for understanding the Adelaide modular milieu, especially Gell's incorporation of Bergson's insight into the entanglement of perception and memory that is manifested in the object of interest, the outcome of a multisensory and emotive habitus of

'knowing'. Goh (2017: 290) singled out Henriques' (2010) ethnography of reggae sound systems as a promising example for thinking sound through situated knowledges. Henriques focussed on a model of vibrations for understanding affect that took in the sociocultural frequencies of events, the heartbeats of participants and the soundwaves of bass timbres. In locating affect beyond the bounded individual and into the cybernetic relationships and resonances of a wider "sonic diaspora" (ibid. 59), Henriques demonstrated the importance of considering the field as a propagator of the modular renaissance.

In *The Rules of Art*, Bourdieu talked of the *illusio*, the collusion present in a field that maintains the "charismatic ideology" of creation (1996: 167). The *illusio* directs the gaze to the apparent producer of an art work, ignoring the other actors involved in a work's 'consecration'; dealers, critics, audiences, discoverers, publishers, obscure artists, media, technologies, etc. Bourdieu believed that the field itself was where the creative power resided. Artists were "tributaries to the whole accompaniment of commentaries and commentators" (ibid.170). Value was produced through a shared order which transcended consciousness and individual agency. In order to break free of the illusion of common sense surrounding the use of technologies, Bourdieu was unwilling to construct technology as a stable concept, forcing analysis into the social milieu to see how technologies were created and used. The concept of the habitus was Bourdieu's strategy for studying organised action, and the embodied subjectivity of practical knowledge. Sterne argues that "technologies are essentially subsets of habitus – they are organized forms of movement" like other social practices (2003: 370). Like all technologies, modular components have been designed to increase or advance certain activities and discourage others, therefore associated with human habits and practices that embody particular ways of 'doing'.

In today's world of speed, screens and immediate communication, plugging in patch cables may seem primitive, but it does offer its own instant plug-and-play gratification. There is an important physical dimension to the modular experience, a set of embodied actions that are directly linked to the modification of signals being put through the equipment. Modules have to be manually put in

place in a chain of control-voltages, leads have to be inserted in a certain combination, often through an explorative process of trial and error. The modular path necessitates 'work', to construct and operate the components, to start from scratch every time in the construction of a useable 'patch' between the modules. It is a 'live' and tactile way of working, physical actions determine tangible results through material processes, aspects of the practice often valorised by my participants. Understanding modular as a technology through social practice, the way to 'play' the equipment requires working with the bodily understanding involved at a subconscious level, *and* the generative possibility for creativity and improvisation. The generative capabilities of modular are an important part of its use for many users, challenging categories of composer and performer. It transcends the idea of the rational subject whose actions are the results of deliberate intention, while leaving open the agentive role of the technology itself. This has important ramifications for considering music as a site for social mediation, extending the 'social' into a range of non-human others.

A technology such as modular is also shaped by the relations of power within the field and the overall structures of society. According to Sterne, technologies are of interest because they can "sediment" social relationships" (ibid. 382), reacting to wider forces and pressures from the political, economic and cultural environment. The engagement with sound for personal pleasure and wider social resonance through performance, reflects a construction of identity as someone 'serious' in their pursuit of aural quality. The choice of analogue hardware components characterises an approach to sound that goes against the comfortable and repeatable methodology of computer music construction. It also represents the ability to access economic or educational capital resources to acquire and use it. Distinction is an inevitable by-product of this practice, whether or not this is a conscious act. The technology itself cannot be studied without considering its relations to a field of other technologies such as the Internet, and equipment manufacturers. The practical experience of modular reflects the sedimented history of relations that the technology, and the user of that technology are embedded.

Born's extension of Bourdieu's field concept in her four planes of social mediation is a theoretical approach that can remain open to the changing roles and forms that this practice takes from its users, the human and non-human relationships at play, and to the affective qualities of sound itself. On the first plane, the practice generates its own socialities around individual sonic exploration, while necessitating wider social interaction through the desire to learn and expand sound-producing set-ups. On the second plane, imagined communities around its use take the form of face-to-face and online networks: producer forums, 'mod-meets'[125], reviewers, modular components and manufacturing operations. On the third plane, music mediates wider social relations, including "the competitive accumulation of legitimacy, authority and social prestige" (Born 2010c: 232). On the fourth plane, institutional and infrastructural entities both afford and seek to exploit these social movements. Despite competition and the democratisation of knowledge, modules are still expensive. This constriction of access means the technology remains socially stratified on the third plane through financial restrictions, however knowledge-sharing means that these can be overcome to an extent through DIO (doing it ourselves) construction. Its practical use is therefore firmly conditioned by its social context and the capital resources available - finances, knowledge, equipment and performative skills.

Modular synthesis is considered in this chapter as a "social praxeology of technology" (Sterne 2003: 376), an approach that acknowledges the ways that practices and things exist in an ongoing process, incorporating an interplay of bodies, dispositions, machines, affects, ideologies, cultural flows, temporalities. A technology like modular represents a heterogeneous collection of all these elements.

[125] Gatherings of modular users to share patching ideas, trial modules and generally 'hang out'.

Sound Affects: How Low Can I Go?

> It's such a living electronic organism in a sense…there's space for it to fall down flat or accelerate to something amazing. It's not always going to be predictable, which is very good in what can be a very static electronic music place, you know? Making electronic music can sometimes become very predictable (Mike, 46).

I use the following case studies to describe the personal relationship with sound that I argue is the foundation of for an ongoing engagement with a practice such as modular synthesis. They also highlight the mediations between personal history, situated subjectivity and contextual affordance.

My first fieldwork encounter with the modular world was with Mike (46) in his small studio, off to one side of a garage/workshop area where he worked on his electronics business. A MiniMoog[126] on the desk was turned on and Mike hit the keys occasionally during the interview to emit a beautiful warm sound. I could see what looked like a hand-made wooden rack full of modular gear, looking sparkling and new. The Elektron Octatrack[127] I had seen him play live on the weekend before[128] was lying on its side against part of his large vinyl record collection on shelves at one end of the space. A vintage analogue Juno 6 also lay on its side near the door.

Mike's arrival at modular seemed a logical destination on a long journey into sound that began in the playground at his school. A friend played him *Wikki* by Newcleus and *Pac Man* by The Packman, at the time one of his favourite arcade games. The "mysterious" and "experimental" sounds coupled

[126] The MiniMoog, originally designed as a smaller, portable and more affordable version of the large and cumbersome Moog modular synthesizer.

[127] Performance sampler and sequencer by Swedish company Elektron that allows the music-maker to play and control multiple instruments and pre-recorded elements in a live situation without a computer.

[128] EV16 15/10/16.

with “the energy” of the music made a deep impression. The way Mike talked of these tracks echoed how he sees his modular set-up today:

> It wasn’t standard, it wasn’t predictable. It might have taken something very traditional, but then they went, let’s push it right out there and do it and make it happen, the sounds of the analogue synths, the bubbling, and the squelchiness (Mike, 46).

It was a seed that fell on fertile ground. Mike mentioned his artist mother’s glam rock enthusiasm, and his musician brother as key inspirations. Our interview tapped into his encyclopaedic and infectious interest in music creation, a story that began with the Commodore Amiga and moved through digital hardware, analogue synths, MPC sequencer/samplers and now culminating in his “amazing” modular rack:

> You don’t know where you are going to go with a modular, and it is so organic. Even though it is completely electronic, it pulses away when you have got a patch, all these modules interconnected and feeding into each other, and doing something, because you can make things self-generative if you choose to, you can adjust one knob, and it can give you such drastic changes in the sound, or very subtle changes (Mike, 46).

In an insight into musical mediation with the non-human, Mike considered modular synthesis as “the reaction”, the opposite end of the scale to turning on Ableton, or a Native Instruments’ ‘Maschine’ controller which, he called a “very well-trodden path”. He observed that even the default tempo of the popular DAWs all start at 120 beats per minute, reflecting a preconception that if you were making electronic music, then it would be at that kind of tempo. Mike explained how he got bored with the computer, where the ability to save projects and the pressure to complete something became a labour. He now only used a computer to record a mix that he had made on hardware. It was a process that could be fiddly, but he liked the fact that you had to commit, you could not fudge things, and there were slight mistakes that allowed the music to “breathe”. The main problem he found with software was a lack of texture, and it was the imperfection, the noise of hardware that he liked. He

talked of his machines like they were people: “If an instrument doesn’t have a personality, I don’t make that kind of relationship, then I’ll get rid of it”.

It sounded like Mike had been through a lot of relationships. I asked about the importance of music technology in his life and he conceded that privately, he was “slightly obsessed with it”, always checking out hardware and thinking about buying it. He namechecked *Sonic State* on YouTube for their reviews and “nerdy” talks, but qualified his predilection:

> I don’t often buy things. I try and hold some restraint, because I think it is easy to keep buying things. I don’t want to be a big consumer. Sometimes I am a little bit of a consumer (Mike, 46).

Maybe because of age or time constraints, the conspicuous display of cultural capital so typical of producer forums like *Muff Wiggler* or *Gearslutz*, seemed of less importance to Mike now, although he admitted in the past he was “always posting pictures of synthesizers and stuff”. At NAMM 2018[129], the biggest global showcase for music, sound and event technology, a range of modular compatible monosynths were unveiled as bigger companies sought to connect to the modular revival (Wilson 2018). Modular’s modern popularity has undoubtedly tapped into a consumer niche through its new-found ‘affordability’ and accessibility across online networks. As Mike explained, once your own collection is patched up and connected, new components can radically alter an already unrestricted sonic universe, an understandably intoxicating prospect for the auditory devotee.

Like Mike, the background of another modular user Andy (43) reflected a long-standing affiliation with sound. His parents liked music and encouraged their son by getting him a guitar as a child and a shed for rehearsing. The electronic allure began when he became attracted to the DIY sounds of early thrash bands like the Butthole Surfers, as well the experimental sounds of Throbbing Gristle, and felt inspired to have a go at making those sounds himself. The local music store recognised his enthusiasm and were prepared to loan gear and be paid back slowly. Andy had been a fixture of the Adelaide

[129] < https://www.namm.org/thenammshow/2018>, accessed 22/06/2018.

electronic music scene since the rave era of the early 90s, describing how he would turn up with keyboards and "make noise", playing in chill outs at warehouse parties, before moving to acid techno "with a punk aesthetic". This moved to bigger parties and making underground House music, ending up with club residencies and an appearance at WOMAD. His portrayal of his weekly club sets reflected elements of his current modular process. He used a rare and expensive Synthi AKS, an early portable modular analogue synth by pioneering English company EMS, for adding random elements, meaning sets were never repeated. Since the birth of his child, he had wound down his club appearances and pursued a long-standing love of dub music.

Andy called his modular set-up his favourite bit of music gear, though like Mike he mentioned the Akai MPC sampler/sequencer as a "rock steady constant" and had been through a few models. He used one to sequence his modular rig and a Nord drum machine for live sets. In our interview he mentioned the influence of Mick Harris, who left death metal band Napalm Death[130] to pursue sub frequencies, as well as the more traditional dub of Mad Professor and King Tubby. He summed-up his own musical ambitions with the simple question: "How low can I go?" During my fieldwork I saw him play three times[131] in two different live acts that all shared one defining feature - wall-shuddering bass.

Like others, Andy rationalised buying modular gear by its build-as-you-go process of accumulation:

> When you break it down into modular sections, for each module it is quite affordable, you are only spending a few hundred dollars at a time, rather than a few thousand on a big piece of kit (Andy, 43).

Andy himself seemed to eschew conspicuous consumption, maintaining he was less worried about trends or the latest gear outside of the modular world. Perhaps linked to this ambivalence, he reported that social media was less important to him now that he didn't go out as much and take part in the scene. But he admitted music technology was an important part of who he was and what he was

[130] Napalm Death were an early and influential thrash metal band from the Midlands in the UK, that produced short, very fast and extreme songs with screamed lyrics.

[131] EV07 18/8/17, EV16 15/10/2016, EV88 7/10/17.

known for. He mainly produced by himself, but acknowledged the significance of social relationships, regularly jamming with a friend and even involving his daughter in the process. It sounded like Andy's practice had shifted in emphasis from the second to the first plane of music's social mediation, his aim with music now was to "hunker down" in the studio rather than the regular club performances of previous years, trying to produce a well-crafted and timeless piece of music.

Like Mike, Andy's story situates modular within a flexible and open-ended process that can accommodate the best of many worlds, analogue, digital, experimental and functional, live and the studio. The cultural and symbolic capital such a set-up manifests seems less important for Andy, who by his repeated admission, was less "precious" about the importance of ego, career and "chasing the dream". For Andy, modular offered the optimum potential to keep learning and continue building on a journey of endless possibility.

A deep and long-gestating connection with sound characterised the habitus of both Mike and Andy, a mutual interest in performance and frequencies, a shared quest for sonic satisfaction. But it was also clear that their modular practice was taking advantage of a burgeoning global and esoteric 'sonic sect' pushing the envelope in sound design into hitherto uncharted territory, fusing the best of analogue and digital, all offering an edge in the limitless quest for novelty.

Patching into the Field: Interacting with a Sonic Ecology

> The sound makes it hard to go back to using other things (Gary, 34).

The more I explored the rise of modular synthesis, the more I saw how the Internet had democratised a formerly inaccessible practice, a clear example of the mediation between music's third and fourth planes. This chapter section shows how this has led to communities on the second plane of music's social mediation, as individuals connect with like-minded others for access to new musical tools and knowledge.

According to Whelan (2006), individuals using peer to peer music forums share subcultural capital through two principal means; sharing music collections (or in this case, gear owned), and by the confident use of textual interaction in the form of argot and knowledge. Stamper (2015), while commenting on the potentially exclusionary nature of this discourse for women, nevertheless recognised the potential of forums for accessing huge resources of information, especially for those "unable (financially, geographically, socially) to access academia or other institutions possessing the resources and support necessary to pursue an interest or practice in music technology" (ibid. 48). Apart from allowing niche companies a global shopfront for their boutique machines, *communality* in the rash of online forums, YouTube tutorials and reviews around modular, were reported in my research as hugely influential in sharing knowledge and popularising the practice.

It was the semi-modular monosynth, 'Dark Energy' by German company Doepfer, creators of the Eurorack format that introduced Gary (34) to the joys of modular. After listening to product demonstrations online, he decided it was the direction he needed to go in. Gary told me how he loved watching videos of people performing with electronic instruments, fascinated to see how people used their equipment, with patching "way over my head". He followed and subscribed to YouTube channels that came up in his feed like *Sonic State*, a website that provided in-depth reviews of new gear that

was mentioned by Mike. He admitted he watched more than he needed to, as he had enough gear to make it unnecessary, but always kept an eye out for what was new. He said with modular, if you were going to spend $250-300 on one oscillator alone, it was going to have to sound good; competition that had kept manufacturers trying to push out further and come up with the most "weird thing". He called modular "the edge of music", mentioning producers like Richard Devine[132], with massive set-ups funded by money for film scores and sound effects.

Gary's favourite module was the Teletype by Monome, a company run by two people, Brian and Kelli in upstate New York. According to their website the couple also "tend apple orchards, shiitake stacks and forest paths"[133]. True to the artisanal spirit, they went on to declare that the company was: "Operated on a human scale, we use local suppliers with whom we've built long-term trusting relationships…staying small affords us the flexibility to pursue interesting new directions, not simply commodify established trends". Their five Eurorack products, in a slickly-designed Apple-like aesthetic, were all sold out at the time of writing. The Teletype itself exemplified a trend in modular for novelty generation that combined the human and the machine. Described by the company as an "algorithmic ecosystem", Gary explained that by using simple code, entered by plugging your keyboard in via USB, you were able to enter scripts that could either generate instructions for other modular gear, or trigger other scripts within the machine itself.

The social mediation of the practice was highlighted by Gary's claim that there were now many more instructional videos online than there were modular performances, underlining both the performative display of knowledge in modular, and its exploratory method of sound creation - a process Gary described as more about learning than playing. He mentioned the Mangrove formant

[132] American musician and sound designer who has created music patches for multiple software applications, as well as sounds in corporate commercials and the 2016 version of the Doom video game.

[133] <https://monome.org/about/>, accessed 24/05/2018.

oscillator by a company called Mannequins, extolling the "almost poetic process behind their manufacture". The Mangrove was loquaciously described on their website:

> An instrument in the form of an oscillator. Sounds are defined not only by pitch but by spectra. As the earth shakes under foot, a whistle blows on the wind.[134]

Gary told me that in modular, the instructional format was becoming where the creativity lay. The Mannequins product manuals even came as a scroll containing more poetry than prose; the information was there, but you had to "understand…what exactly they do is hard to explain, but musical when you do get it." Five of the six modules on the Mannequins website were sold out.

At our interview, I mentioned a recent event I attended where I had walked into a live set by Adelaide improvising synthesist, Blast Rhombus[135], and been stopped in my tracks by the sheer beauty of the simple synth tones. Gary said that this had been lost in much of today's music, hijacked by audio processing overkill and dominating compositional elements like the drop. He had managed to combine his own set-up with live performance in a club environment, using a specific combination of modules that were sequenced from his Elektron Octatrack, together with pre-recorded track stems. In this way he felt he had the right combination of track structure and improvisation that could cut it for a dancefloor. It took a while to build up his collection because of money issues, and even now he did not consider himself as a "collector", and only bought things he would use. He told me he never started out making a track with ideas, instead getting inspiration from what he was using, trying not to get lost and to keep it coherent.

Employing a similar kind of first plane musical sociality with his non-human collaborators, Nathan (32) also took his modules out to a club for a more improvised 'Techno' set. While a (human) collaborator played live beats and vocals, he and his modules provided the fat textural frequencies

[134] <https://www.whimsicalraps.com/products/mangrove?variant=5586980634653>, accessed 24/05/2018.

[135] EV60, 14/06/2017 *Experimental Music Night*.

and timbres to go with it. Like Gary, he had a history of playing in rock bands and a shared fascination with sound. He described hearing what he called "a conceptual content" in frequencies, giving the sound of the petrol engine as an example that he felt represented the whole of the modernist Industrial Revolution. Nathan questioned how much agency he actually had in the music-making process, suggesting that agency came in when you started an exploration. He could choose what was around his identity, like to be a musician and the materiality to make music, but this would be no good if he wasn't paying attention to what was in the sound that he could feel. He believed this was the musician's job: "The genius is an ether you connect with that isn't you".

Highlighting the mediation of the fourth plane, Nathan attributed much of the success of modular to the popular Eurorack format and it its user-friendly compact size. Modular synthesis, he said, had always been mysterious but attractive for people, but institutional and financial barriers left "a whole generation on the audience side envying". A popular format meant manufacturing costs had come down because of the maker movement, with the Internet providing the knowledge not only to use modular but how to make it. And the academic barrier - how do you even use it? - had crumbled because of the Internet and the "explosion of people telling each other how to do stuff". To illustrate his point, Nathan recounted a period when he learnt to do the Rubik's Cube after discovering kids on the Internet who could teach each other how to do this nearly impossible problem in under 5 seconds.

Nathan told me of a "beautiful" modular forum called *Lines*[136] that he frequented, an online community big on programming because it was set up by Monome, the company that Gary mentioned. Nathan used this and other forums like *Muff Wiggler*, Facebook and Reddit groups because he liked to be involved in communities, only posting comments if he thought he could help someone. He described his own modular interest as "practical" since he wanted to make music his

[136] <https://llllllll.co/>.

livelihood. Like Gary, he said “a lot of the cool stuff is happening in boutique and experimental little labs”, while the corporate marketers were still reinventing the wheel in a lot of their synth range.

Nathan had invested heavily in modular equipment and was currently experimenting and working out how he wanted to use it. He described the whole process as working with workflow, acknowledging a generative element. Like Gary he also used the Teletype and a module called Maths, which its manufacturers, Make Noise, described as “an analogue computer designed for musical purposes”[137]. He said Make Noise were “killing it” in the modular world in terms of sales and popularity. Nathan used digital random generators in his music to provide interest, fascinated in the human-non-human relationships with algorithms that could keep giving. He looked for “magic points” in the circuits where there was a bit of chaos but not too much, the goldilocks zones where “the chaos and deterministic will hit you”. He conflated his modular set-up with the “radical intimacy” of the Internet as “a beautiful way of extending your own body”. With performance technologies, he said, we extend on lattices into the heads of people that are close to us, electronic extensions of our bodies “tendrically extending out over the Internet into people’s minds all over the world. And then these hyperobjects of films and bodies of work that live on become their own bodies and live on after you”.

