The Smooth Space of Field Recording

Four Projects

Sonicinteractions, Doublerecordings, “Dense Boogie” and ‘For the Birds’

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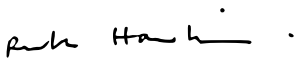
The work presented in the thesis is my own, except where otherwise stated



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Abstract

This practice/theory PhD focuses on four projects that evolved from a wider field recording practice. Rather than treating individual recordings as isolated objects, each of the projects was concerned with the ways in which ‘straight’ field recordings become implicated with both other instances and genres of recording and real-world environments. The dissertation and projects attempt to reconcile, what has been depicted within the acoustic ecology movement as, the detrimental effects of ‘millions’ of recording productions and playbacks on individuals and global environments, by exploring alternative conceptions of environmental recorded sound.

This is partly achieved through developing a distinctive account of field recordings that links these to haptic expressions of spatiality and perception, from a range of sources. Amongst these, concepts of ‘acoustic’ (Marshall Mcluhan) and ‘smooth’ spaces (Gilles Deleuze and Félix Guattari), are compared to depictions of environmental recorded sound, from key figures in acoustic ecology (including R. Murray Schafer; Hildegard Westerkamp). Haptic spaces are introduced through discourses that relate the playback of recordings to the figure of modulation; that also connect private listeners to public environmental musics. Multiple and repeated instances of recording are then linked to resonant, liminal and simulacral depictions of recorded sound. These are significantly drawn from discourses of influential ‘ambient’ musics; and accounts of field recording that focus on their content, rather than original production.

These concerns are practically explored through environmental and mimetic strategies of recording. The projects mainly focus on ambient background recordings and appropriated or much repeated subjects of field recording. The critical effect of these is largely produced during playback: using software applications that change this in some way, or by diffusing multiple recordings simultaneously in a sound installation. The projects attempt to realise ‘smooth’ productions of field recordings; that are able to relate different sonorous and non-sonorous forces together.

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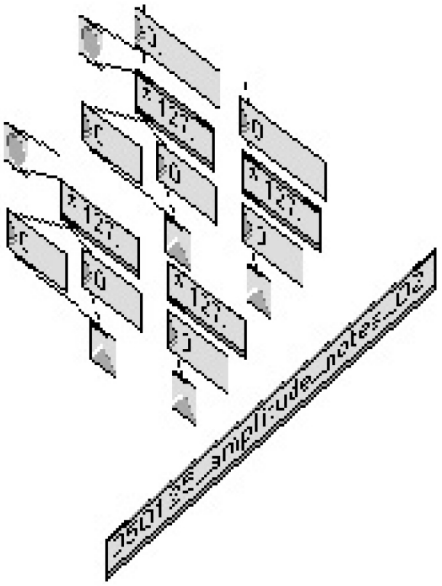

Introduction

> ‘ . . . to introduce space and air, chance and memory into an otherwise claustrophobic world. ’ (Toop quoted in Connor 2006:10)

> ‘But the air, our air, is in the process of becoming denatured, renatured. The air . . . is saturated, spasmodic, densely populous. It signifies, not passage and permeability, but crowding, clustering and copresence . . . it has become less and less a voluptuous opulence of the empty, and more and more aggressively colonised . . . During the twentieth century, the air has gradually been finitised.’ (Connor 2006:10)

Background to research

The four thesis projects - Sonicinteractions, Doublerecordings, “Dense Boogie”, and ‘For the Birds’ - developed from an existing field recording practice that had mainly involved the contingent production of recordings from wherever I happened to be. This approach led to the random repetition and foregrounding of certain field recording content, together with the gradual development of a series of methodologies that typically used automated procedures and specific recording formats to organise and structure the works.

Selected earlier works that informed the background to the thesis are briefly described below, before outlining the key methods the projects themselves use. The thesis’ main focus on environmental depictions of recording is then introduced in relation to the field recording practice, while also situating this more widely. The further core theoretical concerns of the thesis are then set out, before discussing the criteria for their selection.

Earlier works (2000-2004)

Examples of previous works include: ‘Heads’ (2000), where randomly programmed body movements informed the content and duration of field recordings made using in-ear binaural microphones. Another series of recordings, using omnidirectional microphones, were structured around randomised start times and open recording locations; their duration determined by the length of a CDR (‘Globes’ 2001-). Further recordings were made while I was asleep.

Although many of these earlier works featured relatively quiet interiors and rural exteriors, other field recordings, depending on where I was, were less background. For example, one of ‘31 random recordings’ (2002) is of loud traffic; another is of recorded music played back in a shop. Similar content was explored more explicitly in a series of recordings made from performances and playbacks of existing works (2002-2003). A website from 2004 continued this practice by streaming field recordings produced at random from time to time (Edgeless website).

Key methods

The thesis, to an extent, continues to explore specific field recording methodologies and critical concerns that had already been suggested or partially developed as part of this wider practice. Rather than being completely planned in advance, individual projects were gradually evolved over time from these, together with the theoretical research; and then typically only finally realised in response to an invitation or other event.

As well as the random and contingent production of field recordings, often involving programming and automation, key methods derived from this include: the use of mimetic technologies that aim to produce realistic recordings (e.g. surround sound); the production of complexes of field recordings, rather than individual examples; the development of customised software players. The projects also significantly featured minimal, neutral and appropriated field recording content, as described below.

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Environmental sound of recordings

There was a main focus on the environmental sound of recordings, over the course of the thesis. The term has ambiguously implied incidental as well as more deliberate productions of environmental sound (e.g. noise pollution; ambient and background musics), and each are relevant here[1].

I initially became aware of both environmental noise and musics through producing field recordings relatively randomly from different rural and urban places [2]. As a result of this approach, many of the field recordings involved similar, mundane content. The same pervasive natural and technological sounds were repeatedly heard across both the recordings and real-world environments (e.g. wind, birdsong, traffic, and mediated sounds [3]).

This developed into a closer interest in the repetitive, unremarkable sounds that might be heard across a range of interior and exterior environments; rather than in the more exceptional ones. The practice also produced a critical awareness of the ubiquity of recordings across such environments; whether unsolicited or from playbacks of my own. In this way, environmental recordings became implicated together with ambient background sounds in my work. Each evidenced (at least potentially) commonly shared and repeating instances of sounds; rather than being only uniquely or exclusively experienced.

Most significantly, in terms of this thesis, 'rerecordings' of my own and other playbacks were made alongside low level field recordings of further environmental and technological noises (e.g. rural background ambiances; audio equipment hiss). Some of these were then played back site-specifically, underscoring their mundane and minimal effect. Beyond this, a focus on neutral or redundant content also led to the production of field recordings that were intended to be - at least partly - experienced as generic or banal. Many of the field recordings were, therefore, difficult to distinguish from further instances of either recorded or real-world sounds [4].

1 Cf. '. . . a label such as "environmental music" is obviously problematic in its possible confusion with Muzak, background or New Age music, music performed in various environments, eco-propaganda, and so on.' (Truax 1996: 51).

2 Mainly in Suffolk and London, UK.

3 I.e. amplified and recorded sounds.

4 The term 'real-world' is used to distinguish sounds other than those electronically

Field recording

Despite the fact that many of the field recordings produced here, for the reasons given above, were potentially indiscernible as such, they remain identified throughout the projects as field recordings; rather than as components of sound art, for example. In this respect, field recording is considered here as a practice 'in its own right' (Montgomery 2009-1:1).

In relation to the projects and individual recordings described here, untreated, 'straight' field recordings, were made using mimetic recording technologies in a range of locations. Private and close-up noises of production (e.g. conversations; microphone handling) were avoided in order to produce more neutral, anonymous sounding recordings. There was no further processing or edits, beyond cutting starts and finishes.

The different contexts and ways in which the recordings were then played back were also critical aspects of each project. These were all intended, however obliquely, to relate to everyday, environmental experiences of recording playback. Whether through modelling this, in some way, by means of software applications developed alongside the recordings; by situating these site-specifically in a sound installation; or by producing CDs [5].

Although field recordings have been directly related to environmental recorded musics (whether by documenting environmental noise, or as examples of environmental musics themselves), the thesis recordings are intended to reflect a wider ambiguity and elusiveness that has been ascribed to field recordings more generally (Demers 2009: 43). Field recordings can be difficult to grasp as 'objects'; whether in terms of an individual production (Wollscheid 1999: 7), or because they are unhearable as such: where they sound similar to real-world sounds (Kittler 1999: 37), or are simply boring.

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recorded or amplified.

5 Although all of the projects involve some degree of programming, I have chosen not to explore this aspect of my work in detail here. This omission partly evidences a lack of space but also reflects a broader concern with the 'surface' effects of field recordings.