These fascinating and provocative accounts place modular in an interweaving and mediating field of forums, cottage industries, major manufacturers, reviewers, event promoters, audiences and other artists themselves; a sonic ecology that modular users like Nathan were keen to be a part of. The mediation of the fourth plane was clear in the significance of the Internet and social media for engendering imagined communities across the world. But it was becoming hard not to be struck by the obsessional nature of the practice, and appeared to be, as the *Mix Mag* article suggested, highly addictive. There was undoubtedly cultural and symbolic capital to be had in a modular set-up, in much

[137] <http://makenoisemusic.com/modules/maths>, accessed 18/06/2018.

the same way as a vinyl record collection can represent a tangible and artefact-orientated relationship with aural 'authenticity'. It was an awareness Nathan was very aware of:

> You have a row in an expensive case, and each module is of a certain width, and you want to fill the row up with things. As soon as you start playing the game of which one is better, and there are hundreds to choose from, you have almost implicitly said you are going to buy one, and it traps you in that way…So it is quite congenial for this capitalist milieu, how we are invited to construct ourselves (Nathan, 32).

The examples of Gary and Nathan emphasise the importance of the field in modular practice for disseminating the knowledge and tools for music creation. Distinction was certainly available in abundance in the modular world. The only catch was whether you could afford it.

Glad Obsession: Capitalism and Audiophilia

> It's only in the last several years it's got more affordable. Because I used to love looking at things years ago and go, man, I just can't. And I knew once I start I'll be in there (Lars, 43).

It wasn't long before my research revealed the financial commitments necessary for pursuing the practice of modular synthesis. Although the expense for a case and modules can run into the thousands of dollars, I argue that the accumulation of cultural and symbolic capital in the form of modular gear was secondary for my case studies to a personally authentic relationship with sound itself.

I saw Lars (43) play his extensive and expensive modular rig on three occasions during my fieldwork[138]. The sounds were superb, crystal clear, sharp and precise, constantly morphing and

[138] EV44 18/3/17, EV49 3/4/17, EV68 9/8/17.

changing, the perfect application of reverb, smears of lush synth and crystalline drops of sound appearing in the stereo field giving the impression of being in an artificially-created sonic rainforest. They were accomplished performances, the product of an impressive arsenal of sound-producing equipment. At our interview I mentioned a meme-like image I had noticed on his Facebook page. In an iconic still from the movie, Al Pacino's *Scarface* character was sitting down, his face the picture of numb dissolution. Only instead of a mountain of cocaine on the table in front of him, there were 'photoshopped' piles of modular gear.

Lars smiled and stated that the issue with modular was what he called "funding", giving as an example the recent gig where we met[139]. He said the show took two hours to set up, and that he would be lucky to walk out with over $200. So modular was "a passion thing" and you needed funding to pursue it. He worked mainly as a teacher and in a wide range of creative projects, but said these opportunities were few. He rated the modular process because you used raw tones and sculpt them from scratch which made his sounds original, and he felt that the edge in music was about pushing the envelope sound-wise. His own habitus was clearly manifested in his musical aesthetic, a 'dark' sound, which he speculated might come from his heavy metal background. He was able to reflect that he subconsciously liked the "weird intros" to his metal albums the most.

Lars's "passion thing" went back a long time. His decision to go modular followed an exploration of computer-based synthesis in the late 1990s. After getting "lost" in the (Native Instruments) Reaktor software modular program, he bought a Nord modular unit which he found friendlier to program and a good learning process. Being "in the zone" was important for his creative process, and what drove him away from the computer screen and its attendant distractions and glitches. When I suggested that a problem with modular might be not finishing anything, he countered by saying it had actually made him more productive; because you can't save anything you have to record it. He used producer forums early on when he didn't know how things worked, back in '99 and the early 2000s. He now went to

[139] EV49 3/4/17.

Muff Wiggler for synthesis tips, and like Gary, he used the *Aussie Wigglers* Facebook group, but said there was now "more noise" on these sites, an interesting descriptor from a sonic point of view. Lars defined this particular "noise" as the general public, "there to have a nosey" with not much useful to contribute. In comparison he identified Instagram as the platform he was most active on, calling it "low noise" and useful for keeping in contact with "a very good community of associates around the world". Lars's story reflected much about the social side of modular music; while the practice was fundamentally a solo pursuit, the drive to improve set-ups and share the results made it also a very communal activity.

Lars was an experienced musician and had spent years playing in bands, loving improvising and the adrenalin of the risk. Far from the expense, he felt the biggest problem with the modular realm was knowledge and experience - you must know what you are doing, because every time you turn it on it was different. He classed it as an instrument, and so was on it as much as he could, needing to practice in case something went wrong so he could rescue it. He designed a new patch for every gig, practicing for a couple of months and trying to get the most out of it, incorporating multiple ideas. Melodies, bass and beats were sometimes programmed with an external sequencer, so he could easily extract particular elements, and he would introduce randomness so the sound always changed. At other times, his sets were all generative and improvised. In contrast, he felt much of the music made and performed by younger people using software like Ableton sounded too familiar.

His own favourite modular equipment was made by the esoteric company, Ciat Lonbarde, the only hardware he felt possessed a quality of "soul". I checked out their website[140]. The attractive range of primarily wooden modular units combined musical functionality with the aesthetic role of the art object and had a price tag to match. The website said that once orders were placed it would take a month to manufacture the unit. Lars described using their drum machine, called the Plumbutter, which had a dual voice theremin, two resonators, two oscillators and a noise source. Its

[140] <http://www.ciat-lonbarde.net>, accessed 24/05/2018.

counterintuitive layout, he said, “forces you to think…all the knobs are back to front and it’s good for your brain”. Distinction was paramount in his practice, always aiming with music to get different sounds that anyone else, usually by finding out what a piece of equipment was not meant to do but could do well. He admitted his music was niche but said if he worried what people thought he wouldn’t make anything. He saw his own practice as vital, that “culture and art is what is remembered”. For all his talk of sonic distinction, I definitely got the impression that a personal fascination with frequencies, timbres, and sound design was far more motivating than the appreciation of subcultural capital.

At the other end of the scale, the youngest modular practitioner I encountered was John (27), who had only recently “dived into modular”, frustrated by trying to play his music live using a computer and effects pedals. Like everyone, he reported how modular had got much more accessible price-wise, the flexibility making it worth the investment as he could gradually build up a collection of modules as funds allowed. John started out with a little unit called the ‘O-Coast’[141] by the company Make Noise, a “self-contained” semi-modular unit designed as a merging between the Moog (East Coast) and Buchla (West Coast) styles. John bought “a set of rails” to house a couple of extra modules, a set-up he described as “basic but good”. With a look of helpless resignation he told me: “I can just see this whole obsession spiralling out of control”.

> I tend to make excuses that once I get this piece of gear, then everything will be in its right place and I’ll be able to finally make the music I’ve always wanted to...and I can be aware of that, and tell myself that, and I still have those impulses, I just need that one last thing and then it will all fall into place (John, 27).

Another ex-band musician, John saw modular as a way to make the creative process more comparable to the live situation, a process that he said felt better, fun and more tangible, maybe because it was less predictable. In an example of contemporary first plane sociality, his long term goal with his modular was to develop its generative capabilities so that he could have someone to jam with. He reported that it was still a bit tricky to get hold of modules in Australia but found the overall

[141] <http://makenoisemusic.com/synthesizers/ohcoast>, accessed 24/05/2018.

flexibility of the process “amazing”. His set-up allowed him to try for sounds that were sonically more unusual but very difficult to make musical, a process he considered challenging and enriching. Similar to Anton in Chapter 3, he could see electronic music practice becoming two different practices: using a DAW like Ableton was perfect for his interest in making film music; but a combination of synth and live bass, doing some patching and playing along, was a better option for live. He wanted to approach electronic music with a different mindset where there was no pressure for something being anything other than for the act itself, but admitted that the social factor was also significant:

> I guess there is almost this instinct to say, I just do it for the music. But actually I really value people hearing it, and to some extent, while I do get a lot out of the process itself, without the other end, the audience, it can be pretty bleak (John, 27).

John’s comments suggest that even the idea of public performance was an important motivator for modular practice, even if those performances were rare. While he acknowledged, like Lars, that his music was unlikely to appeal to many people, it remained his long term goal that it be heard. The sociality of music was “powerful” in developing an interest in the music, which he said he wouldn’t be doing it if he hadn’t met the people he had in the (University of Adelaide) Sonic Arts course and seeing the way they approached their practice. He speculated that this influence even extended to Adelaide the place, something he only began to appreciate when he was somewhere else and got a sense of the novel effect of visiting a new place.

John’s impressions of his practice reflect the first and fourth planes of Born’s theory of music’s social mediation; the influence of habitus and field - the history and entanglement of personal and collective dispositions, where the resonance of sonic affect meets the affordances of technological possibilities. Like Lars, Bourdieu’s notion of accruing capital for social positioning and display were cognised but seemingly inconsequential.

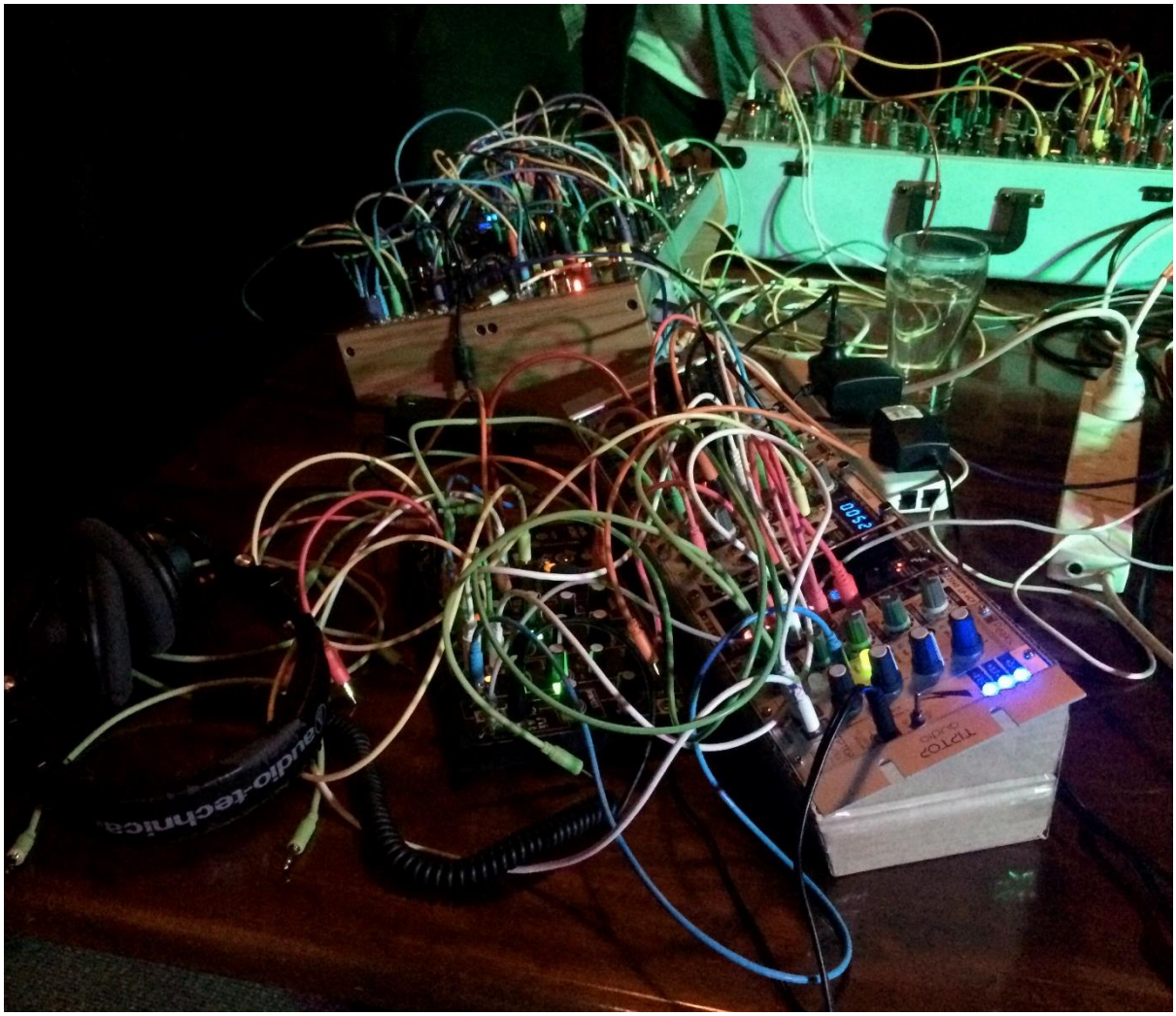


Fig. 4 Modular jam at the *Experimental Music Night*. Photo: Paul Chambers.

Doing-It-Ourselves: The Maker Movement

> I think it's a nice thing to do. I mean, it's just fun building stuff…we are all working on our own projects, they don't have to be the same project. Sometimes these things are a bit frustrating, you get stuck and you say, oh hey, what do you think I am supposed to do here? And just support each other a bit, it would be nice to get together and do it (Steve, 40).

It wasn't until after my fieldwork, spending more time around those practicing modular synthesis that I realised that for Lars and others, several of their modules were self-built, often from kits bought online. Here I explore the popularity of making and modifying musical instruments, situating the practice within a wider movement geared towards sharing ideas and crafting goods (Davies 2016: 10).

On the surface, DIY music instrument making may seem like an affordable option for those priced out of the modular marketplace. I first got to hear some 'home-made' synthesizer performance, unsurprisingly, at the *Experimental Music Night*[142]. There were only around 30 people in attendance, both in the room and the courtyard outside. Several were regulars; Samuel and Mike (who was playing last), the promoter and Pat at the sound desk, another guy who I had seen there often - always on his own. There were also a couple of middle aged men sitting at the back who I didn't recognise, and a few women at a table looking like they didn't really belong in such company. (I think one was a performer's partner). The first performer was out in the courtyard checking her phone. There were a smattering of others, including a table of scruffy long-haired youths.

As I chatted with a friend and his partner, Elijah Varrto set up on stage with what looked like a self-built synth in front of him, together with a drum module presumably as a sequencer or sound source. Elijah was wearing Michael Caine-style glasses (circa 1965's *The Ipcress File*), and in his black shirt, black trousers and black shoes, came across as quite dapper and handsome in a casual sort of way.

[142] EV51, 12/4/2017

His music when he began playing was the complete opposite. Harsh splurts of visceral noise soon sent my companions scurrying off to the comparative safety of the outside courtyard.

If music was sound that has been organised, then this was pushing the definition because there appeared to be minimal organisation happening. Elijah would 'play' for about 5 minutes, tweaking parameters on his synth, making small adjustments to the drum module and taking the occasional sip of beer. Then stop playing, look over to the sound desk, and say "calibration", at which point he would turn off the amp underneath his desk, put his headphones on, and spend a couple of minutes adjusting the settings. Then he would again signal to Pat, take his headphones off, turn the amp back on and away we would go again. The episodes of sound emanating from this home-made equipment reminded me of Thomas Hobbes's famous dictum on the life of uncivilised humanity: "nasty, brutish and short" (1651:179).

As the calibrations continued, the music seemed to gain in intensity with a sort of textual richness that actually became quite appealing. At no time would I say that the sounds were 'warm', in the way of a Moog, or a lush EDM software synth. Instead they were rough, raw and dirty. On the second but last musical interlude, where Elijah had managed to coax wave after wave of resonant frequency redolent of a death metal solo, someone emerged from the courtyard holding a full pint of beer, came into the middle of the room and proceeded to start head banging strenuously to the music. It was definitely a moment. Stage action and crowd reaction in perfect harmony. There was a pause for one more calibration, but the intensity never returned, which in a sense was a good way to end the set.

I went up immediately to check out his gear along with the 'head banger' and closely followed by the two middle aged men. The instrument was a rough looking home-made job. Little attempt had been made at making it look beautiful or professional. Instead, the names of the oscillators, filters, and other components were written in texta pen, the whole thing housed in two sides of shaped wood

that didn't seem to quite match up. Elijah was very approachable and told me he got the synthesizer plan off the *Music from Outer Space*[143] website.

Elijah's example showed you could make a functional synthesizer yourself if you knew what you were doing and had soldering experience. For the tertiary-inclined, the Sonic Arts course at the University of Adelaide had a unit called 'Circuit Bending and Hardware Hacking'. Echoing the practices of electronic music pioneers like Tristram Cary who repurposed electrical equipment for their own creative objectives, the growth of the 'maker movement' in recent years has led to a flowering of DIO collectives and knowledge sharing, manifesting as for nearly everything these days, in online tutorials and user websites.

The first modified musical gear I encountered in my fieldwork was when I interviewed Bloodbottler (27). He offered me a go on a little battery-powered and customised Casio chiptune synth and I found the sounds infectious, useable and fun. A further encounter was with another participant Steve (40) who regularly played live improvised electronica at several venues around Adelaide. His ever-changing set-up consisted mostly of vintage equipment accrued from pawn-shops and opportunistic second-hand purchases, but also included a home-made drum module, apparently the clone of a drum synth. Steve told me that originally the synth would be struck to make the sort of "dew, dew" sounds you would hear in old disco songs, but he now synced it to other gear to produce more contemporary noises. Steve built the synth in a workshop run by a friend. He had developed good enough soldering skills to be able to fix some of his own more basic equipment and was now considering making another project from a kit because he enjoyed the process, not least as a social activity.

This social side to DIO instrument making was highlighted by Richards (2013: 274), who suggested the practice was more a case of D.I.T., do-it-together, than DIY. Richards pointed to the role of blogs and user-group forums in what he called the age of participation, like Born (2017: 34) referencing

[143] <http://musicfromouterspace.com/>. This website is all about how to make DIY analogue music equipment, and the founder, Ray Wilson, passed away from cancer in 2016. The site continues, now run by his wife.

Bourriaud's *Relational Aesthetics* (2002), to argue that the social dimension of art was a critical part of the aesthetic of DIY music making. Davies (2017:10) also emphasized the social, defining "hackerspaces" as "physical spaces, operated collectively, where people could use equipment, they might not be able to afford, or have space for, by themselves". Davies claimed the maker movement represented desires "for community and hands-on engagement" (ibid. 144) but acknowledged that these were time-intensive practices.

Time was something that another of my participants, Sean (49), didn't appear to have in short supply. When I arrived at his place in the mid-afternoon, he was busy working in a shed stacked with electrical gear and tools. He was just finishing work on a printed circuit board, and music, possibly his own, was playing over some good monitor speakers. When we went inside to his studio, there was an array of impressive-looking synths, many of which Sean had made himself like Elijah by using plans from the *Music from Outer Space* website. The social side of the practice that Steve reported held less significance for Sean, a self-confessed "loner" even though he had a history of playing in bands. He credited a period as a teenager when he was "more inner" as the context for his discovery of electronic music. Hearing a record of a Moog modular synth played by Martin Denny, a jazz pianist in the 50s, was a key influence. The sounds really impressed him, the big swelling filter sweeps had a feeling of space and a comforting warmth he felt was missing from much acoustic music. The "unworldly" sounds gave him solace. He wanted to know where such sounds came from, fascinated that electronics could create a sound from "nothing". Sean said for him, it all came back to this "warmth thing" and that music didn't have to be robotic and clinical. It was still connected to nature: "We are all minerals".

Sean's habitus was also revealed when told me of his first synth in high school, a Yamaha CS15D that his parents bought him which he pulled apart and "stuffed up". When he decided to start building things, eventually making his own boards and designs, it took over a lot of the time he would have spent for making music. But the synths were only for himself and friends. They were not for sale and there was no compromise in their manufacture. He described his many home-built synths as

"noisemakers" that he used by twiddling knobs and experimenting, recording a whole hour or two to a stereo file. Like Arvo (from Chapter 3), he then selected the good bits for a track, maybe repeating elements or using them as a bed for something else. Like Nathan, he considered that commercial synths had "hit a brick wall" and that nothing new had been developed since the analogue era. This was why he believed computers had taken over; they were affordable and you could do so much more. Listening to Sean, I was struck by the fact that like Steve he didn't seem to be making his own equipment to save money necessarily, it was more of a hobby for fun.

I got a more direct experience of DIY synth building after meeting Nathan, who featured earlier in this chapter. Nathan told me how by using cheap components from *Jaycar*[144], you could create a simple oscillator and make noise that could be modulated. Since he was happy to participate in my research, I suggested we combine a simple synth-building lesson with the interview. We met at his rented studio in an inner city suburb. The room was quite ordered, yet full of different artworks and equipment of various kinds. There was a white board on the wall with lots of little computer chips on it, a desk covered with patch leads, drawers of various electronic components, an oscilloscope and set of small screwdrivers. True to his word, once we had got the questions out of the way, he looked through his various boxes, pulled out a little breadboard and began plugging various components in. Basically, the set up involved a 5v power source into the breadboard[145], and the important 40606 chip, a line out into an amplifier and we had sound!

[144] Australian electronics store in multiple locations.

[145] A breadboard is a base for inserting printed circuit boards and components.