Spatial paradigms of recording

The thesis also attempts to address the larger question that Steven Connor puts in the epigraph, above. That is, whether recordings, as such, 'colonise' and diminish real-world spaces; or whether, in fact, these are able, as David Toop suggests, to do the opposite: be productive and 'space-making' themselves? Their 'resistant' potential in response to existing monologues of environmental recorded sound is also explored.

An environmental depiction of recording has often, like Connor's above, been negatively expressed in terms of a radical loss of open or individual space. These issues are mainly represented here by the work of R. Murray Schafer and other theorists associated with the acoustic ecology movement in Canada [6]. Aspects of this provide a focus for, and sometimes counterpoint to, the alternative account of field recording that I attempt to draw. Although field recordings have not been depicted as a conspicuous part of the problem of environmental recorded noise, they have sometimes been characterised as an extension of representational 'capture' into every part of the real-world; ranging from the micro- to the macrocosm (e.g. Cage 1952/1953).

The untreated, often explicitly quotidian and environmental content of field recordings might also be understood in terms of an intensification of an existing potential of sound reproductions to both become conflated with further recorded and real-world sounds and to accurately simulate these. In either case, they might be conceived of as part of a larger programme of exploitation in which every last part of nature is processed into some form of capital (Hardt & Negri 2001: 272).

Appropriation

The practice of field recording itself, as suggested above, also tangibly exposes the way in which both recorded and real-world sonic spaces are 'striated' [7]

6 Acoustic ecology was originally developed out of the influential 'World Soundscape Project' in Vancouver, Canada by Schafer and others, including Hildegard Westerkamp and Barry Truax, in the 1960's. In 1993, the 'World Forum of Acoustic Ecology' was formed to represent associated international organizations and individuals who shared similar environmental concerns (WFAE Website 2013).

7 See pp. 213-214.

and controlled. Beyond evidencing this in terms of noise pollution, the field recordings described here also produced a material awareness of recorded sounds, both intrinsically and in relation to further recorded and real-world sounds and events.

Despite the increasing availability of recording technologies, within a context of pervasive environmental recorded sound, any independent production and, in particular, any further appropriation of such recordings by individuals remains problematic. Even where these are privately allowed to be produced and kept, their public performance or distribution is often made pointless, difficult or impossible to achieve, whether through informal restrictions or through legislative control and prohibition.

For this reason, the thesis projects have, on the whole, avoided straightforward 'plunderphonics' [8]. At the same time, they continue to allude to other productions of recorded sound beyond my own; for example, by producing generic and 'canonical' versions of field recordings; or by textually referencing other works (e.g. "Dense Boogie" [9]). Where other recordings are included, either permission has been given for these to be recorded; or these are only reproduced here, under the terms of 'fair dealing', as research documents [10] [11].

Environmental musics

Despite sharing many of the concerns about the negative effects of environmental recorded sound, above, my own approach to field recording (both individually and within the projects) also has significant resonances with environmental musics themselves. This is evident not only in shared methodologies, but also in terms of how field recordings are more broadly conceptualised here.

Environmental characterisations of recorded sound depict both background and foreground recordings as happening alongside other real-world and recorded sounds and everyday events. Instead of being exclusively listened

8 Chris Cutler summarises 'plunderphonics', after John Oswald, as 'the appropriation and manipulation of other people's already finished [recorded] work. No sound is originated and no conventional performance or compositional skill is required.' (Cutler 2010: 15).

9 After 'Dense Boogie 1' Maryanne Amacher (1999).

10 Copyright, Designs and Patents Act 1988 (Legislation.gov.uk Website 2013).

11 These are not included in the electronic version of the thesis.

to, recordings are heard partially, or even unconsciously in, what has been described as, an increasingly prevailing, ambient mode of reception (Kassabian 2001: 7).

This has been partly explored through the foregrounding of both private and public playbacks of various digital audio, CD and LP recordings in many of the works described here. Whilst discourses surrounding some of these have been influential to the wider thesis, a number of the recordings also provided significant focus or content for specific projects.

Personal environmental experiences of recording have also produced a more informal, 'subliminal' background to the projects and, rather than linking these to specific examples, they are addressed more broadly in relation to particular popular music genres. At the same time, discourses developed around such genres have provided crucial insights in respect of individual thesis projects.

Because the two final projects partly proposed to produce generic examples of, respectively, insect and bird recordings, further examples of 'nature' field recordings are broadly considered alongside these. Whilst often reproducing ostensibly similar content, these represent a diverse range of theoretical perspectives in respect of field recording that helped to clarify my own work.

Certain discourses drawn from these also directly pose questions in respect of genre, as such; reflecting a broader concern in the thesis with repeated or banal forms of field recording. At the same time as attempting to produce distinctive examples of these, each of the projects juxtaposed and related together sometimes strikingly different recordings; reflecting environmental, post-genre accounts of recorded sound (see Fink 1998; Kassabian 2001).

'Smooth Space'

Many individual field recordings of, often random, short durations were produced across this thesis; continuing a practice that I had already significantly developed previously [12]. Part of the original aim of the projects was to realise

12 E.g. Edgeless website.

these more extensively; without then losing the ephemerality and ‘flashes’ of mimetic similarity (Taussig 1993: 40) that the former sometimes achieved.

At the start of the thesis, therefore, a broad proposal was set out to produce, what I understood to be at the time, a smooth, continuous and homogenous space; in which neither category of real-world or recorded sound necessarily predominated. This might be achieved, for example, by producing longer, more convincing reproductions, or by site-specific playbacks of complexes of similar recordings.

Whilst this was partly practically achieved, by the different methodologies set out above, it was difficult to reconcile, what I understood to be, a non-hierarchical, non-categorical, ‘simulacral’ account of field recording in respect of real-world sounds, with existing discourses of environmental recorded sounds - whether avant-garde, functional or mass - as themselves immersive and total [13].

Throughout this thesis, therefore, attempts are made to situate field recordings apart from tropes of capture and enclosure, towards alternative accounts of environmental recorded sound and, what becomes described here, in partly Deleuzoguattarian terms, as a haptic, nomadic or ‘smooth space’ (Deleuze and Guattari 1988: 95-96) [14].

Theoretical models

The thesis introduces a wide range of theoretical constructs and sound works beyond those I produced myself. Although I was already informally aware of some of these, they were mainly researched alongside the practice, rather than organised in advance. As described above, some of these directly generated or contributed aspects of individual projects or introduced more persistent concerns that then influenced the progression of the thesis. Other theoretical models and examples of composition were found in response to specific project parts or the wider thesis development; and then used to reflect

13 E.g. where these are depicted in terms of ‘environment as music’ or ‘music as environment’: Cage quoted in Kostelanetz 2003: 70; Eno 1982/1986; Schafer 1994; Westerkamp 1988; Krause 1993.

14 Please note that Deleuze and Guattari is abbreviated to D&G throughout the thesis.

and expand on these.

Although the thesis was intended to be significantly related to field recording, there were very few papers exclusively on field recording available or individual practices that positively influenced my own approach, apart from David Dunn's. The projects typically focused, instead, on practices and individual examples that were already reasonably well documented and that problematised my own work in some way. This also encouraged a broader generic and cross-disciplinary consideration of field recordings that was influential to the thesis as a whole.

A similar approach is reflected in the selection of sound compositions other than field recordings across the thesis. These either derived from personal experiences of recording that directly influenced a project, or were subsequently use to enlarge on my own work. Much of the research came from papers on individual composers that were specifically relevant to an individual project and that relate to some aspect of field recording (e.g. in terms of its production).

Certain constructs of environmental musics also provided critical alternatives to existing accounts of field recording that were important to my work and the thesis more generally. Some of these were directly influential to a project, while others provided a background and wider context that linked different parts of the thesis together. As in the field recording examples above, these were selected from a range of sources; some of which only briefly or tangentially suggested any relevance to environmental recorded music or field recording.

This was partly influenced by the lack of comprehensive studies of environmental musics available [15]. Where they are most coherently addressed - for example, within acoustic ecology or in individual papers on functional musics, of which there are a reasonable number, many of these form only negative appraisals of their social and environmental effects. It was much harder to locate alternative critical positions that did not then address environmental musics, such as ambient, in only aesthetic or subjective terms. This encouraged a broader focus on spatial constructions of these.

15 Although 'Ocean of Sound: Aether Talk, Ambient Sound and Imaginary Worlds' (Toop 1995), for example, provides a useful overview.

Certain discourses, as referenced in the thesis title, were drawn from well-known philosophical and critical texts that trace a different approach to music, mediated sound, composition, and reception that, although famously influential, have not been significantly related to either environmental musics or to field recording practices. The different spatial paradigms that these map out provide alternative approaches that challenge prevailing definitions of both. In this respect, the thesis also aimed to situate both field recording and mass playbacks of environmental musics in relation to these core texts; as well as to emerging paradigms of space and sonic production (e.g. haptic; rhythmic; molecular). Because this approach was only gradually developed over the course of the thesis, in response to individual projects, the latter especially remain only briefly drawn.

Parts I-IV

Part I: Sonicinteractions (2005 & 2011)

In 'Sonicinteractions' (SI) the volume parameter of a software recorder was automated to produce modulated recordings of further participants' presentations at an academic conference. This made a tangibly environmental experience of recorded sound, which alternated between the recorded and real-world sounds of the playback space.

The figure of modulation is explored, in Part I, through a range of discourses relating to Gilles Deleuze's late essay on the 'Societies of Control' (1992); including those by William S. Burroughs; Michel Foucault; William Bogard. Modulation is then linked to both public and private environmental musics. The influence, on SI, of home and institutional site-specific playbacks of works by Burroughs, James Tenney and Hildegard Westerkamp, featuring tape cut-ups and parametric modulation, is also discussed.

The alternative 'smooth space' of the thesis title is introduced by Glenn Gould's depiction of hi-fi reception at home (Gould 1988); before turning to influential accounts of tactile and haptic modes of perception, understood to have been developed in response to mass media, produced by Walter Benjamin, Marshall Mcluhan and Gilles Deleuze and Félix Guattari.

Part II: Doublerecordings (2005-2007)

In the 'Doublerecordings' project, a software recorder was developed that added a random delay between 2 mono audio files. Multiple short field recordings of varying content were made; producing a range of echoic effects. These were further 'doublerecorded', 'rerecorded' and 'recovered' to produce different generations and versions of an original recording.

The range of effects these produce is discussed before introducing the distinctive account of echo and resonance that Schafer makes, partly in response to Mcluhan's depiction of 'acoustic space' as resonant. This is expanded in further discourses that relate echo and recording, as such, to the production of extensive simulations and, following Schafer, to 'hi-fi' and 'lo-fi' environments.

Alternative paradigms of echo, schizophonia [16] and lo-fi are then explored through a range of critical texts. Similar concepts of echo are compared across further discourses relating to popular musics that feature echo, reverb or delay as a core effect. These are significantly drawn from writings on new age music; lo-fi procedures; Brian Eno's ambient; and Jamaican dub reggae. The doublerecordings are then related to these.

Part III: "Dense Boogie" (2007 - 2011)

In the sound installation, '"Dense Boogie"' (DB), a recording of crickets was played back together with further recorded and amplified sounds using a software installation player, alongside texts and artefacts. Many of these were intended to be redundant or 'unoriginal' in some way.

Part III discusses works by Maryanne Amacher, Francisco López and Luc Ferrari, in relation to both the crickets' recording and the installation as a whole. Discourses are drawn from reviews that focus on the similarities between the sounds of recorded and real-world insects and technologies; that also has implications in respect of recording genre.

16 See p. 85.

The background recordings in DB are linked to strategies found in environmental musics that also attempt to produce an indistinct effect (e.g. between recordings and real-world sounds). The sound of insects is also more broadly related to technologies; partly explored through Rosi Braidotti's linkage of multiple, liminal insect productions to a wider contemporary sonic milieu. These different accounts clarify a resonant, liminal depiction of both appropriation and environmental strategies in DB.

Part IV: 'For the Birds' (2007-2011)

Like DB, 'For the Birds' (FTB) played back a complex of foreground and background recordings in a sound installation. The recordings were produced site-specifically in a rural location in the UK, and repeatedly updated throughout its duration. A foreground recording of a blackbird provided the focus of FTB, which the original real-world blackbird then strikingly sang together with.

Part IV describes my wider field recording practice before exploring the production of the blackbird recording in relation to other such individual bird recordings. This both clarifies my own attempts to produce a 'purist' field recording, and situates it within a range of discourses from different field recordists and theorists (including Bernie Krause, Francisco López, David Dunn, and René van Peer). The use of repetition in the installation is explored.

The surpassing of isolated bird recordings is further related to broader changes in the contemporary techno-acoustic environment. This is expressed in terms of a transition towards, what D&G describe as, molecular and 'smooth' expressions of sound that exceed individual sonic productions.

Thesis, DVD I, DVD II, CDs

The dissertation is divided into four main parts, each chronologically arranged around an individual project. These are followed by appendices corresponding to individual projects, bibliography, discography, illustrations and audio listings. A PDF version of the dissertation is provided on DVD II.

The audio listings include the final project recordings, as well as studies and examples of individual field recordings that are relevant to these. Although most of the audio is referenced directly in the main text, other sound files are only detailed in the audio listings at the end. DVD I provides the most direct access to these. Further audio files are available on DVD II.

DVD II also includes several standalone audio applications and original files produced in the programming environment Max. The former are directly accessible, whereas the original files are accessed through the 'Max runtime' application (Mac OS only), also included.

Two further 8cm CDs, 'For the Birds' and 'Blackbird II', are also enclosed.

PART I: Sonicinteractions (2005 & 2011)
1. Introduction

> 'What we most lack is a belief in the world, we've quite lost the world, it's been taken from us. If you believe in the world you precipitate events, however inconspicuous, that elude control, you engender new space-times, however small their surface or volume . . . Our ability to resist control, or our submission to it, has to be assessed at the level of our every move.' (Deleuze 1995: 176)

Overview

A pair of software applications - a recorder and a player - were developed in the programming environment Max [1] to simply modulate the dynamic levels of a recording against the real-world sounds of a playback environment. The recording and playback levels were randomly dynamically changed, from near silences to very loud sounds, over variable durations. Both gain and duration parameters were randomised on the start of recording, or upon the introduction of a new audio file.

The collective name of the project, Sonicinteractions (SI), and the content of the initial recordings, were taken from the 'Sonic Interactions' conference where they were first used at Goldsmiths, University of London in 2005 (Sonic Interactions Website 2013). Using the SI recorder interfaced to a laptop and stereo microphone pair, recordings were made, with permission, of the conference talks and presentations from the front of a lecture theatre site. Several of the presentations included playbacks of the participants' own

1 Max is a proprietary software environment for audio, music and multimedia that provides programming objects that visually connect these different aspects together (Cycling '74 Website 2011).

recordings, both as extracts and full-length works.

During my own presentation, on the second day of the conference, a text was read which introduced the main ideas of SI, whilst simultaneously playing back a recording of another participant's work, that had been made through SI on the previous day in the same space.

Whilst the SI recorder was only used once at the conference, the standalone player was intended to be distributed independently on a CDR. A version of the same SI player was also later reused in the sound installation "Dense Boogie" in 2011 [2]. Although the following chapters focus mainly on the Sonic Interactions conference, it is important to note that any recorded or playback content is contingent on the situation where SI is used.

Introduction

SI automates the gain parameter of a recording, so that when it is recorded, or played back, it sounds as if it is being adjusted by an invisible hand. Although, because these adjustments can be extreme, in terms of speed or levels, it might sometimes be experienced as a careless or monstrous one. As a volume control, it connects to one of the core personal interactions with selected recorded sound, beyond 'on' and 'off', that an individual can make, whether this is used to fine-tune a recording's levels, or to blast it out. At the same time, because the SI levels are smoothly automated and regular, the changes in gain can also sound like straightforward machine modulations of code: producing continuous and smooth transitions.

The SI applications relate to a series of recording playbacks: those which influenced SI's modulating structure and/or site-specifity: 'Nothing Here Now but the Recordings' (Burroughs 1981), 'For Ann (rising)' (Tenney 1969), and 'Kits Beach Soundwalk' (Westerkamp 1989); the other participants conference recordings (which were not known in advance); and the unknown playbacks potentially produced through the standalone SI player. Apart from the Burroughs' and SI player recordings, all of these were diffused in an academic context.

2 See pp. 259-261, figs. 2-4; DVD I: Sonicinteractions/Sonicinteractions v2.

The recordings that influenced SI reveal a range of approaches to recording and modulation [3], which also significantly informed my own approach. Each of these works evidence the degree of control that the composer has over their own composition through the parametric modulation of audio. These individual modulations are also related to further recorded sounds: whether by implicating or including other recordings, or as a critical response to the environmental proliferation of these.

Following R. Murray Schafer, individual recording playbacks have been regarded as a significant contribution to environmental recorded noise (Schafer 1973-2: 34-5). Such listeners, Schafer claims, are already damaged and desensitised by environmental technological noise, and are therefore unaware of or unconcerned about their own part in it. The effect of this has been depicted within the acoustic ecology movement as an increasingly homogenous sonic environment, in which individual voices are lost; whether because there are too many productions or reproductions of sound, too much loud noise, or so many different genres of music available (e.g. Truax 2008).