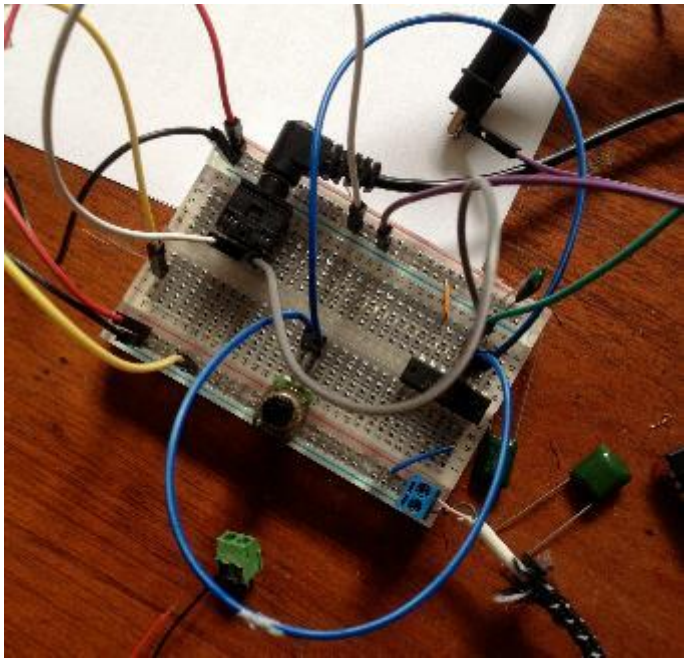


Fig 5. Homemade synth made by Nathan. Photo: Paul Chambers.

Another popular side to the maker movement in Adelaide was the modification of gaming hardware, as witnessed in several performances[146]. At one of these I met Mario (33) who used two Sega mega drives hooked up to two MIDI controllers linked to a mixer (see Fig 10). The performance produced some lush synth arpeggios from the Sega drives, together with decent sounding drums. Overall, there seemed to be a limited sound palette available from these sound sources, but he did a lot with it. After about 10 minutes I went up to stand nearby so I could see what he was doing. It was a spellbinding set that seemed to be mixing the future and the past into the sonic present, tweaking the machines into uses they had not been intended for.

[146] EV11 16/9/16, EV59 8/6/17, EV68 9/8/17.



Fig 6. Mario's live set-up. Photo: Ed Hund.

Despite working to re-purpose old gaming hardware, it soon became clear that software was the main attraction. It was custom-made and it sequenced the Sega drives using a tracker program, similar to the Renoise DAW[147] in how you inputted the notes. Mario had built both his own hardware and software in order to play the machines. A friend of his had helped to co-design the software, and it would be made available very soon on the Internet. The Sega game modules were used as a synthesizer. Yamaha made a lot of FM[148] synthesis chips, like those used in the iconic 80s synth the

[147] A DAW based on the old tracker software that was characterised by a vertical timeline and heavily dependent on the use of samples, soft synths and effect plug-ins. Mario now used the Renoise DAW to produce tracks, normally experimenting with sounds until some little thing sounded really good and he could build upon that.

[148] FM stands for frequency modulation, taking the output of an oscillator and using it to control (modulate) the frequency of another oscillator (Martin 2009: 257). Digital technology allows for this to happen in a

DX7. Mario said “pretty much the same chip” was used in the Sega Mega drive, so it had an FM synthesizer inside it, as well as a PSG chip[149]. Including 3 square wave channels and a noise channel, Mario said there was a total of 6 FM channels “so you can do a fair bit with it”. His arpeggio-rich music reflected the limitations of polyphony of the tracker program.

Like so many others, Mario’s musical path of making ‘video game music’ was discovered though the Internet. While at high school he found the “demoscene” that produced ‘chip music’ from cracked games, featuring “little intros” to say where the game had been hacked from. This whole scene evolved into a “separate thing” where people met to create music and sound for games, including some competitions where “the bar has to be really tiny”, with 4kb files that can generate music and graphics. A key development in his interest occurred while he was engaged in an organic chemistry PhD at the University of Adelaide. While getting deeper into producing his own chip music, Mario found “some stuff on the net that looked cool” from someone using the Sega Mega drive who had made a MIDI interface to play it allowing computer control. It turned out be Sebastian Tomczak from the same university’s Sonic Arts course. Mario had always wanted to have his own hardware synth but couldn’t afford it when he was young. The potential to make sounds with the Sega hardware, with the noises and limitations the unit provided, was really attractive. Mario said he never had much money to buy lots of gear and just worked with what he had. This attitude had crystallised into a long-term ideological practice, made practical due to the restrictions of moving for jobs with his family, and living out of suitcases.

Mario’s main interest was in tinkering around with sound, being innovative and trying out new sonic ideas. He began by trying to make “dancey trance music” but now struggled to attach any genre to his output, striving for whatever sounded good. He also exhibited the paradox of actively

controlled and exact manner, without the frequency drift of analogue equipment (also seen as part of its ‘charm’ for creating ‘analogue’ sound effects).

[149] Programmable Sound Generator, sound chips used to create sounds used in many games and computers.

participating in online communities around his chosen music practice of repurposing obsolete equipment, yet was seemingly ambivalent about forming lasting friendships there. He told me of the chip music community in the 90s, of international forums around the Buzz tracker. He was also signed up for an IDM[150] forum, but said there were too many people on there, and too much going on. He never thought the forums were about friendship and said it was hard to really connect with people when it was all online.

Like many in Chapter Two, Mario wanted his music to be relatable, again referencing the online demoscene where they purposely put art with music. Apart from an interest in "quality sci-fi", there was no sense that he went in for any of the future myths of the practice, his equipment very much a tool to be used, even describing it as "anti-new tech in a way". He told me he had installed Ableton, opened it once and couldn't work it out. He had been using his own software for so long that it was "natural and flowing" and learning something new was a big investment in time and effort that was maybe not worth it.

All those I encountered who were involved in the practice of gear modification and instrument making seemed to engage in the practice more from aesthetic choice than financial necessity. I never heard about a workshop in Adelaide outside of the Sonic Arts course. I got a strong sense of what Richards identified as the "bespoke" and the "boutique" artefacts appearing as outcomes of this process (2013: 278), a movement I saw driving the spread of modular synthesis and now manifesting in a range of compatible synths from corporate manufacturers. The community and camaraderie reported by Richards and Davies manifested in the sharing of videos and music online, and in live performances, such as at the monthly *Experimental Music Night*. All these examples encapsulate so much of the complex social relationships at the heart of this chapter. They represent very personal

[150] Intelligent Dance Music.

relationships with sound that at the same time are heavily reliant on processes of social mediation for the knowledge, means and equipment to make music.

Conclusion

> Inspiration is the best instrument (Mike, 46).

Writing at the end of the 1990s, Paul Theberge documented the many changes that had occurred in the sphere of music production with the introduction of a wide variety of electronic and digital devices. While many of these seemed to challenge notions of 'passive' consumption in favour of the more marketable term of 'interactive', whether this resulted in self-realisation or yet more consumption was, he said, "an open question" (1997: 254). He also identified how these practices encouraged an "intimate relationship between user and machine" (ibid. 255), as much a technical task as a social relationship. It was a process he saw as enabling for many musicians, able to take advantage of the undoubted potential of the technologies at the expense of allowing capitalist relations further into their creative practices, and even their interpersonal communication. He saw learning to 'manage' with and without new technology as a crucial way for contemporary musicians of defining themselves and their sound.

The modular revival and maker movement are in many ways a logical outcome of these ongoing developments. The chance to exit the alienation of screen-mediated music-making, and the comfortable parameters of software-based sound generation, was a common theme. No more searches through rows of preset patches, or banks of snare samples. Instead, you were hands-on with rows of physical modules, patching connections and twiddling knobs in real time. Its popularity coincides with the wider experiences of modernity to which music practice is entangled; the ahistorical nature of the digital, where history can be undone in the creative process; and sonic degradation in

the “loudness wars” where musical dynamics are sacrificed to volume in popular music (Krukowski 2018: 125). Modular offers the satisfaction of a bespoke, affective and unrepeatable engagement with sound creation.

I was reminded of Alvin Toffler’s theory of the *Third Wave*, of the “demassification” of society accompanying the customization of production, where diversity and the ability to express oneself “are allowed more space to flower” (2000: 212). The current modular field takes advantage of the affordances of Internet connectivity to bring the noise on several levels. It challenges the rigid product cycles of corporate manufacturers by disseminating high-quality niche products that are designed to be different, and frequently, difficult. It facilitates the connection to fellow enthusiasts, providing access to knowledge of how to make, operate, and disseminate your own music and components. The reproducibility of pure signal that characterises the speed, cheapness and diminished experience of compressed digital music is challenged by the noise-rich aural encounters of the modular experience.

The importance of accruing forms of cultural and symbolic capital as a defining motivator in human sociality, proposed by Bourdieu and further developed as subcultural capital by Thornton (1995), is challenged by my research into modular by the entanglements of field and habitus. It is difficult to suggest that any of the participants featured in this article were fundamentally motivated to engage in a practice like modular synthesis by the desire for social mobility, status or power. All were unquestionably deep into their practice, and their decisions appeared the culmination of opportunity and a long-standing relationship with music. Furthermore, all could see through the *illusio*, well aware that this could become, or even was, a perennial dopamine rush of investigation, procurement, performance and inspiration; a ‘black hole’ of consumption. They were knowingly playing the game. Like the producers featured in the 2013 *Future Music* article that had alerted me to the practice, they like to spend a large amount of time in a room with a lot of electronic machines listening to sound.

Modular technology and the maker movement reproduce, reflect and connect those who practice it, facilitating for the aficionado a more customised, intimate and personally authentic sonic

experience. The value of Born's (2011: 378) theory of music's social mediation is in offering a holistic analysis that can incorporate the multiple co-productive processes that make up such a practice: the social positioning and dispositions that predispose an individual's affinity for a relationship with sound and technology; the social field of networks, histories and relations that interact with this habitus*;* the *communality* of affiliation; the generative capabilities of machine collaborations; the accessibility afforded by the Internet; and ultimately the importance of an audience. The next chapter features two events where I heard modular music performed; the examples of *Sidechain* and the *Experimental Music Night* are used to explore the ongoing significance of real-time spaces of public engagement.

Section 3: The Social

Section Three explores how the subject and the object mediate with the socialities of performance. Like 'popular' music in general, electronic music's sociality has often been conflated with the identity markers of scene (Straw 1991) or genre (Holt 2007). The two chapters in this section explore how Post-Internet music practice is challenging these institutionally sanctioned constructs around classification. The inherent affordances of software to warp and stretch samples and phrases from disparate sources has contributed to a flattening of musical styles (Prior 2008: 924), reflecting and reinforcing the clash of influences to be felt on popular Internet sites like YouTube and Instagram. At the same time, increasingly bespoke forms of music creation are performed live at shows and festivals celebrating the experimental and avant-garde. The resulting socialities around the performance of contemporary forms of music are shown to mirror wider developments around partial allegiance and patchworked identities.

Chapter 5 Here & Everywhere

> There's this great snare that is used in a lot of Trap, which is I believe is on a pack called *The Official Young Chop Trap Kit*, I think it's number 10 or 11. And when you hear it, you think, that's the one. And it is because it is the one everyone uses, it's got this really nice resonant sound and you hear it on a phone or a speaker and you know that's that snare (William, 23).

This chapter draws upon Born's theory of music's social mediation (2005, 2010a, 2010c, 2011, 2012a, 2012b, 2017) to explore how music forges identities through the co-productive interrelations between music and social life, alert to the wider cultural, economic, political and technological contexts in which they manifest. Two regular events in Adelaide's musical landscape are used to explore how the interrelations of Born's four planes of social mediation manifest in the performance of electronic music. On the first plane, music generates its own social relations of performance and practice; on the second plane, it generates its own communities of listening publics; on the third plane, music is traversed and shaped by wider social identity formations; and on the fourth plane, is entangled in institutional structures and the cultural economy that ground its forms of production.

Sidechain is a fortnightly club night featuring live electronica where a wide variety of electronic musical styles are mixed together for a crowd that transcends any kind of bounded cultural identity. I argue that this social formation predominantly highlights the cross-scalar relations between the first and fourth of Born's planes of social mediation. The production processes associated with making much of the music played tends to engender certain kinds of performance and musical styles. The ubiquity of the laptop as an accessible way into electronic music practice for young people, steers a music practice based around inexpensive hardware controllers and solo composition. However, the venue, timeslot and nature of the event also affords the more traditional band-style or spectacle-orientated musical performances that offer a more engaging show for the audience, also reflecting

wider shifts in licensing laws and consumer habits around electronic music. The second plane of social mediation is reflected in the 'genres' of Future bass, Trap and Vaporwave appearing at the event, which are discussed as musical styles that depend on the computer and the Internet for their existence. *Sidechain* itself offers a useful insight into the social implications of what D'Errico (2016) calls the "interface aesthetics" through which software users utilise new forms of technology as part of their social and cultural identities.

The monthly *Experimental Music Night* features forms of creative expression that largely lay outside those performed at *Sidechain* and focus overwhelmingly on the improvisational. In common with Straw's (1991) concept of the scene, all four planes of social mediation cohere at the *EMN* to construct an "affective alliance" (Ibid. 374). In what Lena (2012: 10) calls an avant-garde musical grouping, novel and improvisational techniques are incorporated into performances that tend to eschew any categorisations of specific genre and even 'musicianship', reflecting and attracting an alternative and often older crowd of musical aficionados. It is a social space that tacitly encourages counter-hegemonic expression through the programming of its acts and 'anything goes' ideology. A sense of community identity seems strong, despite the mutable nature of the music. I argue that the music and event represents a kind of postmodern 'folks' music'; the plural here used to denote musical sources laying outside of the essentialised 'ethnic' or 'settler' identities often associated with the 'folk music' term in Australia. At the *EMN*, performers bring their chosen technologies to 'jam' along amidst their peers.

Both events are firmly connected to place. Part of *Sidechain*'s *raison d'etre* is to showcase the talent in Adelaide's electronic music community. The *EMN* also draws primarily upon a local cohort of music makers. Yet in all this creativity I could detect no discernible 'Adelaide' sound, as has often been

celebrated at other times and places, such as Detroit Techno[151], London Dubstep[152] or Chicago Footwork[153]. Instead, the music seems to incorporate individual elements and inspirations from the stylistic flows emerging, migrating and mutating in the global jukebox that is the Internet; music from here and everywhere.

Music, Genre & Scene

> When I started playing music, I played in garage rock bands and electronic music was something I was always vaguely interested in but had no idea how it worked or functioned…it's completely different to any other genre because it's so varied and so broad. It permeates everything, pop music all the way down to bedroom producers. Everything's using something (Wallace, 23).

The digitalisation of music has long been associated with the disintegration of musical genres and the loosening of the categories of social distinction around aesthetic taste (Katz 2011). Within electronic music styles, the fragmentation and differentiation of genres is hardly a new phenomenon. McLeod (2001: 60) found over 300 names to classify music in electronic/dance magazines and compilation CDs released in 1998 and 1999. He found the naming of new genres was not only down to the rapidly changing nature of the music, but reflected record company marketing strategies, a general quickening of consumer culture, and gate-keeping mechanisms to produce cultural capital (Ibid). With a focus on where information was traded within electronic/dance music 'scenes' –

[151] The example of Techno is discussed as a case study in more detail in Chapter 6.

[152] Dubstep is a style of music, characterised by loud sub bass frequencies and syncopated rhythms, part of a musical lineage that takes in other styles such as Dancehall and UK Garage that have been popularised in London.

[153] A fast (160 bpm) musical style that catered to a street dance called Footwork, characterised by rapid leg movements.

magazines, the Internet, record stores – McLeod linked his theory to Bourdieu's (1993) field of cultural production, to highlight the connections between consumption, creation and communication.

Genre in music, like that of film, literature and visual art, refers to a "system of expectations" (Skelchy 2017: 112) that are used by those in the industry, performers, listeners and critics to identify and understand what is seen as a distinct style of music, however fluid and dynamic those boundaries might be in practice. Lena (2012) attempted to construct a classification and temporal trajectory for musical genres, breaking down genre into four main forms that she labelled avant-garde, scene-based, industry-based and traditionalist (ibid. 10). An electronic genre such as Hip Hop, for example, began as avant-garde and growing into scene-based, before passing through the music industry system to arguably become 'traditionalist'. Lena's methodology helps to analyse the processes of transformation within Born's four planes of social mediation, a weakness of the theory which, as Born herself acknowledges, is its lack of a theory of temporal development (2011: 379).

Born (ibid. 383) pointed out that genre also focuses attention on the social characteristics that accompany identification with a particular style. Here, genres are understood as articulating the interaction of musically imagined communities and identities, reflecting the second and third planes of social mediation. A 'scene' or generic 'sound' requires the presence of a critical mass of musicians and fans before it can be 'deciphered' into existence (Straw 2014: 483). In the literature around subcultures, these are often accompanied by distinct codes and conventions around dress, discourse and distinction (Becker 1963, Cohen 1955, Irwin 1970, Young 1971, Hebdige 1979, Hodkinson 2002). In recent years, these associations have been challenged by numerous scholars sometimes suggesting updates to the subculture concept (Muggleton & Weinzierl 2003, Blackman 2005). I contend that these attempts try and frame an increasingly mutable subject into an ambiguously defined concept, whose boundaries blur the closer one looks.

I argue Straw's (1991) concept of the 'scene' remains closest to conceptually defining the heterotopic socialities around music that are characteristic of the Post-Internet. Its inherent fluidity

as a concept has kept its relevance for the dynamic heterogeneity of the present, despite the criticism by Hesmondhalgh (2005) that it does not account for the interplay of local and global communities of taste (Taylor 2012: 147). Straw's methodology evokes all four of Born's planes of social mediation. In his influential article on scenes in music (1991), Straw describes electronic music's corporeal effect on the dance floor; the music's ability to animate imagined communities around taste and experiences; the dance floor communities that traverse and coalesce relations of class, race and gender; and how in turn these are mediated by the institutions of media, clubs and music retailers (Born 2011: 382). Bennett and Peterson (2004: 6) have updated Straw's scene analysis to include local, translocal and virtual contexts, or the characteristics of all three (Bennett, Stratton & Peterson 2008: 595).

As well as incorporating the elements of Straw's 'scene' concept, Born's methodology of music's social mediation also acknowledges the mimetic properties of attraction and influence that music engenders, with Born referencing Tarde as a key theorist for the epidemiological encounters of the network age (2011: 384). In addition to the obvious needs of organic life, such as food and drink, Tarde (1969: 91) identified desires of a social origin for satisfactions and intoxications. Where the first are mechanical, the second begin as fantasies and consolidate into habits, whose reproduction becomes a central concern of the capitalism (Sampson 2012: 12). Sampson drew attention to the affective social atmospheres of technological network relations, where contagions of fear and fascinations with passionate interests entrain the attention through emotions and feelings, often unconsciously.

Born connects such processes of entrainment to the social environments that underlie music's "hyper-affective propensities" (2011: 384), while acknowledging that affect and mimesis are in themselves insufficient to account for music's capacity for materialising identity. For Born, only an analysis of music's multiple planes of social mediation could adequately explain the complexity of musical production, explored here in two established electronic music events.

Sidechain (1): Interface Aesthetics



Fig. 7. Controller performance at *Sidechain*. Photo: Ed Hund.

> The technology is the form of my self-expression (Korg, 21).

This section uses Born's methodology to explore the phenomenon of a regular Adelaide music event called *Sidechain* and a musical style (Vaporwave) sometimes played there. Both highlight new forms of musical sociality that are heavily mediated by the Internet, and the relationships with technology that facilitate musical performance. Importantly, however, *Sidechain* also reveals the ongoing significance of face-to-face communication and relationships.

Sidechain is a fortnightly event that features four electronic 'live' acts at each event. It began in 2014 to showcase Adelaide electronic artists, originally conceived by Matthew Vecchio, who took the

idea to Patrick Lang and Tom Gaffney[154]. They initially expected around twenty-five acts would be available to play from the city, but as they continued, more and more came out of the woodwork. It began at the Producers Bar, a large and cavernous old pub in the city's East End. After a hiatus, they fortuitously started up again just before my fieldwork commenced in a new venue, the Lotus Lounge, further into the city adjacent to the city's China Town restaurant hub. By the time of my first visit, *Sidechain* was being was run by a small collective who called themselves Futuresounds, that included Pat and Tom, sound engineer Alex Mader, and photographer Ed Hund. They had an up-to-date and professional-looking website and had started a label to put out digital releases via Bandcamp from some of the artists that played the event. They also organised an annual festival-type night, *Futuresounds*, at another city venue, featuring different rooms that allowed them to incorporate a wider variety of acts than was possible at *Sidechain*. By their fourth birthday on August 16th, 2018, a total of 231 separate acts had played the event[155].

The event foregrounds the relationships between the first and fourth of Born' planes of social mediation, existing as a product of, and response to, the wider structural and institutional conditions of place. Adelaide's peripheral situation outside of the music industry infrastructure of Sydney, Melbourne and the world cities of London, New York and Los Angeles, encourages a sense of banding together for a collective voice. This often entailed the need to reproduce wider successful strategies of promotion and branding, utilising the skills available to hand. *Sidechain* forged close links with the local youth radio station, Fresh 92.7[156], and many of its performers were products of the city's musical

[154] Matthew Vecchio was approached by the Producers Bar, looking for a new regular night. He thought of Pat and Tom as they had already been running shows by that point (the first three Futuresounds Festival events at three different locations in Adelaide).