Soundscape compositions, such as 'Kits Beach Soundwalk', have been used to reclaim and communicate an intensely individual, perspectival experience of recording and listening in response to this; using the parameterisation of audio as a way to 'face the monster' of a gross and indifferent monologue of environmental technological noise (Westerkamp 1989: [9:00]; transcribed in McCartney 1999: 221).

Yet an exponential number of individual playbacks have also coincided with a broader cultural focal shift from production to reception (Dean 2009: 540). This has allowed a reinvigorated conception of the listener, who is no longer depicted as a passive recipient of music or recorded sound. James Tenney's works, for example, by using modulation and random procedures, foreground the perception of the listener, rather than the composer's own (Kahn 1999: 2).

Glenn Gould, in 'The Prospects of Recording' (1966), anticipating more complex levels of consumer audio control than just volume, argues that the individual

3 Modulation is defined as: 1) 'The action of forming, regulating or varying according to due measure and proportion; measured or rhythmical movement'. 2) 'a. *Chiefly Telecommunications:* The process of modulating a wave . . .in order to impress a signal upon it; the extent to which a modulated carrier wave is varied; also the wave-form or signal so impressed. b.*Transf[erred sense]:* The action or result of varying the magnitude, degree etc. of something' (Oxford English Dictionary 1989).

- through privately 'indulg[ing] preferences' and through 'dial twiddling' - threatens, and will ultimately usurp, the composer. Gould speculates that the intensification and 'complexification' of technologies, against a persistent background of private and public recorded sounds, point to a significant cultural transition in music: from a highly individual and categorical composition, through home listener, to participatory, environmental modes of recording production and reception.

A different approach to mass reception had already been suggested by Walter Benjamin in 'The Work of Art in the Age of its Technological Reproducibility' (1935-6) ('artwork essay' [4]), where reproductive technologies are related to a state of reception in 'distraction' (2008: 40). Benjamin understands distraction as a tactile, rather than contemplative, form of perception, that approaches art works, such as films, in a significantly different way. He compares this new modality of perception to an everyday, utilitarian response to architecture, which is developed transiently through habituation: 'on the ground', piecemeal and close-up.

This tactile, or haptic, epistemology is also significantly picked up in more recent theories, which make it possible to relate this mode of reception more precisely to environmental mediated sound. Both the media theorist Marshall Mcluhan and the philosophers Gilles Deleuze and Félix Guattari (D&G), in 'A Thousand Plateaus' (D&G 1988), associate this new epistemology with haptic formulations of space - 'acoustic', 'nomad', 'smooth' - which, they argue, emerge together at the same time.

These concepts of haptic space and perception are partly derived from the work of the anthropologist Edmund Carpenter who, in a co-publication with Mcluhan (Carpenter & Mcluhan 1955), relates close-up, tactile forms of Inuit perception to the visually featureless landscapes that they inhabit. Mcluhan then extrapolates from this the ways in which individuals encounter the contemporary electronic mediascape, which he calls 'acoustic space', opposing it to visual space [5]. D&G, similarly, relate haptic, smooth spaces to sonorous, rather than visual depictions of space:

4 The second of four versions of the artwork essay is mainly referenced here (see Hansen 1999: 314).

5 That this is not only repeating, what Jonathan Sterne has criticized as, the 'audiovisual litany' (Sterne 2003: 14-18) is suggested by Mcluhan's flexible terminology: 'from acoustic to auditory to audile to audio-tactile to tactile' (Cavell 2003: 63). See also pp. 57-58.

> ‘ . . . winds, undulations of snow or sand, the song of the sand or the creaking of ice, the tactile qualities of both.’ (D&G 1988: 382)

Although each of these suggest drifting and unencumbered receptions, and D&G influentially develop explicitly ‘nomadic’ and creative forms of these, Deleuze, writing independently in a late essay, ‘Postscript on the Societies of Control’ (1992), also relates haptic spaces and modes of engagement just as significantly to their regulatory and commercial implementations, within, what he calls, the new societies of control. Understanding control as an intensification of the disciplinary society, identified by the philosopher Michel Foucault, Deleuze focuses on the figure of modulation, and the rise of haptic technologies, as a key expression of its operation and effects.

Deleuze takes the term ‘control’ society from William S. Burroughs who uses it in relation to site-specific playbacks of his own tape recordings (Deleuze 1992: 4). Burroughs makes ‘street recordings’, alongside tape cut-ups and other treatments, which he then plays back on location, against both real-world sounds and further recordings (Burroughs 2005). These turn, what he understands to be, the techniques of ‘control systems’ against their own monologues and monopolies: using modulation to ‘scramble the code’. Burroughs promotes the method; anticpating a much wider participation through the proliferation of recording technologies.

SI is focused around different paradigms of recording playback produced across both institutional settings and at home. This reflects a wider concern with the ‘coming together’ of public and private, suggested in different accounts of environmental recorded sound, which ultimately relate this to a globally homogenous sonic environment. In SI these convergences are explored through the figure of modulation, which reveals a complex range of effects: from the fragmentation of recordings, and subjectivities, into controllable and ‘workable’ parts, to the production of a smooth ‘sonic continuum’.

2. Sonic Interactions Conference

Disciplinary society and structures

The Sonicinteractions (SI) applications were partly produced in response to the structure and site-specificity of the academic conference ‘Sonic Interactions’, which was held in the ‘Small Hall/Cinema’ lecture theatre (Small Hall) at the Electronic Music Studios (EMS), Goldsmiths University of London, where they were first used.

The Small Hall conforms structurally and culturally to an extensive network of similar sites famously identified by Michel Foucault as part of the disciplinary society developed during the eighteenth and nineteenth centuries which have since become widely standardized (Foucault 1995). This was predicated on a series of mass confinements and discrete enclosures; most strikingly evident in prisons, but also in homes, work places, hospitals and educational and cultural institutions. Individuals were regulated and organised within these for specific parts of their lives; leaving one enclosure, such as family, only to be confined within the next (e.g. school or work) (Deleuze 1992: 3).

Disciplinary architectures are perspectivally arranged around a model of surveillance, in which a mass of repeating individual viewing or listening points are held and trained towards a central focus. Through the figure of the panopticon, Foucault identifies them as predominantly optical organizations which are arranged around specific, exclusive viewing positions and focal points (1995: 195-228). They are discretely structured and use distance and partitioning to measure out and create stable and distinctive areas of production and reception, which are then channelled into distinct zones or flows.

Such architectures also inform and structure ‘classical’ organizations of perception. Within these, specific instances of sound production are identified

and distinguished from further productions and from reception. These are then protected and monopolized so that anything that happens elsewhere has reduced or no meaning or value. Composers and listeners are visibly differentiated: the former as uniquely specialised individuals, whereas the audience is depicted - both publically and at home - as an anonymous and divided mass (Gould 1988: 347; Rothenbuhler & Peters 1997: 244). Within this a large number of individuals remain immobile and silent, with only limited opportunities for participation.

Absolute music and recorded sound

In a disciplinary society, the production of music and recordings is also similarly regulated and constrained. As John Corbett relates, whilst 'absolute' conceptions of music come out of a longer lineage of divisions and restrictions these only fully emerge alongside architectures such as the concert hall (1990: 88). They were established on the concept of an isolated and hermetic sound object detached from any extrinsic other sounds or external references (Oxford Music Online Website 2013).

Theories of absolute music influenced a similar conception of recorded sounds. As material objects themselves, records were literally understood to capture music or sound, (Levin 1990: 32) and then reproduce this to multiple, isolated instances of 'absolute' reception [6]. Audio formats, such as mono and stereo, can be similarly understood as perspectival configurations which produce exclusive zones of sound, such as 'stereo images' or 'sweet spots', which ought to be listened to from specific positions (Tombs 1973; Connor 2006: 2).

Within this paradigm, the technological production of recordings becomes understated or invisible. A recording would be able to be listened to as if neither the recordist nor the technologies were there, in a chain of transparency that follows analogously through from the concert hall or lecture theatre into the home (Corbett 1990: 90). The recordist, within this context, acts as an anonymous 'functionary' who only realises the parameters of a fully coded interaction already established within existing disciplinary structures and the recording apparatus as such (Flusser 2000: 21-32).

6 Although, as Emily Thompson notes, writing on the early cultural history of recordings, this reflected the terms in which recordings were promoted rather than the reality of reception (Thompson 1995).

Description of the Small Hall and Sonic Interactions Conference

The site

The architecture of the Small Hall and the structuring of the Sonic Interactions conference can both be understood as expressions of the disciplinary structures outlined above. In the Small Hall, a raked hemisphere of identical seats is arranged around a central podium area, which is further marked out by a screen and loudspeaker pair for audio-visual presentations. Smaller speakers above the audience reinforce the main stereo projection into the corners of the space; creating an even diffusion of amplified or recorded sound. The grey, windowless space has carpeted floors and soundproofed walls which absorb sound reflections and subdue outside or background noises and visual distractions [7].

The conference

The Sonic Interactions conference was timetabled around a series of presentations that took place on the podium over two days. These were followed by more formal concerts and performances in the 'Great Hall' nearby. Apart from the conference presentations and performances, there was a subdued sense of any other production or further active participation in the event. In the Small Hall, especially, other sounds were silenced or neutralised, and where present, seemed loud or interruptive (e.g. coughs or door bangs). Within this structure, the participants' voices and recorded sounds are allowed, what seems like, complete latitude and freedom of expression.

The individual presentations and performances of the participants were arranged hierarchically within the overarching structure of the conference. There were two 'keynote' speakers and nine other participants on day 1. The two main speakers each made hour-long contributions at a 'prime time' (on Saturday at 10-11am and then 14-15pm), whilst further participants had approximately 20 minutes each. On day 2, a Sunday, there were four shorter 20 minute presentations, including my own at 10am. Each talk was introduced by an organizer and divided distinctly from the other talks by intervals of similar durations. During these the audience was mainly silent. In the breaks, a low level of informal noise could be heard (e.g. the murmur of the audience which became louder as members left the room).

7 Although the noise of an air-conditioning system is also noticeable.

The SI applications had been tested using relatively random playbacks of popular music recordings in a quiet studio at home [8]. These playbacks encouraged SI's focus on the Sonic Interactions conference as a series of discrete presentations, rather than as an extensive whole. This was already suggested, and strikingly facilitated, by the disciplinary structure of the architecture and events that took place in the Small Hall (which for this reason was chosen over the Great Hall). These included: the sound-proofing of the room; the positioning and dynamics of the staged and amplified presentations; the partitioning of different sound productions from each other; and the silence of the audience. The content of the SI recordings was also substantially organised by the structuring and timetabling of the conference that had been published in advance (Sonic Interactions Website 2013).

Field recording in the Small Hall

Apart from the modulations of the SI recorder, the granting of permission to record Sonic Interactions before the start of the conference and the arrangement of field recording equipment, also each conformed to the wider disciplinary context. The recording equipment was situated amongst the other audio technologies and playbacks of the conference room, out of sight of the audience, in front of the first row of seats. This complemented, and subtly reinforced, the existing model of sound production arranged around a central, 'keynote' focus. Any recordings produced within this context might therefore be expected to be documentations of a series of original performances (Auslander 2006: 1).

The SI recordings were made using a stereo microphone pair interfaced to the SI recorder application running on a laptop. Two cardioid pattern microphones with a flat frequency response were positioned in a stereo 'A-B' configuration [9], pointing towards the podium. By using directional microphones, any sounds behind these - from the laptop, the field recordist or the audience - were minimised, making it possible to make highly focused and nearly exclusive recordings of the conference presentations.

8 Because such recordings typically use dynamic compression and are of short duration. [redacted]

9 The microphones and set-up were not especially selected for the conference recordings and in this respect they relate to the other field recordings described in the thesis.

Sonicnteractions recordings

The recordings made at Sonic Interactions focused on the contributions of the other participants as discrete presentations and playbacks, rather than on any intrinsic content that these might individually have had, or on the further noises of the conference. All of the SI recordings simply followed the timetabled programme on day 1, with file durations determined by the length of the presentations. Although these were not edited at all in post-production, because of the background ambient silence of the disciplinary setting, the recordings have the potential to sound like completely circumscribed monologues of sound. In this way they formally connect to the further 'finished' recordings that informed SI [10].

Although only one of the conference recordings was selected to be played back on the following day, the fact that many different recordings had been made was important to the project. This highlighted the operation of the SI recorder in relation to the disciplinary structuring of both the Small Hall and the conference as a whole, rather than focusing on any individual performance (including my own). The playback of the selected recording during my own talk the next day also related different presentations together, instead of channelling these apart.

Whilst the SI recordings, as discrete productions, partly conform to a disciplinary paradigm, the algorithm modulates the gain parameter, so that within each recording the levels are continuously variable and sometimes drop out. Together with the way in which the SI recording was then selected and played back against a further presentation, or where, using the SI player, another recording is played back elsewhere, this produces through modulation, what is partly intended to be, an environmental experience of recorded sound.

10 I.e. the popular music recordings that were used during the development of the Sonicinteractions applications; the recorded works that influenced these; the proposed playbacks of the Sonicinteractions player.

3. Environmental Recordings

Environmental depictions of mediated sound do not characterise recordings as isolated and circumscribed objects which only reproduce real-world originals and are then exclusively played back and listened to. Instead they describe recorded sounds as becoming detached and independent from original sources and producers; interpenetrating with real-world sounds (whether as noise pollution or more productively); and as having the capacity to regulate and territoralize spaces and to produce affective and social changes.

Many of these accounts have focused on the playback of recordings by individuals that happen outside of enclosed spaces, such as the institution; and the proliferation of these has further been directly related to commercial and functional environmental and background musics.

Through the automation of the volume parameter, Sonicinteractions (SI) relates an individual playback of recorded sounds together with a paradigm of control that has been most tangibly deployed in functional musics, like Muzak. The volume modulation in SI also produces its own environmental effects. These include the involvement of the site-specific ambient environment in any SI production or diffusion, and, at the conference, the appropriation of further sound productions and their playback together.

Acoustic ecology

Multiple, private recording playbacks have been implicated in the production of what theorists, following Schafer, have described as a global ‘lo-fi’ environment (Westerkamp 1988: 17; Schafer 1994: 43; Truax 2001: 23-24). This is depicted as a densely overpopulated, predominantly urban, soundscape, with a low signal-to-noise ratio, in which real-world sounds are masked by mediated and

other technological noises. This has produced an effect of homogeneity and uniformity that, it is argued, has been exacerbated by the sheer amount and variety of recorded material available (Schafer 1973-2: 34; Truax 2008: 103).

If mediated sounds are only produced by, or consumed in response to, commercial and regulatory interests, such arguments continue, these only represent a false surrogate of difference within a larger strategy of mass market homogenization (Westerkamp 1988: 45). What is produced instead is an equivalence and levelling of genres (Emmerson 2001:17; McCartney 2002: 22) from which recordings are played back repeatedly and indiscriminately, only adding more redundancy and noise.

Louder playbacks have been identified as another effect of the lo-fi environment, evidenced both in public environmental musics, and in private playbacks (Schafer 1973-2: 30; Westerkamp 1988: 36). Within this, Schafer writes, the only way in which to be effectively heard is to become amplified; to 'close-mike' and turn up the volume. This is understood as part of a dangerous feedback loop in which, as mediated sounds multiply and are turned up, so listening becomes physically degraded; not only producing inattentiveness and distraction, but also causing actual hearing damage and loss.

Distraction, or competition, then feeds into a broader indifference in respect of the environment which, as real-world acoustic sounds are blocked out or covered up, becomes polluted, or even ceases to exist (Droumeva 2004: 1; Truax 2008: 104; Hempton 2009).

The lo-fi environment, by flattening and averaging out meaningful variations of sound, has further been understood to literally stop and isolate the individual from any social or environmental participation. Barry Truax, following Schafer (Schafer 1994: 78-80), describes this in terms of a 'flatlining' of both environment and affect in which the lo-fi soundscape has the effect of a sound wall. This fragments, blocks off and alienates any possibility of action; resulting in, what Truax understands as, a radical reduction of individual space and subjectivity (Truax 2001: 24).

The individual withdraws instead into a pervasive synthetic, surrogate environment which itself has become normalised and seems 'natural' (Westerkamp 1988: 25; Lanza 1991: 51). Hildegard Westerkamp describes this

in terms of a total simulation:

> ' . . . it takes us away from who we are at present. It takes us into an artificially created space, enclosed, isolated from the outside world, a space that speaks of another time.' (1988: 52)

This loss of place and orientation, in turn, encourages the playback of mediated sounds without consideration of genre, place or time (Westerkamp 1999). And where there is a concern for their environmental effect, it is argued, individuals only follow functional models of mediated sound; whether by using wall-to-wall amplified sounds to regulate their own moods and atmospheres, or by regaining their own identity and privacy through the sonic control of a territory (Droumeva 2004:1). Either way, these are understood as a private articulation and extension of commercial and functional musics' purpose (Franklin 1994: 3).