[155] As announced by organiser Patrick Lang at the event. His friends made a t-shirt up as a parting gift with the names of all 231 acts printed on the back.

[156] A "youth and community" radio station formed in 1998. A locally-produced music documentary, *Decks and the City* (2017), features an Interview with Station Director, Troy Sincock, on their daytime programming policy of playing music that fits a commercially-popular standard of production.

teaching institutions. Within these structural affordances also come the socialities of performance that the music itself engenders.

Sidechain often showcased the solo producer, frequently laptop music makers, utilising a range of MIDI controllers that interface with DAWs like Ableton for the purposes of live performance. Many of these were young people, often at the beginning of their musical careers. *Sidechain* showed how the agency and materiality of music interfaces themselves was altering the practices of music makers. The requirements of many laptop producers for a controller to manipulate and 'play' the source of their music, has led to new technologies being developed. These are designed to be personally satisfying for music makers to creatively engage with their music, and equally allow the audience to see an interactivity with technology that resulted in tangible changes in sound transformation. Like the turntable decades ago, the new MIDI controllers at *Sidechain* were establishing their status as a musical instrument. Thinking of the controller as a relational process in this way goes beyond the purely phenomenological experience of its use, or the technical details of the material itself.

Sidechain also functioned as a meeting place for a range of like-minded producers to meet and hear each other, leading to significant collaborations and friendships[157], so the event also worked on the second and third of Born's planes of social mediation. The constellation of the myriad stylistic influences performed at the event suggest elements of Bennett & Peterson's (2004) local, translocal and virtual scenes, but *Sidechain* itself eschewed any identification with a distinct musical category, apart from the extremely broad category of 'electronic'. The event epitomised many of the themes that have emerged throughout this thesis: the resurgence of live performance in electronic music; the

[157] A quote from Gary, 34 (IV42) sums up Sidechain's social significance: "Just the connections that so many people have made. I have seen people meet each other there, and then you see them a few months down the track and they are coming in through the door together. And then, a few more months down the track, they are organising shows together."

importance of community and in-person connections; and the expression of tolerance and acceptance within a supportive and safe environment.



Fig 8. The Buddha at Lotus Lounge, 15/12/2016. Photo: Adam Davies.

As I walked into *Sidechain* for the first time[158], a performer was playing solo guitar and singing on the stage, with a laptop seemingly the source of the backing music. The atmosphere felt warm and intimate. As I looked around the club, what I now know but didn't back then is just how many of the people I could see that I was about to get to know very well in the coming months. As the first act finished, I headed to the stage area, where I assumed the well-dressed, suave and confident MC[159] standing by the sound desk had something to do with organising the night. I introduced myself and asked straight-out for a gig. To my astonishment, he said "yes" and then asked what type of music I played. I replied that it was "pretty banging", half-expecting this to disqualify myself as music possibly

[158] EV02, 21/7/2016.

[159] Master of Ceremonies.

unsuited to a club such as the Lotus Lounge, or even the event itself. He lifted his hands up in reassurance and said, “That doesn’t matter”, pulled out his phone and asked if I was on Facebook. He added me straight away and said he had some spots free in September.

Looking back, I see this exchange as typical of what has made this event so special. The crew at *Sidechain* will give anyone a gig as long as there is an original electronic component in the music. I continued to attend the event long after my fieldwork had finished and have been to all but a handful of their fortnightly events. For many acts, including at least six of my participants[160], *Sidechain* gave them their first live gig. In my experience the crowd are always supportive, empathetic and understanding. I believe *Sidechain*’s consistency in maintaining their fortnightly events, continuing a promotional formula that includes a radio interview and regular Facebook posts that link to artist tracks on SoundCloud, has had a huge impact on electronic music in the city.

Over time, I could work out a loose structure to the events. The more experimental, or ‘harder’ club music artists were generally on last. Those deemed more mainstream, and/or capable of pulling a crowd were the headliner put on as the third act. The first act was often reserved for those close to the beginning of their performance career. Despite such an open booking policy, there was not much cross-over between *Sidechain* and other live electronic music events in the city, such as the *Experimental Music Night* or weekend shows at other clubs like Ancient World[161]. *Sidechain* attracted a wider demographic than the other events, often younger and more attuned to the mainstream. The music reflected this, despite the inclusion of acts such as my own. The audience varied with every night, including many who only turned up to support their friends. But over time, I began to discern regulars who I started to quickly spot, nearly all of whom ended up performing sooner or later.

[160] IV018 Matt, IV022 Liam, IV023 Miles, IV028 Thijs, IV032 Roy, IV033 Phil, IV038 Amber.

[161] Basement club accessed from an alley off Hindley Street in the CBD. There are no signs for the club; you have to know it’s there.

Korg (21) was a Sidechain regular and a textbook example of the 'digital native'. As someone who grew up around computers, he said he was rarely conscious of operating one until something wasn't right, or being slow, that got him "totally out of whack". Ableton was his favourite music technology that he felt had really enriched his life. He told me: "If it wasn't out there, the world wouldn't be the place that it is". He credited the Internet for allowing him to make the music he did, because without it he would not have known that the software plug-ins he depended on existed. As further evidence of its centrality, he said some of his friends made art that didn't exist out of the context of the Internet, mentioning the 'genre' of Vaporwave as an example.

Although only making an occasional appearance within the stylistic cosmopolitanism of the event, Vaporwave was a category of music that I heard played out at *Sidechain* but nowhere else; the musical style that in many ways sonically defines the Post-Internet. Emerging in the early 2010s, the genre reflected a self-organising component, the user-generated product of a fan subculture exhibiting a historicised reflexive aesthetic around the 'material' of the Internet, such as advertising 'muzak', start-up sounds and computer game refrains (Born and Haworth 2016: 79). Equally important were its visual bricolage of kitsch graphics, out-of-fashion fonts and corporate iconography. Born & Haworth referred to it as "more like a 'meme' than a music genre" (Ibid), and their ethnographic research using the Issue Crawler[162] software highlighted its spread through 'likes' and reblogging. The Internet acted as the "content source, creative medium, means of delivery and communication, and as a concept informing all these practices" (ibid. 81), again highlighting music's capacity to create imagined communities and be shaped by wider social formations and structural affordances (Born 2011: 379).

[162] A software tool that analyses network connections on the Internet through issue-based hyperlinks between actors.



Fig 9. 'Controllerist' at *Sidechain*, 20/04/2017. Photo: Ed Hund.

Peter (22) was what D'Errico would describe as a proponent of "controllerism" (2016: 25), performing music with a controller linked to a laptop DAW, in his case a Novation Launchpad controller connected to Ableton. These plastic boxes with touch pads and colourful lights so common at *Sidechain* are something I have rarely, if ever, encountered at the *Experimental Music Night*. I first met Peter at a *Sidechain*[163] where he was performing with a vocalist. Immediately he began playing, I noticed how his music sounded really crisp, clean and harmonic. He later told me his music career started with the Guitar Hero[164] game, before taking up real guitar and later moving on to Ableton:

> Being in a band for so long, I wrote all these songs, I can't record them, I need a bass player, I need a drummer, I need a singer, whereas with electronic I could do all that by myself (Peter, 22).

[163] EV76, 21/9/2107.

[164] Guitar Hero is game developed by Harmonix and published by American company Red Octane, using a guitar-shaped controller to mimic the playing of a guitar by reading screen instructions.

Once he started using Ableton, Peter realised the capabilities of regular instruments were so limited compared to what he could do electronically. For his live set at *Sidechain*, he would decide what lead synth line he wanted to play, transfer an audio recording of a chord into the Ableton sampler on his laptop, and literally play the chord by hitting a pad on the Launchpad controller.

Peter was another graduate of the SAE College, a course he found valuable, not least for meeting and making a range of producer friends. At our interview, he was relaxed, easy to talk with and happy to answer any questions. I sensed no social awkwardness at all, and when he said he wasn't really a social media fan, I thought perhaps the two were connected. Echoing the observations of Val in Chapter 1, Peter considered people were now a lot more closed off in our "self-service world" and didn't have the physical social interaction that he imagined we did in the past. He speculated that this may be a cause of depression because people needed an emotional outlet, something which music and a having a music practice could satisfy.

> "When you are making music, you are letting your subconscious emotions out. Even if you don't think you are doing it, you are. You just make something and then you actually think, well that's a part of me that was in me somewhere and now I have got it out...so it is not always you have the emotion and you write, sometimes you write and then realise you have had that in you" (Peter, 22).

I thought music's emotional affordances could help explain the attraction for its performance at events like *Sidechain*.

Peter reminded me very much of another participant and Sidechain performer, Thijs (21), in that he was dedicated, seriously into producing, quite obsessive, and consequently very good at it. Aesthetically their music was also quite similar, and both liked to work with vocals. Peter told me that he had kept his three favourite tracks to himself, as he felt radio wouldn't play them without vocals. His latest track with a singer had recently been played on Triple J Unearthed, a national youth radio station, which he thought was the influence of a woman's voice. He also credited local 'youth' station Fresh 92.7 for playing his tracks the most, saying that without them, no-one would listen to his music.

Peter was ambivalent about genre, describing his music as Future bass, only "more gentle". He told me of a label he had heard, "Australiastep or something like it", which he liked and said Flume and Wave Racer[165], were setting the trend. He thought his music fit into that category rather than anything else. He also thought video games were a precursor to his music and believed he could hear it in others because people had grown up with games like *Mario*[166] and *Sonic the Hedgehog*[167].

There was an emotional maturity I respected about Peter, and it came out when he mentioned his girlfriend's veganism, which was obviously affecting his own behaviour and values. He had also recognised, in working with others, that he was really opinionated: "I like to do things a certain way". He felt a great deal of affection for Adelaide, saying that he would be "dis-encouraged to do it anywhere else" because he would be competing with too many people. Instead he was happy to help others because they were from the city and credited his success to Futuresounds and Fresh 92.7.

Another *Sidechain* attendee was Porter (22), whose music and visual arts were closely linked, described as limbs "to my creative skeleton". He found his own tastes from browsing the Internet, using Bandcamp to download tracks, and Spotify premium for artist playlists and finding new music. He said social media was "huge" for graphics, music and knowing how to promote, a "whole different battleground" where there was no right or wrong, whatever worked for you. He liked Instagram for finding visual "stuff" that influenced his sounds, and played music when he made his art, keeping a folder of visuals that accompanied his first EP. His recent EP artwork of a city-scape reminded me of Adelaide, but Porter said this was unintentional; the photo was actually taken in Melbourne. In the same way as his music, the visuals could be taken from anywhere to produce a personal vision.

[165] Wave Racer, like Flume, is a solo producer from Sydney.

[166] *Mario* is a Nintendo video game franchise since 1985.

[167] *Sonic the Hedgehog* is a Sega video game franchise since 1991.

> It's gone from very specific to nothing's off limits, and I love that, and I think that is very much because of the Internet, and people getting influences from so many different places at once…having a Synthwave song and using Trap drums with it, and being able to do that (Porter, 22).

Porter stressed the importance of social relationships, both online and offline. He knew many artists online through his graphic work and music production but loved Adelaide because "everyone knows everyone" and it was a "networker's dream". Growing up in Internet culture, he was always interested in new things, subscribing and actively engaging with specific sub-Reddits[168], a practice he said he couldn't live without. He saw the future as being less segregated with people coming together as the lines between them blurred. The Internet was vital for him as a community:

> As a kid I was always on the computer using the Internet. The Internet was a place I very much grew up in… a lot of everything I am into can stem from the Internet itself (Porter, 22).

He described YouTube as "massive" for finding new artists and new things and was happy to let the Autoplay algorithm suggest music, saying this was how he found out about Vaporwave "before it got really big". When I met him performing at *Sidechain*, he described his own style as closer to the associated 'genre' of Synthwave that, supporting Stalder's concept of *referentiality* (2018: 59) was heavily influenced by 1980s film soundtracks and video games (Harrison 2016). He described the Novation Launchpad controller as his favourite music technology.

A producer who made and played Vaporwave was Julian (24). Unlike Porter and Korg, he had grown up in the country, with slow dial-up connections, and the Internet was far less a part of his habitus. However, he used *Last FM* a lot as a teenager, a platform that provided recommendations based on what you had listened to[169], which is how he got into significant, and to me unexpected, influences like the Manic Street Preachers, Ride, and Spacemen 3. His views on the importance of offline

[168] Reddit is an American news and discussion website, and sub-Reddit's refer to user-created boards based around particular interests.

[169] Karakayli et al, in their (2018) study of last.fm users, describe such recommender systems 'intimate experts' (ibid. 16), that can be used for the purposes of "creative self-transformation" (ibid. 3).

community also reinforced the findings of Baym and Ledbetter (2009) who studied *Last FM* and found that the connections begun on the site were weak and required communication through other means to become stronger. It was the offline community around *Sidechain* which had been very significant to Julian for meeting people and getting out there, and he considered it was always about who you know:

> Having an actual community presence there, and everyone supporting each other is pivotal. Because without it, at the end of the day, it's just a bunch of people playing electronic music. Without the people watching, having a good time because of it, what have you got? That's what makes a community (Julian, 24).

His own solo music was instrumental, quite ambient and drew a lot from Vaporwave. He likened it to something you could hear in a North Korean commercial or a video game soundtrack. He said a lot was influenced by socialising in the virtual world of *Second Life*; how you could be a quiet guy in real life, but "have a BDSM sex dungeon" in the virtual world:

> Wandering around looking at these weird people living weird fantasy lives, and it is just that weird reality where we will get to the point like the new Spielberg movie[170] where we all wear these headsets…it's like the Matrix, that's probably the best comparison for it (Julian, 24).

Julian described his recent album as "synthetic", conceived as the product of a "weird virtual reality" where anything was possible. He felt the hyperreality of the Internet had been leaching back into peoples' lives for years:

> You've got people now that are so aware, and you have people from different social environments, Tumblr and 4 Chan, and they all converge on Facebook. And that starts to trickle out into real life, meme references; it no longer just applies to a weird little social circle between your friends online, it's now this weird web of messed up-ness, and it's only going to get worse (Julian, 24).

[170] Referring to *Ready Player One*, directed by Steven Spielberg (2018).

As Julian explained it, Vaporwave appeared to incorporate all four planes of social mediation, a mixture of micro-sociological contexts and macro-structural conditions. It emerged, meme-like, from a subcultural collective where the boundaries between producer and fan were blurred (Born & Haworth 2016: 79), to form a loose community of the like-minded who's stratified demographic identifiers were largely hidden or irrelevant online. Its production remained entangled and dependent on the Internet, its longevity dependent on its continued ability to induce mimetic contagion.

These case studies reveal connections between an event like *Sidechain* and a social form such as Vaporwave. Both exhibit a somewhat ambivalent relationship to genre and scene, highly contextualised by the shifting tastes of the Internet and the technological tools of the music's production. Like Vaporwave, *Sidechain*, as a social form, fed off an emerging collective agency that was invisible until the conducive atmosphere of the event itself had emerged.



Fig. 10. 'Fusionists' in action at *Sidechain*'s Fourth Birthday. Photo: Eleanor Johnson-Firth.

> We have made a lot of good connections just by showing up at gigs, like the old fashioned way; showing up, talking to people, saying your hair looks cool, do you want to talk about my band, stuff like that (Wallace, 23).

Schedel (2007: 34) found that the main attraction of the music studio was the human community which surrounded it, and *Sidechain*'s long-term influence, due to its success in forging face-to-face relationships, is likely to be enduring. Harnessed to the affordances of digital technology and the Internet, *Sidechain*'s approach provided the perception of a quality and dynamic collective operation that created a win-win situation for those participating. Crucially, the event allowed producers to emerge from their bedroom studios to perform in front of an audience, and the opportunity to forge and develop real-time connections that could continue on social media platforms. Through the event,

music produced its own socialities of performance and communities, the music in turn cutting across social stratifications of age, genre, gender and ethnicity, and inflected by institutional and infrastructural affordances.

Jordan (28) was something of a regular at Sidechain, playing solo, in a band and on musician duties for friends' projects. Like others who played the event[171], I consider him an example of a 'fusionist' whose practice continues to be very much a combination of traditional instruments and electronica. He said many of the acts at *Sidechain* were his friends, describing them as "little celebrities…dreaming about being rock stars or at least pop stars". He considered that electronic music in Adelaide had "exploded" in the last two years and felt a big part the community, particularly around *Sidechain*; it wasn't based on any kind of Adelaide sound, or a "cutting edge mind-blowing scene", but that the people worked hard, had ideas, talent and heart.

> It's really hard that bedroom producer leap, to get on the stage. But when I found that community, and being part of it, that's like so good. If you could bottle that, it's amazing. I struggled in so many bands, where you were just trying to get people to come out to your shows. You need the community to grow that and that's what's so good about Futuresounds, it really let me live out this pop star fantasy (Jordan, 28).

Jordan's creative practice was multimodal, communicating an aesthetic vision that referenced his gaming background, manifesting in chiptune style sonic timbres, and a strong interest in visual expression that was colourful, cosmic and psychedelic with a marked Japanese influence. His love of graphic art was shared by many among those I encountered in my research, particularly at *Sidechain*[172]. Jordan agreed that the computer had been instrumental in facilitating the creative direction that his life had taken. As a kid he said he wanted to be a musician and design his own album

[171] IV08 Wallace, IV20 Red Robin, IV43 Sacha, IV47 Julian, IV48 Martin, IV50 Paul.

[172] IV06 Bloodbottler, IV07 Arvo, IV08 Wallace, IV28 Thijs, IV31 Porter, IV32 Roy, IV33 Phil, IV38, IV43 Sacha, IV44 William, IV052 Jane.

covers, inspired by UK band Gorillaz, and had ended up basically doing that. The computer had "liberated" him to go in this direction. His design style was tied to the computer and its layout, doing a lot of digital collage. In this regard, his art was very much like how other of my younger participants made their music[173].

Music's first plane of social mediation was made evident as Jordan sensed a generation gap between himself and the younger crew around *Sidechain*. He felt like the young were moving away from the 'older' sounds that he liked; that artists like popular and influential Sydney producer Flume were taking the digital sounds and pushing them further than he could conceive. Jordan didn't know how this was done and believed he never would; that his strengths lay in bringing in the rock element, song-writing, pop structures, which he felt the kids of today were moving away from. He felt at a crossroads, uncertain whether he should embrace this new direction or look back; hindered in that his taste for combining traditional band elements into the mix wasn't the whole "digital thing" that he saw the youth wanting. He considered following his own path was the best hope for success, and the only way worth going in terms of personal fulfilment.

However, Jordan was keen to stress that he avoided feeling any sense of loss about the way music and society were going, saying instead that it was important to think of what we were gaining from the situation. He loved what Flume was doing, even if he didn't necessarily want to make that kind of music, describing it as the logical end of the environmental sounds of the digital age – what he called the "washing machine bleeping noises". Echoing D'Errico (2016: 10), it was clear he considered sound played a major role in defining the relational processes between society and culture; we lived in a digital world and it was "cool" to embrace it as far as you could and create sounds that a guitar, for example, could never do. This distinction within *Sidechain* again highlighted age as a key variable in my research, reinforcing Waugh's claims about a "generational and artistic divide" (2015: 256)

[173] IV031 Porter, IV043 Sacha, IV044 William, IV52 Jane.

between those comfortable integrating technology into their practice in the Post-Internet and those seeking solace from an arguably more 'authentic' era.

Martin (31), was another performer who had played for *Sidechain* on several occasions. He began as a solo act but decided to pursue a live band option as he enjoyed song writing, performance, and the opportunity to dress up and be "extravagant". He also commented that his decision was influenced after seeing "all these 17/18-year old's" at *Sidechain*, growing up playing computer games, with the accompanying pattern recognition skills that made them adept at picking up DAWs like Ableton.

Martin was articulate, knowledgeable and even dropped theorists, such as Žižek and Baudrillard, into our interview. Much of what he said contradicted the optimistic views about society of many of my younger participants, who generally suggested the rise of a tolerant cosmopolitanism at odds with mainstream media and politics. The Internet was at the centre of a lot of our debate, and why Martin felt all the traditional structures of music distribution had essentially broken down. He was concerned about how the easy availability of products on the Internet had made many aspects of society, such as retail commerce (where he also worked part-time), obsolete, or very hard, and had made it very difficult to make a living out of music.

Martin had always lived in Adelaide which he described as a small and welcoming community, but with no infrastructure of labels and A & R so getting beyond the city was tricky. (Triple J) Unearthed was the main way and you needed to fit with that taste aesthetic. Martin's own music was theatrical and full of references from the 'Cold War', espionage fiction, space imagery and unusual combinations of ideas, applying them as metaphors to personal issues. He consumed a lot of TV and academic theory, and believed we had become a technological society, which he saw as both good and bad. He saw himself as from the last generation who grew up without the Internet being everywhere, the "golden age" when the Internet was "nice", before acknowledging the "almost cognitive dissonance" of how much it allowed you to do at the same time.