Muzak

Early functional and environmental musics, like Muzak, were developed simultaneously with, and often in response to, other technological innovations and noises. As 'piped in' utilities they existed comfortably alongside the noises of air-conditioning and electrical installations in newly soundproofed architectures; either accommodating these or subtly covering them up (Sumrell & Varnelis 2007) [11]. Part of their effect was made possible through the deployment of extensive, hidden broadcast and distribution systems, which enhanced their sense of sourceless, directionless impingement.

Muzak was developed quasi-scientifically, as a 'variable', alongside other management and corporate strategies, to stimulate production in workplaces and factories, and consumption in shops and malls (Atkinson 2007: 1911). The music was drawn from an extensive range of compositions and genres, which were then stripped down and carefully rearranged into unobtrusive melodies. These were then segued and programmed into playlists that were constantly modified and adapted to produce progressive mood change in workers or shoppers (Lanza 1991: 44).

11 See pp. 132-133.

Disciplinary

Muzak's early model of 'stimulus progression' has been linked, by Rowland Atkinson, to military research which connected increased musical tempo to enhanced levels of alertness and motivation (2007: 1911). Early background musics were alternated with periods of silence, maintaining distinct zones of attention, mobilization and rest, which Atkinson directly relates to a model of surveillance (cf. Vanel 2008: 101-102). In this way, Atkinson connects functional music, within Foucault's terms, more broadly to disciplinary technologies that shape and control behaviours, at the same time as inviting or excluding participation.

A similar account is reflected in Ursula Franklin's essay 'Silence and the Notion of the Commons' (1994). In the essay, Franklin argues that, like the dedicated structures of the disciplinary, background musics use virtual 'aural architectures' to channel and partition other noises, which then become shaped, suppressed or isolated. She describes the more complete implementation of environmental musics in terms of an imposition of convention and monologue against the potential of 'unprogrammed, unplanned and unprogrammable happenings' (1994: 2).

Franklin's argument reflects other critical accounts of programmed musics in which formerly public, open spaces are privatised and monopolised by single voices (e.g. Westerkamp 1988: 49; Radano 1989: 456; Sterne 1997: 46; Frith 2002: 41; Droumeva 2004:1). The public environment has been depicted as increasingly threatened and spaceless as multiple individual playbacks become integrated with public functional musics; directly through their shared content, as well as through their environmental ubiquitousness. This intensification of environmental recorded musics and convergence of public and private has also been found in Gilles Deleuze's account of a transition from the disciplinary society to one of control.

4. Control

> ‘ “Control” is the name Burroughs proposes as a term for the new monster . . . ’
>
> ‘Enclosures are molds, distinct castings, but controls are a modulation, like a self-deforming cast that will continuously change from one moment to the other, or like a sieve whose mesh will transmute from point to point.’ (Deleuze 1992: 4)

Control societies

In the paper ‘Postscript on the Societies of Control’ (1992), Deleuze articulates a move away from the disciplinary structures identified by Foucault. Deleuze describes the way in which the new societies of control, in order to continue to regulate and accumulate capital, have been encouraged to develop different forms of organization. These have been produced in response to the limitations of, and increasing resistance to, disciplinary methods; and to, what he understands, following Foucault, as a more ‘generalized crisis in relation to all the environments of enclosure’ (1992: 3-4).

The new technologies of control, Deleuze argues, have the potential - through continuous modulation rather than through discrete confinements - to exert a far more intensive and pervasive hold on individuals (Deleuze 1992: 3; Parr 2005: 53-55). These have been implemented through computing and information technologies which produce what Deleuze describes in terms of ‘the coils of a serpent’ (1992: 7): mobile and flexible forms of capture and enclosure which are continuously modified and reconfigured and effecting far more supple and invasive levels of control.

Haptic technologies & spaces

Deleuze's argument is later developed by William Bogard (2007), who relates control societies to the contemporary tactile technologies and haptic spaces anticipated in the 'Postscript' essay. Although Bogard describes the increasing presence of upcoming haptic technologies, such as touch screens and data gloves, he argues that the ways in which these function is also literally relevant to control societies, and is not only confined to these (technologies).

Haptic technologies communicate through simulating the effect of direct physical contact with immediate force feedback; engaging directly with the body's capacity for movement and affect. These are sometimes directly related to touch, and figured in terms of a decisive, fingertip probing which is able to fully manipulate and orchestrate a particular response within an already completely determined configuration. As mechanisms of control, rather than discipline, they regulate and modulate through continuously variable pressure:

> ' . . . contract[ing] and releas[ing] in waves, substituting for control of the body's optical environment the regulation of its tactile milieu.' (Bogard 2007)

Yet, as Bogard notes, haptic affects are not restricted to touch, as optical effects might be to the eye, but are distributed throughout the body across the senses and skin; producing immersive embodied experiences. Haptics can, therefore, also imply a more subtly extensive, elusive contact, which goes well beyond any single sensory modality. This contact is 'all over the place', 'everywhere and nowhere', and less focused - and definitively controllable - than the more precisely encoded changes above might imply.

Individual subjectivities

Deleuze understands the ways in which control is implemented produces a different paradigm of individual subjectivity from that established within disciplinary societies. Whereas individuals had previously been identified and organised as discrete, signatured and surveillable entities, and then massed together into large groups like audiences, in societies of control this is no longer found necessary. They are released from confinement and become fragmented instead into, what Deleuze has called, 'dividuals' (Deleuze 1992: 5; Parr 2005: 54).

Within this paradigm, individuals become susceptible to control through close-up, affective technologies; rather than by being passively, optically held under observation. Through code and data, they become dismantled into sub-individual parts, which are then continuously, smoothly modulated across both public and private environments. There is a constant, coercive demand for response and 'communication', which, as John Marks understands it, leaves little room for any other form of creative production or resistance (Parr 2005: 54).

Bogard uses the analogy - which, he notes, hardly is an analogy since they are both driven by code - of workable sound samples and audio parameters to describe the effect:

> 'Dividuation … is the internal division of entities into measurable and adjustable parameters, in the way, for instance, a digital sound sample is divided into separate parameters of tone, pitch, or velocity . . . For audio engineers, these parameters, or "modules," can be independently adjusted (some fixed while others are varied) and modified in real time to flow within certain limits (e.g., if the velocity setting is too high or low, the sound breaks up or becomes inaudible, etc.). Each sound, in turn, can be divided into smaller samples that are also subject to parametric control, and so on. Think of your body composed of samples of vibrational information like these sounds, whose parameters can be measured and used to generate tactile feedback'. (Bogard 2007)

Working and 'being worked'

Whereas the different structures of the disciplinary are analogous to one another and separately defined, in control everything is in, what Deleuze understands to be, a relation of modulation or variation. Within this, everything becomes a threshold, and nothing is ever finished or done (Deleuze 1992: 4-5). Deleuze writes that ' the man of control is undulatory, in orbit, in a continuous network' (1992: 6). Within this paradigm, the individual both continuously works and is continually worked, and the private and public realms become densely intertwined. As Bogard notes, this has already become more evident in the years since the 'Postscript' essay (Bogard 2007).

Whilst Deleuze sets out many of the ways in which control is used to shape and coerce individuals, he also suggests - both directly and indirectly, by citing Burroughs - that the techniques of control can also be used against control (Deleuze 1992: 3).

William S. Burroughs tape cut-ups

Whilst I was not aware of Deleuze's essay at that time, Burroughs' use of tape recordings and cut-ups had already partly influenced the development of Sonicinteractions (SI) and seemed relevant to the figure of modulation. This is reflected in the 'Soft Machine' title and parts of the text which was read at the conference, against which the other participant's recording was diffused [12]. As the SI applications were being made, the playback of a Burrough's LP was also recollected (as an event rather than for any intrinsic recorded content).

The album, 'Nothing Here Now but the Recordings' (1981), I later discovered, is made up of Burroughs' early tape recording experiments mainly from the early 1960's. These include cut-ups from conversations, news and TV and radio broadcasts, and other treatments of recorded sounds, such as 're-recordings' and echo effects [13].

Burroughs uses random procedures across the LP tracks; both in tape cut-ups and in juxtapositions of different genres and techniques. Genesis P-Orridge, writing in the album sleeve notes, points to the unfinished and experimental form of these (P-Orridge 1981). Originally devised by Brion Gysin in 1959 in relation to a variety of media, Burroughs, together with Gysin and Ian Somerville, experimented with different tape recording and playback techniques alongside electronic effects and cut-ups. These included 'street recordings' which used both single and multiple recorders to produce playbacks across many different contexts.