In a perspective on the social mediation of the fourth plane, Martin saw music reflecting current conditions, such as the ”darkness” in Trap music. He felt the mainstream’s Trap remixes were when it ceased being a peoples’ music, stopped moving forward and became the simulacra. Genre didn’t matter to Martin and he felt electronic music, at its core, was still quite underground:

> You go through this cycle where a genre will emerge, split off from another genre, and it will rise and rise in popularity, become a bit passé in that community, and at some point, part of it will cross over into the mainstream. I think it’s been really interesting to see the ubiquity of Trap music, in the last 2 years. Because it’s got a very southern African-American historical context, very much related to Hip Hop and rapping, song writing about the difficulties of life. And now it’s kind of been ‘smooshed’ together with Future bass, bright pads and stuff, and it’s in every Trap remix (Martin, 31).

Martin’s comments confirm Lena’s temporal genre classification and Born’s argument about the fundamental instability of musical socialities around genre (2011: 383). Applying the four planes of social mediation around genres such as Vaporwave, Trap and Future bass highlight how much of their performance was rooted in the materiality of its means of production, their creation and reception animating communities that traversed the demographic divides of race, class and location, and inspired by reflexive memories of the past or imaginations about the future circulating on the Internet. If *Sidechain* was witnessing the birth of new forms of musically-inflected socialisation in its heterogeneous groupings of performers, attendees and musical styles, it was also suffering some of the birthing pains for those old enough to remember an alternative.

Several themes emerge from the case study of *Sidechain* for the socialisation around music: music is increasingly multiple and multimodal in its ontology and performance; related to this, there was no one clear ‘Adelaide’ sound, reflecting the importance of the Internet’s influence; there seemed to be, as Waugh identified (2015: 49), a generation gap between the ‘digital natives’ and those coming of age before the millennium; and a broad yearning for ‘community’ across the age range, especially for face-to-face relationships where individuals could ‘vibe-off’ each other. This drive for social interaction was evident in the following case study; one where the aspirational pathways of career advancement,

inherent in the promotion and branding of *Sidechain*, were largely absent, and the brightly coloured pads of MIDI controllers were nowhere to be seen.

Experimental Music Night: Folks Music



Fig. 11. *Experimental Music Night* performance. Photo: Paul Chambers.

> We are past having communities who you live around, but communities who you are interested in. It's still something that's relevant. Even though you have got the Internet to keep in contact with people you are interested in, having a place you can go to and people you can meet is important (Steve, 40).

The example of the *Experimental Music Night* (*EMN*) highlighted the significance of community in music, and the event manifested an inclusive tolerance of social (and musical) difference at odds with the often polarising discourse of mainstream politics and social media opinion (Pariser 2011: 218). Held on the second Wednesday of every month, the *EMN* emphasised the importance of the first two of music's planes of social mediation. This event was all about music engendering the social through its material affordances, affective qualities, and performative socialities. This was music action that was offline and resolutely real time, the product of hardware instruments played on the fly. The intimacy and risk of the unpredictable attracted a crowd that were up for the different and unexpected. All the dirt, noise and extraneous information, compressed and filtered from the streamlined signals of the digital (Krukowski 2017: 198), was celebrated and liberated here in all its messy and spontaneous glory. This was a night where, for one evening a month, anything really did go and the crowd would be with you all the way.

In one of many coincidences during my fieldwork, a friend of mine had told me of a night happening monthly in Adelaide that featured experimental music. I was excited, and not a little amazed, that such an event existed, as I had seen or heard nothing like it outside of the Unsound Festival[174] which had taken place over a four-year period as part of the Adelaide Festival. To my knowledge, no local acts had taken part in Unsound, which made this event even more unexpected.

[174] The Unsound Festival has taken place in Kraków, Poland since 2003, featuring innovative styles of music and visual arts. It has also been held in other cities including Adelaide.



Fig. 12. The Hotel Metropolitan, Adelaide. Photo: Paul Chambers.

The first *EMN* I attended[175] was on a freezing winter's night with a strong wind blowing. As I walked briskly against the cold, I wondered who on earth would be out in Adelaide on a Wednesday night to hear experimental music. As I entered the front bar of the Metropolitan Hotel, a remnant of Adelaide's colonial past nestled amidst office blocks and new apartment complexes, my fears seemed justified. There were two middle aged men, wearing high visibility work clothes, sitting at opposite ends of the bar, in front of half-drunk pints of beer. A smattering of other people sat on various tables, and the State of Origin[176] was being played live on the big screen TV. I walked to the bar and perplexedly asked

[175] EV01, 13/07/2016.

[176] NRL (Rugby League) competition over three legs between New South Wales and Queensland.

the barman if there was an experimental music night happening. He deadpanned back: “Round the back mate.”

It seemed there *were* people out on a freezing Wednesday night in Adelaide. Probably about 20 were seated or standing in a back space the size of a large suburban lounge room. A young person was on stage, with an electric keyboard plugged into a laptop. I sat down at a spare seat near the mixing desk and it wasn’t long before the performance began, a selection of solo keyboard works I didn’t recognise that I assumed were self-composed. As the set progressed, I wondered if this counted as ‘electronic music’, as it could almost have been a ‘classical’ work, had it not been for the laptop which seemed to be the sound source for the keyboard. At the close of set, the performer went off to join a group of young friends at the opposite back corner of the room, sounding, by the overheard conversation, relieved to have finished.

The space was filling up, and it became clear that many were here for the second act, a mixed-gender choir of about 10 people who had obviously brought their friends. By now the room was quite full, maybe 60 people, and many were sitting on the floor. The choir’s set consisted of three works, whose harmonies were unlike any other choral work I remember. The effect was quite ethereal. At one stage, someone got up and started dancing, adding to the unshackled atmosphere.

Many people hung around for the third act, who much to my excitement turned out to be a noise musician. I had wanted to hear a ‘real’ noise musician for years and was beginning to think they didn’t exist outside of art spaces in East London. But here was one about to unleash on a Wednesday night in Adelaide. His convincingly scuffed-looking equipment - a mixer and several effects pedals - were all plugged into each other in a loop to create a feedback noise which could then be manipulated. By the end of my fieldwork I had encountered many examples of this kind of set-up, but back then it was a novelty. I got talking to the performer after the set and felt the connection you feel on meeting a like-minded individual, an instinctual reaction that was to become common in the months that followed.

Not only had the music lived up to the label of experimental, unencumbered by any kind of generic identifier apart from the meta-label of the night itself, but even better was the crowd[177]. I had spent decades in underground musical subcultures but found this kind of demographic quite elusive in the 14 years I had lived in Adelaide. There was no clear age group, it wasn't overtly male, and it appeared open-minded[178], not least by the diverse entertainment on offer. I went on to become something of a regular at the event, even playing myself six months later and encountered several people who went on to become participants in this project.

Jem (24) was a regular player and attender at the *EMN*. We first met at another concert on at the same venue one Friday night[179], where she had played a solo set with just a small inexpensive Korg Volca sampler[180]. This instrument allows you to store and play up to 100 sounds that for her set included many of her own voice; the arrangement of the music was just made it up as she went along. She carried the instrument with her wherever she went, even playing it on the bus. The symbiosis with electronic devices reported in Chapter 1 was again mentioned; because of all the practising, she was quite *au fait* with the machine:

> It's like downloading a piece of my body into the hardware with software, and she is here on the outside, or she is in between…the more she does what she is doing, the more her body feels connected to what she is using to make noises with (Jem, 24).

A recurring theme during our interview was improvisation. Even the interview was improvised and unstructured as she went off on tangents as her multi-disciplinary background shone through; participation in many art collective activities with a focus on process, workshopping ideas, and evaluating performance. Given her confident solo acts, I had assumed a long musical apprenticeship,

[177] Reflections documented in diary, DI02, 15/07/2016.

[178] Reflections documented in diary, DI02, 15/07/2016.

[179] EV08, 2016_08_19.

[180] https://www.korg.com/au/products/dj/volca_sample/.

but she seemed to possess an intuitive musical acuity and claimed to be entirely self-taught, ignorant of much musical theory.

Improvisation was a key feature of both the *EMN* aesthetic and ideology, the primary way that the music engendered the sociality of its performance. Jem liked music to develop on the fly, so a performance could be different each time, moving through different iterations of the same sonic palette. She said live performance had a dynamic in ways the recorded didn't, while admitting recorded music might be nuanced in a way that live may not be able to replicate again. Her comments reinforced those of Born who felt "the social relations of improvised performance epitomise their *musical-aesthetic* effects" Born (2012b: 176, author's italics).

I also met the oldest of my participants, Miikka (52), at the *EMN*. His live performance at the venue[181] with a collaborator featured a small mp3 player containing field recordings which he played through a Kaoss Pad[182], an Eventide delay unit, and also used microphones and a looper pedal. The set included some insect-like sounds effected by delay, mixed with strange looped vocal chanting, that was added to a sonic stew with Miikka's occasional microphone blurts. The 'music', which Miikka preferred to call "sound poetry", wasn't speech or song, but suggestive, he said as an example, of natural sounds that people heard voices in:

> What I'm into, with a lot of my vocals, is something simultaneously primitive and futuristic…so it sounds like a shaman from a thousand years in the future (Miikka, 52).

In Lena's (2012) classification system, genres begin as avant-garde before withering, merging with other genres or possibly establishing a coherent group identity as a scene. Miikka's music was doggedly underground, ranging from noise noodling to jammed groans and grunts, including some sentences in what sounded like a foreign language put through effects. It was hard to imagine this

[181] EV13, 12/10/2016.

[182] The Kaoss Pad is a popular and intuitive audio effects unit by Japanese company, Korg.

kind of sound poetry turning into a scene, but Miikka felt frustrated that there were people out there who liked the sounds but couldn't find and hear it. He had received good feedback for his published writing, and it was obviously taken seriously, but less for his sound. Music is a much more crowded field, but he mentioned one person who had given him positive comments on SoundCloud. This kind of feedback was like gold.

I had been looking forward to our interview, as being a fellow regular of the *EMN*, I was sure we had loads in common. Miikka came across as an alternative thinker, someone whom I instinctively felt one could discuss 'out there' topics with and the interview took place at his house in the Adelaide Hills. He had a room for his music, and a room for his quite extensive collection of books, including a collection of abstract comics and poetry. There was a desk with books spread out, opened at certain pages, as if he had just stopped the process of active research into the book of Finnish mythological stories he was writing, just to attend to the interview.

Miikka told me he wanted to create shamanic chaos and noise to resist what he saw as the hypnotising direction that digital technology was in danger of taking humanity. Although he owned a computer, he distrusted social media for its lack of transparency. His favourite kit was a cheap, rugged and simple multi-effects pedal, the Zoom G1N. Miikka felt you could be in an intuitive state to use it, whereas he considered computer technology to be left brained. Consequently, he didn't use a computer to perform music, although he loved the freeware Audacity sound editing program. He seriously considered the agency of objects and felt certain objects to have character:

> I would say generally I have an animist view of the universe. I'd even go so far as to say every particle has its own soul (Miikka, 52).

Miikka's views on the vibrancy of matter had academy support from theorists such as Barad (2007), Bennett (2010), and Braidotti (2013). He admitted there were people who wanted to merge further with technology, but Miikka was wary and felt like it would be giving up part of his humanity. He was

fascinated with futurism, but it didn't really come out in his music as much as his writing. I noticed on his breakfast bar a book on Cosmism and the Russian Futurists[183].

Like many others I interviewed[184], Steve (40), a regular attendee and occasional performer at the *EMN*, had started out as a guitarist, not discovering electronic music until around 1998 through post-rock acts like Stereolab and the work of Autechre. After purchasing a Farfisa Superbravo organ for 80 dollars at Cash Converters, Steve plugged it in to some of his guitar pedals and had "an amazing revelation". By taking the simple percussion sounds of the organ's rhythm accompaniment and syncopating them with delay, Steve got the kind of "dubby" effects that reminded him of some of the post-rock music he enjoyed. It also allowed him to experiment in playing the 'industrial music' of bands such as Einstürzende Neubauten[185], that he'd read about but not heard. This was the late 1990s, where it was still hard to hear anything 'different' if you didn't own the music in some form:

> It's kind of disappointing now that you can hear whatever you want, you can't do that anymore…trying to rip off people that you didn't know what they sounded like. But also trying to rip them off when you have no idea how they make their music (Steve, 40).

Steve's comments highlight two key points about how electronic music practice manifested at the *EMN* that reinforce the importance of the first plane of social mediation: firstly, that necessity is the driver for much of what is used to make electronic music; secondly, that a lot of the music made is about the instruments it is played on and exploring what they can do. For a long time, the only electronic instruments Steve owned were the Farfisa organ, and a Casiotone 101 - a basic keyboard synthesizer from a similar era in the early 1980s, who's various sounds Steve played through effects.

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[183] Young, George M 2012, The *Russian Cosmists: The Esoteric Futurism of Nikolai Fedorov and His Followers,* New York, Oxford University Press.

[184] Wallace IV08, Klaus IV12, Red Robin IV20, Oren IV026, Sean IV27, Alex IV29, Lars IV30, Phil IV33, Brother Lucid IV35, Jem, IV36, Jordan IV37, Andy IV41, Gary IV42, Sacha IV43, Simon IV45, Julian IV47, Martin IV48, Paul IV50, Peter IV58

[185] Influential German experimental band, whose name translates as "Collapsing New Buildings".

Even now, despite adding a drum machine, and even a new synthesizer, (a Roland System 1 that emulates old analogue sounds), he only used hardware and never a computer:

> I just love to get a bunch of electronic stuff together, and just play with it, see what happens. I don't really so much compose with it…the other thing I have been doing recently, playing just the effects, just a pure feedback loop. Because the effects have been a big instrument for me (Steve, 40).

Steve started out using old analogue equipment through necessity, because it was inexpensive, telling me it had been important in the history of electronic music that a lot of interesting music got made by people because the gear was cheap. He bought his drum machine on eBay, an early 90s instrument that was "really awkward to use, and I love that because I don't know what beats I want. I like to kind of wrestle with the equipment and see what comes out".

Steve admitted that the social aspect was very important to his music practice. Electronic music making could often be a solo pursuit, and he preferred playing together with someone else, not just for the music but for the social aspect:

> There is a lot of people I just catch up with at gigs…So a lot of my social life is based around live music of various sorts, but also around collaborating with people on music…I must have played in bands or groups of various sorts with at least 30 people in the last 4 or 5 years, maybe more (laughs). And so, it's really important to me, an important form of relationship to play music with people (Steve, 40).

He told me he had held out from Facebook for a long time but joined for promoting gigs:

> It's pretty much the only way to communicate with people…this is a music thing in general now, so many gigs get done through Facebook. I hear about gigs through Facebook. I think it's potentially a problem, because people become too insular (Steve, 40).

The *EMN* seemed to have got around this with new people showing up regularly, possibly because, like *Sidechain*, the nature of the event meant that new 'friends' show up to support the artists playing.

Steve had a day job and was not looking to make a career out of music. It was something he did in his spare time, likening it to the tradition of people going to work, and then singing folk music with

others. His saw his own practice as like a more modern version of that, only it could be purely electronic music because it was now so accessible that anyone can have a go. Steve considered that what happened at the *EMN* was just as important as what was happening at the (Adelaide) Festival. While those acts were well-established and professional, even intimate collaborations and performances at the *EMN* counted in the moment.

Born's assertion that performance socialities could work to "reconfigure social norms and social antagonisms" (2011: 380) were also supported by Steve who saw the *EMN* as an inherently political event because there was a deliberate attempt to make it inclusive by ensuring a gender balance, including at least one female performer at every show. He pointed out what I had felt upon my first visit; it attracts an open-minded and accepting crowd and was a safe space for people to try things. He said people needed recreation, and the *EMN* created that through people getting together, rather than sitting at home and watching TV.

Music's first and second planes of social mediation were apparent in Steve's comments. Even though the music was often instrumental and had no overt message, there was something about being open to different types of music that brought people together who you assumed, and in his experience tended to be right, that you were in agreement with politically, just by the fact that they liked that music. Steve saw the circles he moved in as being like a folk music scene:

> Whatever genre it is, whatever genre I'm playing, it's like folk music, where a bunch of people get together, and they play music, or people who don't play music come to see their friends play music, and it is very social, and it is just grass roots, and you just do it. It might be folk music where you do your latest experiments in feedback. And that's a valid thing (Steve, 40).

The example of the *EMN* represented a postmodern 'folks' music; collective, affinity-based and amateur. It is a descriptor that could apply to much of the music at *Sidechain*, if you take away the aspirational focus of the event. Improvised, innovative and intrinsically subversive, the unshackled

atmosphere of the *EMN*, both socially and sonically, existed as an outpost of marginality, an oasis of literal and metaphorical noise.

Conclusion

> One of the things I really like about the challenge of electronic music is that, to keep it interesting, you have to keep changing it (Rachel, 24).

This chapter demonstrates how the production and consumption of music is inherently social. The strength of Born's methodology is that it can account for music's multiple mediations from the materiality of performance, its affective capacity to create imagined communities to the situated ways that music makers and audiences negotiate structural, cultural and institutional contextual forces. It can combine with temporal analytical strategies such as Lena's (2012) classification of genre, theories of music's affective and mimetic qualities (Brennan 2004, Tarde 1969) and incorporate the micro-sociological studies of music's role in peoples' lives (De Nora 2000). Born's theory helps us consider other factors not fully explained in these works.

A night like the *EMN*, while fitting into Lena's methodology as an avant-garde musical grouping, is still hard to categorise in terms of genre on anything other than a meta-level of abstraction. The night reflects an alliance of multiple musical interest groups, often with little in common but the desire to share their music with an audience. The mimetic qualities of music can be seen in a genre like Vaporwave, spawned in the fertile, meme-rich environment of the Internet. Its transposition into the offline world at *Sidechain* made possible by the production processes behind its manufacture, the online inspirations that feed it, and the audiences that come out to see it performed; all are related in the genre's manifestation. Music's world-building capability, how patterns of meaning are projected onto music in the creation of self-identity (Born 2005: 14), can be better understood by acknowledging

the macro-structural conditions and social environments in which those engaged in music making and performance inhabit.

According to Born (2011), much writing on music concentrates on the interaction of the second and third planes of music's social mediation, often conflated with the identity markers of scene or genre: "the primary mechanism for the mutual articulation of musically imagined communities and social identities" (ibid. 383). The social formations of *Sidechain* and the *EMN* highlight the cross-scalar relations between all four planes of social mediation. At *Sidechain*, the inherent affordances of software to appropriate and manipulate samples and phrases from disparate sources has contributed to the hybridisation of music, the resulting socialities around these contemporary musical forms often fragmented and insular. At the *EMN*, novel forms of music encourage and reflect an audience open and expectant of musical experiences that are hard-to categorise and intrinsically counter-hegemonic. Both events can also be seen as a response to wider institutional and structural affordances, particularly changes brought about by smoking bans, lock-out laws, the popularity of smaller and more intimate venues and less-hedonistic recreational habits. As such, they presage new ways to condition the presentation and reception of the music-object assemblage. In the next chapter, the impact of these developments on music in the form of genre and scene are explored in a milieu long associated with electronic music: the nightclub dancefloor.

Chapter 6: People of the Groove

> There's genres that will always stay there, but dance music's just changed so much…the underground music scene is never going to die, but you can't write music like you used to write music (Ed, 39).

In this chapter, the demographic, technological, cultural and historical factors that combine to forge musical constellations are analysed in relation to two social formations in the genre[186]/scene spectrum in Adelaide. The perennial meta-genre of Techno is one that is often proudly associated with the city's genealogy of electronic music (Adamek 2016: 177). Its capacity to remain popular for decades speaks to its ability to achieve a kind of static mutability, incorporating new stylistic movements and technological developments, while maintaining a cohort of producers and fans. In contrast, the sporadic and multi-faceted *Club Sync* events celebrate the fluidity of identity that is emblematic of Post-Internet musical expression.

Born's focus on the production rather than consumption of cultural texts as a means to understand the logic behind music (Szczepanik 2013: 99), is challenged by the close relationship between the demands of the nightclub (for patrons to drink, dance and socialise) and what music gets performed. Where the genre-identified dancefloor is concerned, it is hard to separate production from reception, a cybernetic relationship of mutual dependency. Music is made for people to dance to, usually by those well-attuned to the latest fashions in the music. However, I argue that the fractured nature of contemporary club music in the Post-Internet is loosening this relationship, potentially re-configuring the traditional club experience in the process.

[186] I use the term genre here interchangeably with style, using a definition by Marino (2015: 244): "A musical genre is a linguistic label (a name) assigned to a recognizable set of musical features (a musical form; or, in other words, a 'musical style', reflecting and proposing a musical aesthetics), carrying socio-cultural connotations (a 'socio-cultural style', reflecting and proposing a system of values)."

Even though Adelaide's Drum 'n' Bass[187] community appeared the largest electronic music subculture I have discerned in the city, I encountered many more people producing the 'Techno' genre and their music seemed much more integrated into wider socialities of performance. I use 'Techno' in Adelaide in this chapter as a case study to investigate electronic music as both genre and meta-genre, one initially defined in relation to geographical place (Detroit), but now a broad globalised classification for "forward thinking"[188] and usually instrumental club music.