Street playbacks

In 'Feedback from Watergate to the Garden of Eden' (1970), part two of the

12 See Appendix 1, pp. 238-239.

13 E.g. Track 7, on the first side of the album, uses a cut-up procedure against another tape experimentalist, Konstantin Raudive (P-Orridge 1981).

book ‘The Electronic Revolution’ (Burroughs 2005: 4), Burroughs describes the effectiveness and potential of site-specific ‘street’ playbacks in detail; explicitly relating recording playbacks to weapons of war and the problem of ‘control’. In a contemporary interview with Dan Georgakas, Burroughs’ concludes:

> ‘What could be done with tape recorders is unlimited. You could cause a riot easily. All you have to do is take the tape recorders with riot material already recorded and then record any sort of scuffle that goes on. It’s very simple, this staging of events with tape recorders. The CIA and other agencies have been doing it for years. The CIA was in Paris recording in the streets ten years ago. It’s as simple as this: a recorded whistle will bring cops, a recorded gunshot when they have their guns out...Well, it’s as simple as that.’ (Burroughs n.d in Lotringer 2001: 152)

Recording experiments in this way turn the technologies of control back on themselves (cf. Kittler 1999: 110-111). As Genesis P-Orridge writes, tape recording can both operate control (e.g. by reproducing monologues and ‘linear, rigid structures’ of power) and - through an experimental ‘non-linear’, ‘anti-dot[al]’ use - resist control (e.g. by using mutation, reassemblage and radical decontextualization) (P-Orridge 1981). Burroughs formally exploits this ambivalence; maintaining parts of the control structure (for example, using ‘illusion’, realism, site-specific placement and plagiarism) in order to more effectively disrupt it (Burroughs 2005:18).

At the same time, Burroughs acknowledges the limitation of such works, writing that ‘the control machine . . . never hesitates to engage in playback’ (Schneiderman 2004: 59). Whilst he has doubts about the efficacy of his own tape cut-ups, Burroughs still understands their democratic potential and power to undermine systems of representation and individual habits of association:

> ‘any number can play anyone with a tape recorder controlling the sound track can influence and create events.’ (2010-1: 219; see also Burroughs 2005:13)

‘Street recordings’ produced by ‘millions’ have the potential to drown out the voices of the mass culture industry (Burroughs 2005: 13,18):

> ‘The basic operation of . . . playback can be carried out by anyone with a recorder . . . Any number can play. Millions of people could nullify the control system . . . Like all control systems it depends on maintaining a monopoly position.’ (2005: 12)

Muzak and Control

Environmental recordings go from being described as a contiguous ‘soundtracking’ - with different recordings played back discretely in different places (Frith 2002: 36) - to a seamless, continuous and immersive surrogate environment. Steve Goodman directly relates Muzak’s corporate change from ‘stimulus progression’ to ‘quantum modulation’ to a ‘sonic microcosm of what Deleuze has described as the shift from discipline to control’ (2010: 144).

‘Quantum modulation’ references the way in which the songs in Muzak’s database are analyzed and used. These are divided into 45 individual categories; including tempo, instrumentation, voice, mood, genre and era (Kushner 1998). This breakdown into parameters allows Muzak to be programmed to produce and maintain an even affective intensity which, by smoothly moving through successive song changes, gives the impression of changing whilst remaining the same. In this way ‘quantum modulation’ works indirectly through atmospheres and mood control, rather than by focusing on individual actions (Goodman 2010: 144-145).

Public/ private

The intensification of public environmental musics has also been reflected in their movement out of enclosures, like workplaces and shops, into everyday environments (Sumrell & Varnelis 2007). Muzak has become increasingly loud and ‘foreground’; losing any obvious distinctiveness from individual or other playbacks. In this way, background functional musics now form, what Jonathan Sterne understands as, part of a densely fabricated public environment that dovetails into private experiences of listening at home. Sterne describes the way in which the public and the private become affectively implicated together:

> ‘In mass mediated societies, this process is part of an endless chain in which the outside social world of recorded songs, mass mediated

> images, and programmed spaces and schedules is folded into that which is most inside and private: the substance of affect and experience.' (1997: 46).

In this way, a pop song, for example, becomes implicated with environmental and personal contingencies to become 'our song' (Westerkamp 1988: 45). This prolonged interweaving of the public and private allows the entire soundscape to be understood in functional terms - like the 'programmed spaces' of Muzak - and as part of an extensive, controllable 'technological milieu' (Franklin 1994: 1; Groom 1996: 8; Droumeva 2004: 2).

At the same time, the uniformity, and lack of definition, of background musics creates an unfocused and timeless 'melting pot' of sounds which, however originally oppositional or loud, are able to be incorporated and accommodated into any new environment (Westerkamp 1988: 45). Beyond this, Muzak has also recently been relaunched as 'audio architecture'[14]; becoming less identifiable as it reflects other uses of the term and blends corporate production into other disciplinary areas (Lanza 2004: 2).

Westerkamp on 'Muzak'

Recalling Deleuze's serpentine account of control, above, or a tighter, more regulated version of Benjamin's 'waves' [15], Westerkamp also uses the metaphor of a rhythmic motion of squeezing and release more explicitly in relation to background environmental musics. She describes 'Muzak' as a repeating undulating movement, which, as it produces a genre-less uniformity, also conditions and regulates affect (1988: 40). Westerkamp writes that background music, like a grosser imposition of hi- fi modulation, moves - 'in and out of silence', and 'in and out of the ambiance' as it works to produce a mesmerizing, mirroring of mood which is experienced, docilely and at a remove, as 'undulations of emotions' (1988: 44-45).

14 See p. 132, n. 41.
15 See p. 57.

5. Playbacks

Most of the work involved in Sonicinteractions (SI) concerned the production of the recorder and player applications, whereas the actual recordings which were made through these at the conference were largely contingent on whatever else was happening. Although the recordings were structured around the conference timetable, they were not focused on specific talks or performances. Instead, on the first day, all of these were recorded using the SI recorder. On the second day of the conference, one of the SI recordings was selected and played back (using a generic audio player) against my own spoken presentation. The recording was modulated against the 'Soft Machine' text, which discussed some of the concepts of the piece [16].

The SI recorder application was only used once at the Sonic Interactions conference. It is therefore only briefly discussed, below, together with the recordings made with it. The SI player, however, was more intensively developed as a standalone application and later re-used in the installation "Dense Boogie" (2011) [17]. At the time of the conference, the player was intended to implicate and invite potential, individual playbacks, reflecting the wider conception of SI.

The content of the SI recordings, and any future playbacks, was contingent initially on the conference presentations, and then later on these possible private playbacks. Although the recordings produced at Sonic Interactions might seem the extant focus of SI, the applications were significantly developed in relation to other recording playbacks made elsewhere; and were mainly structured around their circumscribed, 'absolute' forms. These included recordings produced for testing purposes during the SI's development; the further diffusions of the other participants own recordings during the conference; and the future playbacks of

16 See Appendix 1, pp. 238-239.
17 See p. 117.

the standalone player.

Two further recording playbacks, which influenced SI's development, also provide a discursive context for the figure of modulation in the SI applications. These are mainly relevant to the dynamic changes and the wave-like form of the core algorithm, but also relate to SI's focus on recording playback as such, rather than on any intrinsic recorded content. Both of the recorded works discussed below - 'For Ann (rising)' (Tenney 1969) and 'Kits Beach Soundwalk' (Westerkamp 1989) - were first listened to around the time of SI's production. They each make use parametric modulation and by doing so, either directly or indirectly, implicate or sometimes appropriate other real-world and mediated sounds.

Sonicinteractions recordings

Background

The SI conference recordings follow on from a series of field recordings I had continued to make of electroacoustic and other recorded works and performances using generic software recorders. These recordings were often of short durations and intended to be experienced in relation to the site-specific context in which they were made (cf. Burroughs' street recordings). Like the SI recordings, they were also often recorded from within an audience, with the permission of the performers, (unlike bootlegs, for example) [18].

Sonicinteractions Recordings

At the Sonic Interactions conference, recordings were made using the SI recorder of Alejandro Viñao, Aki Pasoulas, Chris Halliwell, Simon Zagourski-Thomas, Li Chuan Chong, Lawrence Casserley, Lukas Pearce, Dominic Murcott, Oliver Bown, (Thomas Gardner [19]), and Sebastian Lexer [20]. Each participant's presentation was recorded separately, following the structure

18 E.g. 'Improvised recordings' at 'Interlace' performance 02.10.04 Great Hall, Goldsmiths, University of London (Sean Baxter, David Brown, Anthony Pateras, Natasha Anderson, Ross Lambert, John Lely, Sebastian Lexer, Eddie Prevost, Seymour Wright). See DVD I: Tracks 1-4; DVD II: Sonicinteractions/Audio_other/Interlace.

19 This recording failed.

20 See DVD II : Sonicinteractions/Audio_conference.

of the conference, and was straightforward to individually attribute using the schedule (Sonic Interactions Website 2013).