The Techno 'scene' in Adelaide remains significantly associated with people who produce the music, either locally or acts from overseas, reflecting the mediation of the first and second planes of music's social mediation (Born 2010c: 232). Several of the original players from the early 1990s in the scene are still involved, twenty five years later, together with later waves of enthusiasts, and most I spoke with preferred to make music with hardware. Demographically, I found few people under the age of 25 regularly attended events and the majority involved were male. Even though it was still in many ways a classic 'scene', many displayed 'partial allegiance' with omnivorous aesthetic tastes, often producing and/or consuming other forms of music away from easily-identifiable 'Techno'.

In contrast, *Club Sync* is a sporadic club night, music label and fashion outlet. The music played at the club is built around a collision of decontextualized global music influences that I argue is indicative of the Internet. The crowd were mostly under 25 and the music at the club was, for me, completely undefinable, encapsulating the ambiguity and elasticity of musical identity that reflected its means of construction, mostly using the audio-warping and sampling capabilities of the DAW. It was music that would be difficult to make without the affordances of today's digital technology.

[187] I did not encounter many producers of Drum 'n' Bass music, and only four of my participants claimed to have made the genre IV04 Ed, IV22 Liam, IV28 Thijs, IV39 Rashad.

[188] A quote from an interview: "As long as it's got some kind of forward-thinking motivation, I am down with it", IV46 2017/07/19.

A key difference between showcase events like *Sidechain* and the *Experimental Music Night* and the nightclub dancefloor, is that their stop/start format is more conducive to performative spectacle than immersive reception. The many reports of musical epiphanies (Green 2016: 334) underline Born's contention that a significant musical experience occurs when "the listener, entangled in a musical assemblage, feels herself transformed…such events are not universal but fragile; they can never be assured" (2010b: 88). The nightclub functions to allow genre and scene to provide that assurance, or at least the pleasurable emotional reassurance of its memory. The historical and social conditions of Techno in Adelaide work to engender its continued popularity and musical character. At *Club Sync*, the more rapid feedback loops of sonic inspiration and mimetic contagion afforded by Internet accessibility highlight how music's transformative effects are becoming increasingly different and contingent.

Techno City

> I suppose there are just certain sound frequencies that…really feels like it gives you a vibe, you just get lost in it. You can feel it in your heart, sometimes it gives you goose-bumps and sometimes you get a rush which goes to your head, it's like you've taken a drug (Gil, 30).

At 725 metres, the summit of Mount Lofty offers a panoramic view across Adelaide. A steady stream of walkers and joggers make the 4km ascent to the summit. Tourists who arrive by vehicle snap pictures and take selfies. It's the highest and coldest point of the Mount Lofty ranges that hem the city to the East, and the wooded slopes tumble down quite steeply to the urban sprawl below. The view from Mount Lofty shows a clear straight line going from the CBD to Port Adelaide, the Port Road and its parallel railway once the major artery for goods and people entering and leaving the city. But the development of the automobile in the 20th century signalled a more chaotic growth. The city and

the car began a symbiotic relationship, with Adelaide becoming a key site for domestic vehicle production. The car removed the reliance on the city centre for commerce, as malls and shopping centres sprang up in suburban locations.

In common with other urban centres in the West, it was the communities around the emerging electronic musical styles of House and Techno that began exploiting the empty industrial buildings of the centre as venues for parties. Gaining popularity in gay and 'ethnic' clubs in the mid-eighties, a small, mixed and vibrant crowd of enthusiasts built an inner-city scene around electronic music (Poe 2018). The coming of Acid House[189] and the 'Second Summer of Love'[190] as global musical phenomena, the mediation of supportive record stores, initially positive reports in the media (Adamek 2016: 239) and a plethora of potential venues, allowed this electronic music culture to develop rapidly (ibid. 228). When I visited Adelaide in early 1992, Adelaide already had a busy electronic music scene. A weekly show on Three D community radio called 'Dreaming Daisies' played a selection of the latest dancefloor tunes breaking internationally and provided the lowdown on deejays and events.

Two events stick out from this brief visit. The first was a warehouse party put on as part of the Adelaide Fringe by a collective called Imagineer (Liguz 2011). I was excited by this happening as it promised to be like similar events I had been to in Sydney and on the beaches of Goa in India. I was not disappointed. Set in an abandoned building in the Lion Arts centre and spread out over several rooms, the event was colourfully decorated, the vibe friendly and alternative and the music excellent. The second event was in a club situated in a tall building in the CBD. It was a Wednesday night, yet there was a small but enthusiastic crowd. The main deejay of the night was HMC, a name I recognised from the radio show. This night sticks in my memory because the music was quite unlike anything I

[189] Acid House was a music style associated with the early 'rave' music era in 1988 that predominantly featured the basslines created by the Roland TB-303 synthesizer.

[190] The 'Second Summer of Love' was the name given to the heyday of the global rave party phenomenon in 1988-1989, an era characterised by large often illegal events and widespread use of the then new party drug, Ecstasy.

have heard before or since. Minimal and occasionally very repetitive, several times HMC just seemed to lock the music on repeat until the whole dancefloor seemed fully entranced, before releasing the groove and moving on.

Back in New South Wales, my partner returned from a record-buying trip with two records by an Adelaide label called Juice Records, the first independent Australian electronic music label. Founded by Damian Donato in 1991, the label was proudly 'Techno', and the fact that it was even in existence led to a feeling of genuine respect for the city. By the time I moved to Adelaide in 2002, the period of rave culture was in its final years. I found a city with a well-developed music infrastructure. Regular and professional street press allowed easy access to what was going on.

Highlighting the mediation of the fourth plane, three acts of legislation began to change the dynamics of Adelaide nightlife. The 2007 smoking ban inside enclosed public places necessitated separate spaces for people to light-up, eroding the unity of the dancefloor. Lock out laws in 2013, introduced in response to alcohol-fuelled violence, curtailed late night entertainment[191]. A relaxation of licensing laws in 2013 impacted on the profitability of many clubs, while simultaneously opening the door to smaller niche venues (Taylor 2015). But as this chapter will show, the biggest impact of all on electronic music culture in this period was the further development of computer technology and broadband Internet. Access to music and music-making became possible for anyone with a laptop and an online connection. Social media stripped the street press of revenue, its algorithms siloing users into homophilic groups, further fragmenting a scene that had long split into a spectrum of micro-genres.

> You know what I think the big problem with electronic music was? It diversified so much that you had these sub-genres that became so specific. If they had all kind of stayed in the one big melting pot, you could get away with anything (Dan, 46).

[191] Documented at length in recent Adelaide music documentary, *Decks and the City*.

Dan's quote exemplifies the attitude felt by the majority of music producers I interviewed that when it came to their own music, genre didn't matter; they would make the music first then put a label on it. Practical considerations of marketing and categorisation were understood, but there was an aversion to being pigeon-holed that I came to associate with the view from the creative coalface. Whether it was a resonance of shared philosophies or not, many people that I felt the pull of friendship with as I moved through Adelaide's venues, were what I subjectively identified by their musical output as 'Techno' producers. Given Adelaide's long association with 'Techno', I decided to use this community as something of a home base from which to explore the role of genre in contemporary music practice.

The genre of 'Techno' was coined by British music executive Neil Rushton for a compilation album *Techno! The New Dance Sound of Detroit* in 1988 (McCutcheon 2007). Writing on the history of early Adelaide dance music culture, Adamek (2018, 2016: 177) described how Adelaide and Detroit had similar cultural histories as centres of vehicle manufacturing, and how this lineage may have contributed to a shared aesthetic and philosophy. Detroit's seminal black producers, such as Juan Atkins, Kevin Saunderson and Derrick May, came from a middle class suburban upbringing. Their music fused an afro-futurist fixation on a liberating integration with technology, together with a dystopian perspective of robots replacing humans as industry in the city shifted to a post-Fordism future (Sicko 2010: 34).

Techno's genesis is a classic music industry case of a bunch of people being in the right place at the right time. The stories of Atkins, Saunderson and May have been retold many times (Reynolds 1998, Brewster & Broughton 2000, Shapiro 2000, Sicko 2010). The impact of these accounts has rippled back and forward in linear time, reifying their influences (Kraftwerk, Synth Pop), and inspiring new generations of producers. The importance of German band Kraftwerk in particular is underlined by their concurrent influence on early Hip Hop (Toop 2000: 98); their music sounded like the future, an aesthetic of bleeps and squiggles, coupled with an infectious groove that reflected the band's love of

American Soul music (Sicko 2010: 10). After chart success as one half of Detroit band, Cybertron, Juan Atkins set up the Metroplex label in 1985, and released *No UFO's* under the title of Model 500. This mixture of sci-fi imagery, machine fetishization and creative self-empowerment were to become Techno's hallmarks (Rubin 2000: 116). The hugely influential group Underground Resistance, featuring 'Mad' Mike Banks, Jeff Mills and Robert Hood, brought an aggression and militancy to the movement in the early nineties, living up to their name with an unwavering anti-commercial ideology.

In the late eighties and early nineties, Techno became a convenient catch-all term for harder electronic dance music with a 4/4 beat. Just as the party and club spaces themselves began to fragment from a unified movement into separate scenes, so 'Techno' became another genre within the broad electronic music umbrella. Techno had a perennial quality, rarely sounding dated and somehow always 'relevant' to whatever the zeitgeist. Perhaps this was because Techno has itself managed to maintain the character of a meta-genre. Now covering everything from modular explorations, 'Intelligent Dance Music', to club 'bangers', it can all lend itself to being 'Techno'. So what is Techno? Derrick May's oft-repeated description of Techno as "George Clinton and Kraftwerk caught in an elevator with only a sequencer to keep them company" (Sicko 2010: 11), points to one possible definition of the genre; 'the machine' is very much part of the equation.

Like their counterparts in Detroit, an attraction to the keyboards and sounds of synth-pop bands such as Depeche Mode initiated a deep attraction for electronic music for the first wave of Adelaide electronic dance music producers. Experiencing the 'Second Summer of Love' and the Acid House phenomenon in 1988, this interest turned into a musical practice for a group of like-minded friends. Pooling resources and know-how, and influenced by the futurism of Alvin Toffler, Juice Records aimed to release their interpretation of the music released from American, British and European labels (Donato 2018). Another example of a group of people in the right place at the right time, the early nineties were a golden era for Adelaide electronica. The music of Juice Records, and HMC's productions in particular, were well received internationally and put Adelaide and Australia onto the

world stage (Adamek 2016: 180). As well as the success of the Juice label, other artists began making and releasing music, getting played on the radio, at parties and club nights. The legacy of this era reverberates today, a source of pride for many.

In support of the social significance of music production, Charlie (42), a producer from this era, told me there were so many people making Techno at the same time that it became the predominant genre in Adelaide for a period. You would hear overseas music at parties from the main act of the night, while the supporting deejays played local music with its own unique sound. Even today, Charlie said everything about the music he makes has a connection to the city. He made a deliberate decision not to seek out the rest of the world musically, concerned that people unavoidably produce what they hear. Instead he tries to write music for the people here, even if his music has sold more internationally. It is this aspect of a 'scene', producing music in and for its reception in a known social milieu that I argue is being overwhelmed by the plethora of influences in the Post-Internet.

Discovering Underground Resistance changed Charlie forever. As with the Detroit producers, his own music was accompanied by a personal philosophy and conceptual base. Back in the nineties, he would think of a show like *Star Trek* when producing and felt this was understood by those at a party. He has followed synthesizer designer Raymond Kurzweil since he was a teenager, and his theories of the Singularity are an enduring influence. Charlie speculated that the biological aspects of technology, the ability to rewrite DNA, might allow us to live much longer and have amazing social consequences. Still producing and playing out his music, Charlie always aimed to begin his sets with "something sci-fi". Although he still considers his music to be Techno, he told me he never sets out to make any specific variety of the genre.

Another producer from this era still active today, Dan (46) shared a similar philosophical outlook, heavily influenced by Alvin Toffler, science fiction and the beliefs espoused by his contemporary Detroit luminaries. He viewed human society as a giant machine, pumping out products. Dan still saw himself as one of Toffler's 'techno rebels', people "cautious of new, powerful technologies and want

to temper the breakneck pace of technological advancement" (Sicko, 2010: 12). Dan deliberately continues to make his music with a punk DIY aesthetic, finding old equipment he could repurpose in his studio. In common with Charlie and all but one of my 17 participants aged 36 and over, Dan made his music primarily on hardware. The love of the machine that inspired the genre's originators continues today. Both Dan and Charlie had investigated making music on the computer but found the interface of mouse and screen unsatisfying after the tactile pleasures of sliders and knobs.

Dan credited seeing Depeche Mode play *Just Can't Get Enough* as the beginning of a life-long attraction for electronic music. The visual attraction of keyboards and leather, the catchy, cool sounds and patterns of the music made a deep impression: "Their music sounded like the future because it was really different". Visiting the local Italian club as a teenager, the popular music of the time was electronic dance music, like Chaka Khan or Madonna, and definitely not rock. His passion for music got him a job in a record shop, collecting records and discovering music, and he got "totally influenced" by the 'Summer of Love'. The next step was buying a sampler and making music. This interest in music led to involvement in a close network of friends, showing again how music can engender its own socialities. Dan recalled how everyone was excited when someone got a new instrument, especially if they could put them together. Like Charlie, he felt that his music was intended to conjure up images and communicate a message, that if technology could communicate without words in the future, music was it. Speaking passionately, he said that Techno did that for him:

> It was like being part of this powerful movement. About social change, and because of the tones, and the sounds, all driven by what people like Underground Resistance talk about. They really gave it a voice. And I bought into that 100% (Dan, 46).

As the music industry changed, Dan saw decadence coming in for electronic music producers, and believed the radical potential of the movement was lost; people saw the possibility for making money and actually became what they were fighting against. He felt the potential for social change of Techno might have changed a few individuals, but it didn't change and progress to a utopian world. In fact,

Dan thought we had been distracted by our technology and there wasn't any real activism. Techno was almost a bit of a façade, and didn't have the power behind it, even though he loved his experience.

Jules (41) was another producer still active who fondly remembered the heyday of Adelaide's Techno 'golden age' in the early nineties. He felt clubbing culture had changed a lot from the rave scene days, before mobile phones, illegal locations, when it was a subculture. These days he said festival culture was the popular culture and kids were "missing the point of why we did it". He laughingly referred to his attitude as on a par with a hippy from the Woodstock generation, complaining about modern rock, saying how it wasn't the same as in my day. Jules didn't want the Techno scene to be finished and saw himself as an elder who could guide youngsters in the production process, which he did at software user group nights.

Jules blamed lock out laws for changing the culture. When he was raving, he would go out at 11pm and party until the sun came up. Now it didn't happen and there were "cops everywhere". In a further example of fourth plane mediation, he said Adelaide's new small-venue licenses had really killed the club scene. People who may have gone to a club were now hanging out with friends in a 'pub', which was why things like *Sidechain* were happening. Years ago, no one would have been interested in going out on a Thursday night to a small pub with a small sound, instead going to a club with a big PA and "get off their face". He didn't think drug culture was as prevalent, (a claim supported by another participant, deejay and active promoter[192]), that people were "all vegan, looking after themselves, working out, more health conscious", so the culture going out is different, less underground, and more mainstream. He felt the motivations for going out had changed, the culture had changed, laws had changed, and the police were a lot stricter about what you could get away with. Adamek (2019) also

[192] IV01 26/7/16, "There's plenty of people who aren't on drugs which come to parties…if you're at a festival with 15,000 people, I'd say maybe 2,500 are taking drugs" (Gil 30).

pointed out that clubbing in the early nineties was often the only way to hear new music and overcome a sense of "cultural isolation"[193], not experienced in the same way by the Post-Internet generation.

Charlie, Dan and Jules all had a lot of history and investment in Adelaide the place, sharing a similar philosophical outlook and interest in sci-fi, all of which appeared strongly linked to the formative imprint of the social milieu and wider zeitgeist of their youth. Significant as this time was in their lives, however, it wasn't the only narrative in town. Rashad (50), a deejay and producer, was out and about at the same time, going to the same clubs and shopping in the same record stores. It seemed the computer revolution was the wave that Rashad rode in on. He got a Commodore 64 at the age of 20 and became interested in programming, saying that in the eighties, "everyone" was getting into electronic data processing as a career pathway. Rashad was "wearing a suit in IT for a bank" when he started to buy records in the Central Station Record shop in Rundle Mall. He went on to put on 'Jungle'[194] parties and run clubs, before moving more towards production around the year 2000. He still performed as a deejay in a variety of club situations, fringe shows and galleries, different things so he wasn't pigeonholed, summarising that: "If you are a creative person, you don't want to have to make the same things all your life".

Rashad had moved with the times, playing a succession of musical styles, many of which fell under the meta-title of 'Bass'[195] music. Like the Techno producers, Charlie, Dan and Jules, all the music Rashad now played was heavily influenced by what he was listening to in his youth, citing a genre like Footwork with its fast tempo as being "very Jungle" – a new sound with the old sound that he loved. According to Rashad, what you feel defined what you make. He liked to explore and find new stuff and

[193] Email conversation, 10/03/2019.

[194] Jungle was early rave music, built around fast breakbeats, that was later to morph into Drum 'n' Bass.

[195] 'Bass' music is the umbrella term for a constellation of post-2000s underground club music from the UK including genres like dubstep, grime and drum 'n' bass.

had gone from Jungle to Drum 'n' Bass, Speed Garage[196], Dubstep, Grime[197], Footwork and now Wave[198]. He explained to me how the styles from other parts of the world were influencing each other, again referencing the UK as he did often in the interview. It seemed that this cultural heritage was significant to his later musical path, which may help to explain the different directions that Charlie, Dan and Jules had taken. Rashad was from a UK background and said that television shows like *Dr Who* and *Blake's 7* were very influential as he grew up, and he loved the "black sense of humour...Britain and Australia will always be linked".

Rashad was well aware that he was "not the average 50 year old" and different to other peers who had settled down. His attitude to genre was that "humans like to quantify things" in order to understand or interact with something; genres would always be contentious between artists and producers and it was hard not to get identified:

> Music evolves so I guess you have to evolve with it. It's like an actor that is always the baddie; you can't be the bad guy all your life, you need to do other roles to be experienced and have some variety (Rashad, 50).

The example of these four now middle-aged men highlights how music's fourth plane of social mediation, the influence of wider cultural processes and institutions, has had a lasting impact on the electronic music they now produced. It also shows how their sense of authenticity was deeply connected to the formative imprints of shared social experience, their intensity sharpened by a musical scarcity that no longer existed in Post-Internet abundance.

[196] Speed Garage, characterised by syncopated ('2-Step') drum patterns and prominent basslines, and came into vogue in the early 2000s, initially in the UK.

[197] UK 'Hip Hop' style, developing in London in the early 2000s, often in the form of instrumental tracks that can be 'rapped' over on the fly. Musically, the music can be innovative and the genre is still popular.

[198] Downtempo 'Trap' music.

Techno: Genre, Meta-Genre and Post-Genre

> I don't really sit down and say I am going to make Techno, but it is just what I do. I can't help it. I just like to make four on the floor with some trippy pattern over the top. And I'm not sick of doing that yet (Rolando, 31).

The following music-makers in this chapter section were too young to participate in Techno's 'golden age' in Adelaide. However, their stories share similar accounts of epiphanies, music hardware and 'technotopian' outlooks. The discursive mythologies that grew up around the musical style still circulate today. In an example of the genre's enduring legacy in the city, the first 'Adelaide Techno Convention' took place in February 2016, held in the Adelaide Rowing Club as part of the Fringe Festival[199]. The Club room where the event took place was on the first floor above the boat sheds, and once inside, it looked like a bit of Federation Adelaide that had been locked in a time warp since the 1950s; wood panelling, brass and memorabilia on the walls, trophy cabinets full of mottled silver, and lots of black and white photos of white men in suits with brylcreamed hair. As soon as I walked into the space, I looked up at the rafters and immediately thought how good they would be to hang lights on, and that it may be very tempting to climb onto them.

Two people were setting up the video projections, a difficult job as they had to affix a wide geometric design surface and then get the projection to match. But once they had, it looked really effective, particularly later when it got dark. The central panel had the names of the event, and the deejays/performers. At other times, there was a mixture of 'eye candy' visuals, mostly sourced from the likes of YouTube and Vimeo. When Adelaide's Techno stalwarts, The Carter Brothers got on the decks later, they started straight into banging Techno, playing music I associated with peak-hour party

[199] EV39, 25/02/2017.

times. More and more people were arriving. By the time Nightime Drama did their set of floor-friendly, smoothly mixed Techno, there were beginning to be some people dancing. Unlike the photos on the wall, the crowd in the Rowing Club now reflected a more diverse range of ages and genders. The promoter had managed the drip feed hype on social media very well, and he had a core clique of very friendly, sociable and enthusiastic dancers. They were a focus for other people and an inspiration to have fun.



Fig 13: One & One, live at the *Adelaide Techno Convention*. Photo: Justin Coppock.

It was coming to the time for One & One to play. On the Function One sound system, their bullet beats and modular-shaped leads sounded powerful. Solid and functional, with little in the way of melody, their set was all about the repetitive groove. The music felt like it jacked into a communal wavelength of shared emotional experience. Most of the crowd headed onto the dance floor, arms were razed, whistles and shouts of encouragement filled the air. The dance floor kept its momentum after the band finished playing. By the time the last deejay HMC got on, the sound and energy of the

music was pumping. The undisputed godfather of Adelaide Techno, his set was very much 'classic' Techno, with good use of effects, particularly some kind of granular delay. It featured the big build ups and drops that are the hallmark of many headliner deejays. I never made it near the front, as it was too crowded there to dance in comfort. The crowd was loving it, and sure enough, about 1am, a couple got up on to the rafters to dance. They would have been up there for two minutes before two security guards came in to get them down.



Fig 14. Enthusiasm taking over at the *Adelaide Techno Convention*. Photo: Justin Coppock.

One of the performers at the 'Techno Convention', Rolando (31), was somebody with absolutely no doubt about what genre he was making. He described hearing Techno for the first time as an epiphany, saying "that was it". The mix of the atmosphere and sounds of the music, hearing them all as one, was something completely different, and a new experience. Coming from a drumming background, the

percussive grooves of the genre suited him, as did the subtle shifts in the music, "the filters opening", and it all just seemed to resonate with him "overnight". He claimed to rarely listen to other music and was uninterested in the latest turns in the market, describing his own music as "quite heavy", but that people seemed to like it. Instead, his music style was more dictated by the next timeslot he would be playing in. While he claimed to share only a tenth of the music he made, being quite happy just playing for himself for a very long time, he admitted that playing out and seeing the reaction to his music was "awesome". Music's social mediation – the knowledge that his music was going to get played out, meant it became more about the interaction with people and its ability to work as a functional inspiration.

Rolando had an interesting take on contemporary music, saying that the accessibility of music making technology and tutorials online had led to much music sounding too good!

> I think for me being Techno focussed, the level of production has gone too far for my tastes. So there are so many, super-cool, good producers out there, everything is so crisp and clean, and the lows are so low and clear…it is too far for me, I like things which are dirty and rough (Rolando, 31).

He recalled listening to some classic mixes, like Jeff Mills[200] using vinyl, where records would go out of time. He said you didn't get this today as everything was all so synched and perfect, and thought Techno had lost a bit of its edge. Unsurprisingly, faced with the micro-editing potential of the DAW, Rolando used hardware predominantly, trying to use as little input from the computer as possible and just using his laptop as a recording device with very little processing afterwards. His music-making practice was all about getting his machines to work together. They all sequenced themselves, and he just needed a MIDI clock to keep everything in time. That way he didn't get lost in pages of sequencing in one machine, leaving it more open to improvisation as you could leave something running for however long you wanted it to do its own thing.

[200] Jeff Mills, a Techno music pioneer from Detroit and part of the influential Underground Resistance collective.

Rolando wrote music in a way that was very loosely track based, with parts that kept continuing, everything always leading into something else. Working in this way, he said music was all about relationships with the machines he really gelled with. This extended to his music writing. Often he found starting something new with an idea in his head meant he could get too caught up with trying to replicate the idea, and not just letting the machines do what they do best. Music creation was therefore more of a co-creation. He definitely considered the machines dictated the way he used them via their interfaces and set-ups, a big part of what he did with them. However, he downplayed any science-fiction interpretation of this relationship, citing his own lack of technological skills. Even though he was making technology-based music, he tried to avoid the technical side of it. Yet he also acknowledged how much of our lives were now based around technology.

Rolando's enthusiasm for hardware extended to many in the 26-35 year age group, those like Rolando too young to experience the first wave of Techno in the city. One of the most prolific producers I encountered was Gary (32), who got around the limitations of genre by the simple solution of adopting multiple monikers for each one. The influence of music's second plane of mediation, the sociality of the Adelaide music scene, had been significant and formative. He learnt about making electronic music in a share house with friends who all made music together. Clubs like Cuckoo[201], the Techno parties, the community and the people in the city all had a big impact on his music. Because of the city's small size, he said you could connect and know people; it was important in a place like Adelaide for people to make their own scene, be part of a scene, and make the scene that they wanted to see.

This was a perspective shared by another producer, Audacious Space Monkey (28), who stressed the social aspect to music which he felt should be about sharing and feeding off each other. Although

[201] Well-known Adelaide club now closed.

he spent a lot of time in a studio by himself, it had allowed him to get to a point where he was comfortable to share everything he made with others, his way of saying hello:

> When you hear someone's music, you almost feel like you get to know them a little bit. It cuts out the bullshit of knowing who that person is (Audacious Space Monkey, 28).

As his choice of moniker suggests and like many of the first generation of Techno producers before him, Audacious Space Monkey was fully excited about a science fiction future with technology. He told me he couldn't wait until he could "create an experience and upload that to someone, like an instant trip." Sometimes he said it didn't feel like he was creating the music, it was like he was a vessel for a "higher energy". When I asked whether our symbiotic relation with technology could be leading us into some post-human identity, he came back by asking for a definition of what made someone human. Where did the human and machine end and start, now that machines were producing new parts of ourselves?

Like Rolando, he considered it was how people interacted with the machines that was important. Music for listening and dancing was where the human element was crucial; it was all about the subtleties that engaged the listener emotionally. When I suggested that he seemed to make music that fit into the Techno genre, whereas many tried to escape this kind of categorisation, he said this was just what people heard. He loved making ambient music, jamming away on a keyboard, particularly if he felt a bit lost or sad. But what people heard was the Techno, because that was where he considered his own style was different. He liked Techno because it was so broad and called anything 'Techno' that was made with technology. Genre, he thought, was about people trying "to own something" and created too much exclusion.

A similarly amorphous perception of Techno was felt by Glyph (32). I first encountered him playing a completely improvised set live[202] on a limited hardware set-up, in a style that came across as a hybrid

[202] EV76, 21/09/2017.

of industrial and hardcore Techno. However, he was also fascinated by the possibilities of coding and made sonic experiments using open-source coding platforms. He traced this aesthetic back to discovering bands as a teenager like Autechre, and their generative-based sound which really resonated with him, claiming he saw their music as abstract and mathematically precise. He also loved the music of early video games like *Donkey Kong*[203] and *Shadow of the Beast*[204] where the music was a soundtrack to something you were interacting with, so you were involved in the composition in a way.

Glyph believed that what was so important about music and art was that they showed things we could not comprehend but were innate in our nature. In an interesting take on social mediation, he believed everyone was operating on their own time cycle and exchanged experiences and information more efficiently when they synchronised; everyone had a natural "psychic gravity" as he claimed to be finding with his own polyphasic music experiments. Here, varying sound cycles gravitated over time into pleasing sequences, the notes "communicated with each other" and Glyph felt this quality of resonance was inherent in humans but we hadn't figured it out yet. This generative 'agency' of music reminded me of the human-like properties of the musical agents that Minimax referred to in Chapter 3. Continuing a quasi-spiritual purpose to Techno as articulated by Dan and Charlie, Glyph believed his music was building a reminder of what we (as humans) were; music was a spiritual quest and "Trojan Horse" for life changing philosophies.

A similarly optimistic perspective on Techno was taken up by Simon (31), who discovered the local scene at the "malleable" age of 18, and "never stopped". For Simon it was the "soul" of the local Techno that appealed; "it wants to pull you into the dance floor, so that's how I got into it". He rhapsodised about the TB-303, Roland's classic 'acid' machine, and how he "fell in love with the sound from the beginning" even though none of his friends liked it. The sound did something for him, the

[203] *Donkey Kong* is a popular video game by Nintendo that first appeared in 1981.

[204] *Shadow of the Beast* is a platform game published by Psygnosis in 1989, with a score by David Whitakker.

versatility of which could be both “really druggy, but also super groovy”. Although he missed out on the ‘golden age’ of Adelaide Techno, he was proud that there were people from the city that had been able to give music that groove.

Simon had a very broad view of what constituted the genre and acknowledged that what he listened to may not be what others listened to yet they could all call it Techno. He accepted an association of the music with the future, but clarified that that Techno didn’t have to sound brand new all the time:

> It can still be old sounds, and there is a lot of that coming through now, old drum machines and synths. It sounds old, but it is still about the future. So if you look at it like that, it doesn’t need a proper definition (Simon, 31).

A real ‘face’ on the scene, Simon said that in certain circles, what was on trend now was quite hard, ‘main room’ Techno, but that things always came around. In the early 2000s he said it was all “weird and groovy, mixed, Latino”, but now things were “slower and harder”. Like Rashad, he said music kept evolving and changing, influences came back, and he believed things would get “melodic and weird again”. He considered it “cool” that there were so many elements and influences in what was known as the one genre.

Giving some temporal perspective on Stalder’s views on *referentiality*, the collective negotiation of meaning through referential processes he saw as a fundamental “production-aesthetic model” in the contemporary ‘digital condition’ (2018: 59), Simon believed music and fashion, which he said had “always gone together”, were continually looking back and putting elements from the past into a future context**.** In the Internet era, Simon could see that all these obscure tracks could resurface through algorithmic suggestion, not just music but memories; that whatever you thought about you could find online:

> Humanity will go in the direction of what we have seen the future to be like in movies and books, because people write about those things and imagine them because it’s an ideal…I think humanity will become

> entwined, not dependent, it will become one with technology. But it is still likely to be raw, gritty and real…people are always going to be people (Simon, 31).

Simon's views on a merging with technology resonate with others I spoke with across the age range[205], by no means limited to the Techno genre. However, it is easy to identify broad psychological and aesthetic parallels with others making the Techno genre of music: an interest in futuristic, science-fiction philosophies, predominantly machine-based music creation, and a separation from aspirations and expectations of mainstream, if not 'underground' success. The influence of the Internet seems to reinforce these tendencies; a source for gear reviews, new tunes and old memories. Although a 'broad church', Techno reflects the intrinsically libertarian and open-minded philosophies represented in Chapter Two, with the hardware musical processes related to Chapter Four. It is in many ways a classic musical subculture, male-dominated, recognisable and resilient; the kind of musical identity that brands you for life.

Club Sync: Styles Collision

> A revolution is brewing. A revolution based not on technical innovations but aesthetic growth. As people from all different cultures, experiences and aesthetics gain access to music technology, the field will be compelled to accept the influences of music outside the Western canon" (Schedel 2007: 31).

This chapter section signals where I think club music is heading, heavily connected to online identities, influences and inspirations. *Club Sync* events are socially local and tight-knit but connected to other like-minded collectives and artists through a mix of face-to-face encounters and social media. Aesthetically and philosophically, the music and ideology of the club is rhizomatic and affinity-based,

[205] Including IV14 Korg, IV15, IV17 Anton, IV18 Chad, IV28 Thijs, Val, IV37 Jordan, IV40 Nathan, IV59 Charlie, IV60 Glyph.

featuring disparate musical sources from across the world accessed over the Internet, espousing and creating an inclusive and tolerant space. In this aspect, it continues a tradition of the early days of rave culture with its ethos of Peace Love Unity Respect, updated to emphasise a focus on supporting non-binary identities. It was a space that closely fit with Waugh's notion of authenticity in the Post-Internet (2015: 88); a place where the aesthetics and identity politics reflected those who shared a symbiotic relationship with digital technologies.

When it came to the 25 and under age group, the trail of Techno producers appeared to run cold and I encountered no producers in this age range identifying themselves as producing the genre. Instead it was my own subjective perspective that saw a Techno influence in the music of three of my younger participants[206]. Andy, the seasoned producer from Chapter 4 who described his own music as more about influences than genre, seemed an appropriate way to consider musical expression for this age group. For these producers, the epiphanies and sociality of the dancefloor, or the futuristic philosophies of musical idols were not the lead in to electronic music practice. Instead, for this generation of digital natives, it was the influence of the Internet, especially YouTube, that had ignited a passion, providing not only the inspiration of a world of music, but the knowledge of how to make it.

One event in my fieldwork where these developments seemed to crystallise was at *Club Sync*. The first event I attended[207] was on a Wednesday night, and as I neared the alley down to the club, two young people walked on ahead. By the time I got to the door, they had paid and been stamped. They looked early twenties, excited, wearing heavy overcoats. I paid the bleached blond club kid on the door, got stamped and walked through the deserted beer garden and down the stairs.

There were about 30-40 people in the club, all locked onto the music of deejay Bby Angel. This in itself could be unusual at this venue. Even on a Saturday, many people liked to hang out outside,

[206] IV29 Alex, IV52 Jane, IV56 Tim.

[207] EV58, 7/06/2017.

chatting and smoking, and the energy of the dancefloor got reduced. I looked around and people were grooving and into the music. Down the front, right in front of the deejay, someone was looking back into the crowd rather than at the stage, limbs flailing confidently like a conductor playing and leading the dancers.

The rest of the crowd looked young, of mixed genders and ethnicities, all seeming to be into the music, many still wearing their coats and jackets as it was a bit cold but beginning to shed them like skins as the atmosphere heated up. Ten minutes was a bit short to gauge Bby Angel's set. The music was quite thick with reverb, smashing Foley-type samples mixed in with Hip Hop. It wasn't particularly easy to dance to, but it had the crowd going. I noticed the next act, Jikuroux, appear at the side of the stage, and their swap-over was smooth and aesthetically seamless. At the last minute, the original headliner of the night, UK act Gaika, had missed their flight and couldn't perform. This made Sydney's Jikuroux the main act. I had one of her tracks from the *Club Sync* mixtape, released over the Internet the previous year, and liked it. Apparently she was off to Berlin after the tour and would be playing the most famous club in the world - Berghain.

Jikuroux gradually built the vibe up, playing more thick atmospheric music, mixing up Hip Hop rhymes and Trap beats, almost commercial-sounding in places. There was one moment in her set, I recorded it on my phone, when she just hit it. I noticed another participant, Travis, up the front by the speaker, the Club Sync crew in the centre, flailing and grooving about, and the rest of the crowd had taken off their jackets and daytime inhibitions and appeared to be really getting into the music. Seeming to sense the moment, Jikuroux, otherwise coming across as an impervious ice-queen, raised her hands above her head and punched the air above her like she had just scored a winning goal.

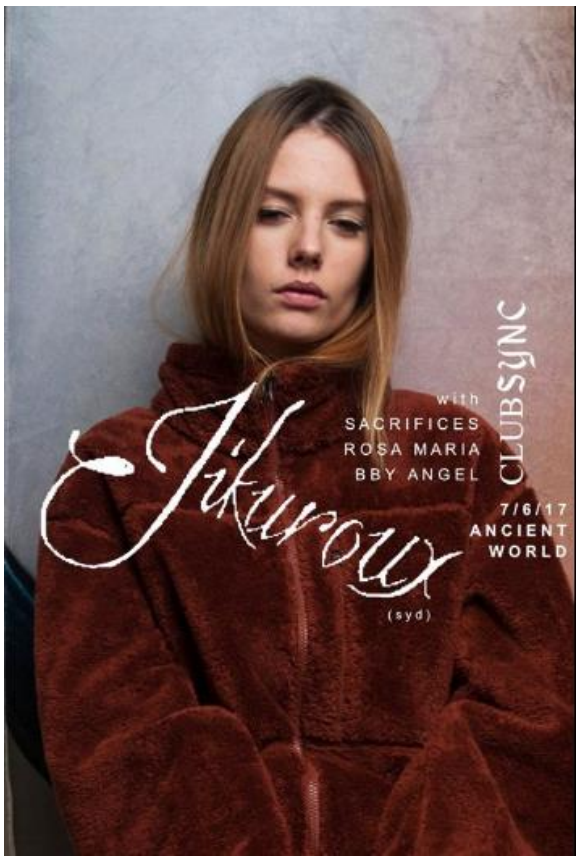


Fig 15. Poster for *Club Sync*, 7/06/2017.

That was the high point of her set. (I tried to Shazam these tracks the next day from the recording but they couldn't be identified). I checked out the crowd some more, as with jackets off, their true club colours were plain to see. Mostly young and trendy, but not in a conventional Hindley St way; more op shop than franchise couture. There was someone next to me who had what looked like flared track suit bottoms, only cut off a third of the way up the calf, long black socks, chunky shoes, a tight red t-shirt with cut off sleeves. A thick lock of hair hung down lower than the rest of a bowl haircut, and I was reminded of a Northern Soul[208] fan from Wigan Casino back in the 1970s, only freakier.

Another person in front of me, wearing what almost looked like a school uniform but wasn't, white polo shirt, dark knee length skirt, who never left the dance floor. Someone else I had briefly noticed

[208] Northern Soul was music and dancing subculture emerging in the UK in the late-1960s, built around American soul records. The scene has been described as influential pre-cursor to wider club culture (Brewster & Broughton 1999: 85).

sitting at a table; tight black jeans, scruffy trainers, track suit top that perfectly accentuated a scruffy bleached haircut and thick glasses. Another walked through the crowd and into the middle of the dancefloor, wearing what looked like a suit, but made of tracksuit material in an off-white colour. I noticed one of the couple who had walked into the club just before me when I entered, wearing a tight slinky black lycra-like dress, classy club wear, and perfect for dancing. I went back up for another toilet stop and the whole of the beer garden was deserted. Everyone was downstairs.

At about 11.20, it was the turn of Sacrifices to play, bringing in some banging beats that were the most up-tempo music all night. This was a good move, and the dancefloor responded enthusiastically. The first few tracks were in this vein, completely unidentifiable dance music, not House, Techno, or anything. Then the music broke right down into some really ambient dark 'thick' club music. I recognised a couple of Sacrifices' tracks in the mix, before the beats burst through again, in a kind of Trap/R 'n' B/Hip Hop style. I noticed that the crowd, as well as myself, seemed to enjoy this break from the beats, swaying to the music, waiting for the music to build up, before jumping around again when the beats came back. Sacrifices brought the music to a close and there was a big round of applause. It was just after midnight.

Travis (23), a Club Sync regular and occasional performer summed up the club's musical style succinctly at our interview:

> What they were playing wasn't really stuff that you would expect most Adelaide deejays or electronic music bands to actually play out in a club environment…because of the way they connected electronic music and modern pop and R 'n' B. So say for example, they would play a Lotic track, and the next track would be a Rhianna track, and after that you would have a little obscure edit of a Brazilian Baile Funk[209] tune that you would only find on SoundCloud, and then the next track after that would be a SoundCloud rapper that's on the verge of blowing up (Travis, 23).

[209] Baile Funk refers to the parties and venues where this Brazilian electronic 'funk carioca' music is played.

The club's musical style reminded me of a music selection algorithm that seemed to pick obscure but always interesting club music from the far corners of the Internet. It was an aesthetic that didn't stop at the club and extended to tangible promotion in the form of poster 'paste-ups'. They also ventured into merchandise with club t-shirts, modelled by their friends, and ran an occasional music label that put out music by affiliated club artists they knew. On top of all that, they had helped to bring out international touring acts like Lotic, which is where I first heard about the club after seeing a poster:



Fig 16. Poster for *Club Sync*, featuring Lotic. Photo: Paul Chambers.

Another aspect of the Club was an emphasis on tolerance and inclusivity that I felt again was in 'sync' with online communities around the artists that got played at the club. A participant, Jane (19), told me she found out about the club on Bandcamp by following the tags identifying artists from Adelaide, loved the club's music and contacted them to see if it would be "safe" to attend. They reassured her, and she told me it was only in that year that she had felt the confidence to go out to shows for the first time, overcoming her social anxiety.

The crew from *Club Sync* ended up playing at 2017's Unsound Festival in Adelaide and put on the Festival's unofficial after party at Ancient World[210]. Somewhat ironically for this chapter, I found Sacrifices' set at this event to contain a lot of quite banging Techno. The other resident music makers, Bby Angel and Rosa Maria, however, continued in the same genre-fluid vein as during my fieldwork, colliding and juxtaposing influences from across the Internet, the only thing predictable about their aesthetic being its intrinsic mutability.

Club Sync represented Born's four planes of music's social mediation in microcosm; much of the music, produced on Ableton, facilitated the melding together of stylistic elements that acted as a metaphor for the socialities the club itself produced. This mixture of niche styles taken from around the world attracted a cohort of young people that were themselves being exposed to different music on the Internet, the club a space where they could actually listen and talk about much of the music that was so obscure[211]. The stated aims of inclusivity ensured the club functioned as a safe space for the expression of non-normative identities around gender and sexuality, while the counter-hegemonic corners of the online world represented the inspiration and sense of shared experience for such musical, personal and collective subjectivities to be explored.

Club Sync was where the Post-Internet subjectivities reported in Chapter One, and the production processes of Chapter Three, came together in the musical and social assemblages of the club environment. The event represented a microcosm of Stalder's "digital condition" (2016: vii), where the forms of *referentiality*, *communality* and *algorithmicity* resulted in a musical culture inherently mutable and magnificently mongrel.

[210] Ancient World is a small (capacity 100) 'underground' club behind Hindley Street in the Adelaide CBD.

[211] As related by one of my participants, IV24.

Conclusion

> It's 21st century technology. You could never do that before. Now you can…it's deliberatively taking stuff that is supposed to be disharmonious and weird, and making it harmonious and aesthetically similar (Wallace, 23).

It is interesting to compare and contrast the examples of Techno and *Club Sync,* in the light of the categories of genre and scene. Techno music emerged near the dawn of processor-driven democratization, when new digital instruments began replacing analogue machines that even then were often not being exploited to their full sonic potential. The famous Roland 303 'acid machine', so beloved of Techno producers, was a discarded practice machine. A fetishisation with hardware continues to this day, manifested to some degree by every Techno producer I spoke with in this research project. Although frequently rationalized by the tactile pleasures of sonic intimacy afforded by these machines, it is hard to discount the socialized and historicised discursive accounts that circulate around their use. Reports of Techno producers continue to celebrate the co-creative exploratory processes of human-machine music.

Musical hardware, outside of deejay equipment, is conspicuous by its absence at *Club Sync*. If Techno's progressive evolutionist ideologies hark to IRCAM's modernist agenda as documented by Born (1999: 40-42), then *Club Sync* celebrates the triumph of postmodernism, spurred on by the Internet's availability of infinite inspiration. Non-Western and popular music influences are beyond mere aesthetic flavor or cultural appropriation at this event, but intrinsically bound up in the musical DNA. Trying to decode all the myriad elements back to essentialised source materials is all but impossible in this complexity.

As with the example of *Sidechain* in Chapter 5, it is possible to see these developments as part of a generational shift, with music still the focus that engenders imagined communities on the second

plane. Those allied to the Techno scene adhere more closely to 'classic' subcultural definitions of the club experience around nostalgic associations of radical sociality, heavily mediated by the communal experiences and ritual of the all-night dancefloor. The power of texts by Toffler (1981) and Kurzweil (2005), charismatic figures such as the Detroit band Underground Resistance and the radical philosophies and rhetoric of a utopian future still resonate. For those at *Club Sync*, growing up without this communal *habitus*, inspirations and socialities facilitated through Internet connection manifest at the club in real time, founded on the shared desire to explore musical affiliation. But like the event itself, the fragmented and mutable nature of the music seems unlikely to cohere into any kind of broader movement that could crystallize into a recognisable genre or subculture.

My experience in both clubbing milieus attest to music's ability on the third plane to be traversed by wider social stratifications around class, ethnicity, gender and sexuality, although there remains a male bias at Techno events, particularly manifested in those performing. A (publicly unspoken) performer programming to ensure more even gender representation occurs at the *Electronic Music Night*, is obfuscated in the heterogeneity of *Sidechain's* assortment of musical styles and is central to *Club Sync*'s ideology as a diversity-celebrating event. One again, it is hard to discount a generational change as contemporary issues of even representation come increasingly to the fore in the cultural and social conditions that stimulate the musical subject.

If Techno was born in the dawn of the digital, *Club Sync* is underground clubbing for the Post-Internet. The contemporary networked imagination leads to social practices that celebrate and reflect the affordances of its reality. The infinite creative choices of the Ableton DAW, the hive mind of global producers sharing tips, tricks, samples and production processes, the unrestricted palette of planetary musical styles to absorb and plunder connects to a spectrum of personal identities to explore.

Conclusion

> The new quickly ages and the old is rediscovered as new. Network time is not conducive to imagining a collective identity, more envisioning a series of individuals that respond in their own time to singular yet connected events (Chun 2016: 296).

Once I began my fieldwork it quickly became obvious that the Internet was implicated in every aspect of electronic music practice in Adelaide. The two poles of this experience were those 'rolling' with it, taking the opportunities presented, forging musical and personal identities and careers, and those reacting to its intrusiveness and implications for social and environmental well-being. Predominantly, but by no means exclusively, these poles were aligned to age. The theme was so big that the problem became finding a thesis structure that could deal with the subject in a sufficiently detailed manner that did justice to its significance, while also presenting an anthropological portrait of a social milieu in all its rich complexity. It also required a theory to hang it all on, one that could account for the consequences of the Post-Internet condition for those engaged in the creative practice of music.

Taking music, as I do throughout this thesis, as "sound that has been organised" (Cary 2007), it remains at our current stage of technological development firmly anthropological. Even the most advanced generative software has been coded by someone in the design process, and its results appraised by many more. And if music is human, my research continually underlined that it was inherently social. There was always an intended audience. Born's focus on music's four planes of social mediation (2011: 376) highlighted its capacity to generate its own socialities of performance and experience, while showing how it could be shaped and conditioned by social, institutional and infrastructural contexts.

Applying Born's theory to Adelaide electronic music makers, all four planes of social mediation were implicated and entwined. In the first plane, Born was referring primarily to the structures of performance, the orchestra and band. Within electronic music, these social structures are considerably less frequent. Music continues to be characterised by solo composition, a collaboration with machines rather than human beings. Long hours are spent alone in a small studio room or bedroom. Yet even this is irresistibly social as people share samples, patches, music, pictures of their gear and even collaborate with others on projects thanks to the affordances of Internet infrastructures. The difficulties in making a living from selling music, in an era of streaming services and few labels willing to invest, make online avenues of self-presentation all the more essential.

In the second plane, music continues to animate imagined communities, but the sheer number of options to "hitch your wagon to" as one participant told me[212], mean smaller scenes, partial allegiance and less distinctive symbolic identifiers. Community remains important, especially when grounded in face-to-face connection, although this is less bound to genre and more to a broader sense of solidarity, mutual support and affiliation. Here, the sheer multiplicity of options available online has meant that in Adelaide, 'scenes', to use Straw's (1991) concept of music-orientated sociality, are invariably small, and dominated around the friendship networks of social media on which they depend for promotion and association. Both the clubs, regular events and festivals where these scenes congregate are largely reliant on the Internet for keeping connected. People share their music on platforms like SoundCloud, Spotify and Twitter, the feedback in terms of comments, likes and plays like manna from heaven. People search for news and reviews on music and gear. Cottage industries and corporations display their wares. Forums share tips and tricks. Tutorials for almost everything guide people in music creation.

In music's third plane of social mediation, music traverses the stratifications of demography that have often separated people in the past. Once again, the Internet has been important in reducing

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these barriers, creating a space accessible to anyone with an Internet connection that isn't segregated behind a firewall. Much modern music reveals the cosmopolitan sources of its inspiration, sample-heavy style collisions from here and everywhere. My research shows how barriers of knowledge, money, gender, sexuality, ethnicity and distance are negotiated by musical socialities built around production processes, personal politics and issues of identity. In general, those most 'successful' in my research in terms of career path, were adept at adjusting to these affordances, or able to utilise those that were. Concurrently, however, the Internet constructs barriers through platform restrictions on advertising events; for those without the financial capability to boost social media posts, information remains restricted to known networks. For all its democratic affordances, the cost of hardware, such as phones and laptops and particularly for modular equipment, remains significant.

In my thesis, the Internet functions on the fourth pane of social mediation, as an infrastructural means for knowledge, influence and information transfer. Non-human entities like the algorithms of YouTube and Facebook have become a crucial part of the social mediation of aesthetic taste and influence, amalgamating harvested user information to produce more data in iterative feedback responses. The Internet is capable of generating infinite novelty, while siloing limited product for intensive promotion for the few companies who can afford to market most effectively. Meso-level institutions around musical pedagogy, patronage and production remain relevant, while radio and the major music labels retain their gatekeeping role amidst a deluge of 'product'. Social media is vital for establishing a wider profile, and local venues and licensing laws can make or break an industry.

Throughout the thesis, I use the Post-Internet, or what Stalder called the "digital condition" (2018: 5) as the default contextual backdrop to modern music practice. Its centrality in an urban Western capitalist milieu such as Adelaide brings it into the foreground of any exploration of contemporary cultural forms. For Stalder, three forms in particular shape the cultural environment as a whole; *referentiality*, *communality*, and *algorithmicity* (discussed in detail in Chapter 3). All of these forms play out in a practice such as electronic music, whose popularity increasingly reflects and requires an

active participation in these processes in order to realize individual and collective interests with the resources available. As Stalder concludes (ibid.7), these conditions are open-ended, but could end up in more authoritarian or participatory outcomes.

The potential of digital music creation technology and the Internet for infinite creative options was clearly being utilised by those growing up surrounded by the digital and comfortable with these technologies and online spaces. The affordances Waugh (2017: 233) identified in the Post-Internet condition were leveraged for the generation of both music and subjectivities, a vehicle for discovering, recovering and expressing different sides of personality. The looser constraints of hegemonic social mores online allowed the subject to explore alternative states of being, an environment that offered multiple opportunities for connecting to homophilic others, and in doing so, finding yourself. In contrast with the formative imprints of music on personality, the 'brand' emerged as a successful strategy for transcending identity 'boxes' and the binaries of mainstream and underground. Social media provided an opportunity to extend music practice though strategies of self-promotion, towards multiplatform profiles that evolve over time.

Music practice worked to survive or subvert the more unsettling aspects to our connected modernity, the fears and alienation of late-capitalism, and uncertainties of employment and environmental concerns. Digital audio workstation software and home studios have encouraged individualisation in music practice, often manifesting in personally ethical works, sometimes working against disaffection and perceived injustice, at other times an outlet for dealing with the conditions of life; the music 'studio' an oasis of autonomy and self-realisation. Nevertheless, music remained social, a mediation between producer, intended audience and shared experience.

My thesis confirms information technology as the major sectoral force shaping how music (and culture) are experienced (Hesmondhalgh & Meier, 2018: 1555). The digital audio workstation (DAW) was the most successful superstar in this music/social firmament. Its accessibility, often pirated for free, meant it was potentially available to anyone with a computer and Internet connection. For the

young, it was the primary way of making music, utilising the intuitive affordances of the software interfaces themselves, coupled with user-generated online content around music practice. Despite this, meso-educational institutions continued to play a significant role in music pedagogy, providing personal guidance, access to a face-to-face cohort of fellow musicians, as well as evidence of a qualification. Music's social mediation was shown as essential for conceptual direction and the sharing of ideas and encouragement. The example of the DAW shows that while theoretically anyone can now make music, knowledge, technique and social connections remain significant for establishing a performer presence or an audience.

The 'reaction' to the ubiquity of screen-based mediation in the form of music hardware was more expensive but also tactile and hands-on. However, even these developments, such as the popularity of modular synthesis and the 'maker movement', were heavily implicated in Internet channels of sharing information and selling product. Bourdieu's (1984) emphasis on the pursuit of distinction and the structuring influence of habitus, field and capital are challenged by a focus on music's social dimensions, from the micro-relationships with sound, to the macro-communities enabling and popularising practice. In the history and entanglement of personal and collective dispositions, amidst a range of technological possibilities, personal relationships with sound are heavily reliant on processes of social mediation for the knowledge, means and equipment to make music. The motivation for social positioning and display were cognised but seemingly secondary to an abiding and shared interest in musical frequencies and sonic satisfaction.

The enduring importance of social interaction and community was underlined in my research. A regular event like *Sidechain* that showcased a variety of electronic music styles provided an inviting and accessible introduction to live performance, particularly for many laptop musicians. It was able to bring online musical experiences like Vaporwave into a real time setting, and act as a means of grounding or establishing face-to-face human connections. Another regular event, the *Experimental Music Night* was an alternative to what D'Errico (2016) called the 'interface aesthetics' of laptop

technologies, exploring hardware improvisations within a more 'classic' community of practice-orientated music makers. It was the social forum for the 'new folks' music' of the Post-Internet, where people shared their home-made instruments, bespoke equipment or musical innovations in novel combinations. Rather than exhibiting and reflecting a recognisable local sound, the music at both events seemed to incorporate elements and inspirations from the Internet; music from here and everywhere.

These developments were also played out in the more immersive musical milieu of the nightclub. While established subcultural and generic musical identities like Techno and Drum 'n' Bass adapt to the sanctioned affordances of licensed venues, electronic dance music's perennial capacity for fragmenting into a multiplicity of micro-genres has been expanded by the potential for infinite new stylistic combinations to emerge through Internet-enabled inspiration. The example of a sporadic club event like *Club Sync* shows how music can refract online experiences, to an extent 'liberated' from offline hegemonic pressures and demographic separation and manifest them in a real world social setting. The bounded musical socialities of genre and scene on the second and third plane of music's social mediation are challenged by the mutable and multiple identities proliferating online, signaling a generational shift as contemporary issues of even representation and exploring non-normative identities become significant and stimulating cultural and social conditions.

In reaching these conclusions, this thesis has deliberately sought to transcend the boundaries between art and popular music, and the binaries of underground and mainstream. Like Born (2010c: 222) these domains are considered as "distinct but contiguous". My research field comprises a range of musical cultures that are spatially and temporally connected, allowing for comparison and understanding. In its focus on values and beliefs, even delving into hopes and fears about human destiny, the thesis acts like an existential check-up on the contemporary Western mindset, encapsulating the shifting state of being in the world today. The importance of creative practice to health and well-being is supported by the centrality of music practice to my participants' lives. It acts

as a primary way of processing the present, a mediation with technology and society on multiple levels.

Music's multiple mediations of the social manifest music in Adelaide that is both local and global, human and machine-made, organic and hyperreal. Electronic music is postmodern and Post-Internet, a bricolage of sounds and sources flattened into musical texts that are increasingly hard to define in terms of geographical place. Even in the temporal dimension, processes of *referentiality* obfuscate notions of linearity; digital processes remove analogue noise into compressed signals, de-anchoring music from an identification with moments in time. The pleasurable associations of genre that can prolong sensations of musical seduction become flavour enhancers in hybridised crystallisations that reference numerous musical signatures. These are not new in electronic music and have been around at least as long as the invention of the sampler; but the Internet and increasingly powerful digital technologies of production and reproduction have exploded these potentialities through ease of access to stylistic sources and platforms of distribution.

The digital condition has worked to amplify a range of cultural and aesthetic processes that have been gestating since the birth of modernity with the industrial revolution. A separation from the rhythms and conditions of sedentary rural life, the replacement of artisanal production with industrial processes of mass-production, faster means of transportation and communication, an opening up to alternative cultural forms. These transformational processes have always been accompanied by excitement and potential, together with anxiety and uncertainty. Music's therapeutic function in such conditions was reported across the age range, showing that whatever else, you always have a friend in sound and frequencies.

My research data explores the claims of scholars who talk of the modern subject in terms of a relational assemblage where the boundaries of ontological identity are blurring (Haraway 1991, Hayles 1999, Braidotti 2013). The accounts of my participants reveal how successfully we may be at living and thinking with intelligent machines. It is clear that for many, the prospect of generative music and

technological enhancement is something to be looked forward to and seems to suggest the fruitful potential of human-machine symbiosis. However, the emotional engagement with music reveals the importance of very human drives for physical connection and real-life socialisation. The multiple ways that musicians continue to use technology that it wasn't designed for are an enduring source of musical novelty and serves to temper any assertion of technological determinism. Music's affective affordances continue to unite and inspire the humans involved in its production and reception.

APPENDIX I: Interview Participants

Interview Number	Name	Age	Interview Date
IV01	Gil	30	2016_07_26
IV02	Jay	39	2016_08_15
IV03	Kyle	34	2016_09_24
IV04	Ed	40	2016_09_29
IV05	Nix	34	2016_10_05
IV06	Bloodbottler	27	2016_10_06
IV07	Arvo	24	2016_10_12
IV08	Rachel	24	2016_10_13
IV08	Wallace	23	2016_10_13
IV09	Mike	46	2016_10_18
IV10	Dan	46	2016_10_19
IV11	Terry	28	2016_10_26
IV12	Klaus	27	2016_11_01
IV13	Steve	40	2016_11_22
IV14	Korg	21	2016_12_08
IV15	Val	23	2016_12_09
IV16	Ali	22	2016_12_15
IV17	Anton	21	2016_12_15
IV18	Chad	33	2016_12_23
IV19	Miikka	52	2017_01_01
IV20	Red Robin	35	2017_01_23
IV21	Minimax	39	2017_01_24
IV22	Liam	28	2017_03_15
IV23	Miles	21	2017_03_16
IV24	Travis	23	2017_03_16
IV25	Maurizio	26	2017_03_28
IV26	Oren	24	2017_04_07
IV27	Sean	49	2017_04_07

IV28	Thijs	21	2017_04_09
IV 29	Alex	22	2017_04_10
IV29	Nico	22	2017_04_10
IV30	Lars	43	2017_04_13
IV31	Porter	22	2017_04_22
IV32	Roy	18	2017_05_02
IV33	Phil	18	2017_05_06
IV34	Audacious Space Monkey	28	2017_05_09
IV35	Brother Lucid	37	2017_05_11
IV36	Jem	24	2017_05_11
IV37	Jordan	28	2017_06_13
IV38	Amber	24	2017_06_14
IV39	Rashad	50	2017_06_15
IV40	Mario	33	2017_06_19
IV41	Andy	43	2017_06_24
IV42	Gary	34	2017_07_04
IV43	Sacha	25	2017_07_06
IV44	William	23	2017_07_10
IV45	Simon	31	2017_07_18
IV46	Jules	41	2017_07_19
IV47	Julian	24	2017_07_24
IV48	Martin	31	2017_07_26
IV49	Moe	29	2017_07_31
IV50	Paul	28	2017_08_15
IV51	Nathan	32	2017_08_16
IV52	Jane	19	2017_08_19
IV53	John	27	2017_08_24
IV54	Clifford	46	2017_08_29
IV55	Erykah	36	2017_08_24
IV56	Tim	23	2017_09_19
IV57	Rolando	31	2017_09_23

IV58	Peter	22	2017_09_23
IV59	Charlie	42	2017_10_08
IV60	Glyph	32	2018_01_18

APPENDIX 2: Interview Questions

Affect

1. How did you discover electronic music?

2. What was it about the music that attracted you?

3. What was the context for this initial attraction?

Materiality

4. What is your favourite piece of electronic music-making technology? Explain your history and relationship to it?

5. Do you work primarily with hardware or “in the box”?

6. What problems have you encountered in gaining access to the technology for your music practice?

7. If you perform your music live, how does it differ from your studio work?

8. Do you hold a sentimental value to certain objects, personify devices, or even attribute an intelligence or human-like character to them?

9. How important are your technological tools for your creative practices, and could you express yourself without them?

10. Do you make a distinction between analogue and digital technology?

11. How important are your technological tools for your creative practices?

12. Which print or online music magazines do you view and why?

Practice

13. Are you a member of any online producer forums? If so, how important have they been for your music practice?

14. How important is Facebook (& other platforms {Twitter/Instagram}) to your music practice?

15. Do you find social media distracting or disillusioning?

16. How important is music technology to your identity?

17. What are the connections between your musical practices and the rest of everyday life?

18. In what way does your online producer identity reflect your offline reality?

19. In what ways does the music you make conforms to any particular genre?

20. How does the requirement to fulfil multiple musical roles in music production effect your practice?

21. What identity / role do you want to create for yourself with your music practice?

Values

22. How does a sense of “the market” affect the music you produce?

23. How important is the desire “to expand”, whether for money or self-satisfaction?

24. How important is a sense of self-development a part of your music practice?

25. What are the ways that your music relates, consciously or unconsciously, to your prevailing social context? E.g. media portrayals of fantasy and escape, nostalgia and conservatism, fear and paranoia?

26. Do you see your music practice contributes to creating a society more inclusive of difference?

27. How do you think that the music you make becomes an extension of yourself that can affect others?

28. Is there an “other” for you that you work against?

Habitus

29. How did you learn to use different forms of music technology?

30. In what ways are forms of informal music education and peer learning important to your music practice?

31. Has the prevalence of ready-made samples and online tutorials changed your production habits, and if so, how?

32. How aware are you of the latest technological developments, and keen to check them out, for example, new software apps, vocal tuning, or anything like that, that could help your practice?

33. Do you think it is easier now to make electronic music?

34. How do you think that these developments may have affected standards, created a cultural loss and led to generational rifts?

35. What have been and are the major influences on your music making?

36. How is your sense of self being created by the music you make?

37. How important is Adelaide, the place, to your music practice?

Beliefs

38. What are your favourite texts from entertainment, literature and the arts and what influence have these had on your music?

39. What are the trends currently operating in electronic music?

40. Does your practice involve participating in a sense of the modern, or desire for a technology-rich "science fiction" future?

41. Is your music making led by technology, and if so, to what degree?

42. How do you see this technology as an extension of yourself?

43. How is it important to have harmony between yourself and your tools?

44. Explain your experiences during moments of separation, disconnection and conflicts with technology?

45. Are we becoming more computer-like – calculating, programming – in music production?

46. Where do you see humanity heading?

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Discography

Arca - Xen

John Cage - *4’33”*

Wendy Carlos - *Switched on Bach*

Depeche Mode - *Just Can’t Get Enough*

Holly Herndon - *Chorus*

Lonleyspeck - *All My Skin on the Air*

Model 500 - *No UFOs*

Newcleus - *Wikki*

The Packman - *Pac Man*