The SI recording of the composer Lawrence Casserley's presentation [21] was chosen to be played back on the following day during my own presentation; mainly because it included recording playbacks itself. This was diffused against my own text on day 2 from the original playback position and site. Because some of the audience attended the conference on both days, the playback also had the potential be recognised as an appropriation [22].

As a recording playback, the SI Casserley recording might be experienced as a redundant one: because it merely repeats a previous presentation and recording, both in terms of its content and location. On the other hand, because of the modulation the SI recordings are not properly archival audio documents (Auslander 2006: 1). At the conference, as the recorded sound dropped off, the sound of my talk and the absolute silence of the Small Hall was heard. As the volume picked up, the recording became increasingly monologue, drowning out further sounds. In this way, random parts of sentences and noises, like cut-ups, were heard together with the sound of automation and modulation.

Other Playbacks

'For Ann (rising)' and 'Kits Beach Soundwalk' were both played back in a institutional space [23] close to where the Sonic Interactions conference took place, and around the same time as the SI applications were being developed. Although both works clearly foreground - either completely or in brief - the modulation of a narrow audio parameter, each produces a quite different effect. The disciplinary context of both diffusions significantly influenced the development of the SI applications and performance. The use of modulation in both works brought attention to the low environmental sounds of the listening space and silent audience together with an intense, even mesmerising, experience of a recording playback.

21 DVD I: Track 5 (extract). Also DVD II: Sonicinteractions/Audio_conference/Lawrence_Casserley_Presentation (full).

22 The recording also partly relates to the definition of a simulacrum (Baudrillard 1994) as 'the copy of a copy', without totally conforming to this (by being reproduced in the same playback context).

23 DVD I: Track 6.

'For Ann (rising)' (James Tenney 1969)

'For Ann (rising)' is arranged around a classic auditory illusion, known as a 'Shepard tone', named after a colleague of Tenney's [24]. The piece produces a smooth succession of constantly rising glissandi played back a tritone apart. The individual glissandi are faded in and out imperceptibly, so that 'For Ann (rising)' has been described as an auditory equivalent of M.C. Escher's staircase, or a barber's pole: an endlessly climbing and disorientating sonic field.

Following Tenney's definition of 'ergodic', the formal idea of 'For Ann (rising)' - the production of a Shepard tone - is established completely at the start, and then continues throughout the piece. As Tenney relates, there is no clear, or non-arbitrary, start to 'For Ann (rising)' which could also potentially continue without finishing (Kahn 1999: 7). The work, as a whole, remains 'statistically homogenous' (Tenney 1983: 14), whilst the oscillation, or algorithm, passes through a range of already clearly defined parameters. Although, on the one hand, in 'For Ann (rising)' there is nothing to listen to - because the process, which continues unchanged throughout the piece, is made clear from the start - on the other, there is a freeing of perception and attention which Tenney understands as a main focus of his work. Describing his music as 'sound for the sake of perceptual insight - some kind of perceptual revelation' (Tenney 1978), Tenney links such ergodic forms to the development of a change in listening, which:

> '[requires] a different attitude of the listener … - and it is perhaps ironic that it is an attitude which most people are able to adopt quite easily in situations outside the usual realm of "art" (e.g. the sounds of a forest).' (1983:14)

'Kits Beach Soundwalk' (Hildegard Westerkamp 1989)

'Kits Beach Soundwalk' is more overtly related to issues of environmental recorded sound than Tenney's piece above. The work is part of a genre of soundscape composition that Westerkamp has defined in relation to the larger concerns of acoustic ecology (Westerkamp 2002: 51). One of the main aims of acoustic ecology, she writes, is to promote an 'enhanc[ment] of listening awareness' in relation to an 'overloaded sound world' (2002: 52). This aim is

24 Roger Shepard.

precisely reflected in ‘Kits Beach Soundwalk’, where Westerkamp uses audio parameters - including field recording levels - to both evidence, and then block out, actual levels of urban noise.

In the work, Westerkamp situates the volume parameter amongst a smoothly transitioning complex of field recordings, treated sounds and an excerpt of a recording of ‘Concret PH’ (Iannis Xenakis 1958), which unfold over nearly 10 minutes. Her own voice is often foregrounded as she narrates the piece, talking the listener through each of the sounds. As she does so, she details and suggests different forms of reception: from real-world and recorded sounds, to those drawn from imagination and dreams.

After an introduction of relatively untreated ambient sound, Westerkamp talks the listener through a series of shifts in sound levels which, to some extent, prepares them for the composer’s more intensive parameteric interventions later in the piece:

> ‘[1:42] “I could shock you or fool you by saying that the soundscape is this loud. (INCREASE LEVELS) But it is more like this. (LOWER LEVELS AGAIN) The view is beautiful in fact, it is spectacular. So the sound level seems more like this. (LOWER LEVELS FURTHER) It doesn’t seem that loud. But I’m trying to listen to those tiny sounds in more detail now. Suddenly the background sound of the city seems louder again.” (INCREASE LEVELS)’ (transcribed in McCartney 1999: 290)

Setting the intimate and ‘tiny’ sounds of the water and barnacles against the loud and interfering noises of the city, Westerkamp describes the city noises heard from Kits Beach as difficult to filter out. The urban noise ‘occup[ies] all acoustic space’; preventing her from properly or comfortably listening to the quieter sounds. Against the effort required to do this, Westerkamp proposes that these noises can later be silenced through the ‘bandpass filters and equalizers’ of the studio [c. 3:00], which are then applied across the remainder of the piece.

Modulation and the mass mediascape

Westerkamp

Westerkamp also situates soundscape compositions, like 'Kits Beach Soundwalk', as a forceful counter-strategy against functional and commercial recorded sound. She describes the way in which these can be used as 'talk backs' (McCartney 1999: 417), which, despite their schizophonic [25] status, are capable of reorienting the listener towards their own environment. In 'Kits Beach Soundwalk', Westerkamp relates the use of audio parameters, as ways in which to 'play with', find 'strength', or even to 'face the monster' of corporate and regulatory environmental noise (Kolber 2002: 42).

Yet, unlike Burroughs, for example, Westerkamp understands the task of the composer is to interpret, clarify and re-establish essential and meaningful relationships between individual and location in order to recover a sense of 'place and belonging for both composer and listener' (2002: 52). The filtering and amplification of quiet sounds is used, together with the volume parameter, and a carefully selected further recording (of Xenakis), as a series of personal and definitive orientations against the indifferent loudness and noise of the city and mass media. In this way, soundscape composition is able to reinvigorate a keen awareness of the sonic environment, and precisely oppose and 'speak back' to the strategic, corporate use of background recordings which deliberately promote disorientation and distraction for solely commercial purposes (Westerkamp 2002: 52).

Burroughs

Burroughs' tape recording experiments are relevant here as well, because, to an extent like Westerkamp, Burroughs also modulates recordings against both the 'monster' of control (Deleuze 1992: 4) and real-world noises. However, Burroughs' recordings are precisely not used to reaffirm, repeat or reproduce real-world sounds but to undermine these: whether as linear monologues or as guarantors of any single reality. Paul Hegarty writes that Burroughs tape recordings are produced, instead, in a critical, responsive relation to environmental other sounds:

> ' . . . tape recordings, or more accurately, tape and tape recorders,

25 See p. 85.

> can react to new settings and events. Burroughs recommends directing public events through near-subliminal juxtaposition of, say, political speeches and the sounds of animals or riots. The key to this is not just to multiply sound sources and confuse a gathering, but to cut different recordings in order that new meanings and imperatives can be heard.' (2007: 5)

Like 'Kits Beach Soundwalk', above, Burroughs' recordings also sometimes appropriate further mediated sounds. However, Burroughs does not then relate these to an individual expression or, as Hegarty writes above, use them to produce an only formal proliferation and confusion. Instead, random and site-specific tape cut-ups are produced which are then applied or diffused in relation to a specific context or to an 'original' real-world or recorded sound. These different sonic instances then become juxtaposed in what Davis Schneiderman has called a 'double resonance' that ultimately exceeds any individual intention or association (2004: 146).

Part of what Burroughs achieves is through a repetition that no longer repeats an existing recorded or real-world sound, as such, but by means of that repetition changes it. This is produced through a recontextualization which is also listened to alongside any recording, which therefore becomes differentiated from the original [26]. Burroughs, in this way, further demonstrates the potential of using the strategies of control against control [27]. Even, or especially, where originally oppositional recordings (e.g. rock music and tape cut-ups) have become absorbed and co-opted by the system, he argues, the uniformity and repetition of mass media allows small, mundane differences of context and reception to become amplified and noticeable [28].

Tenney

Although 'For Ann (rising)' perhaps sounds the most autonomous, and least environmental, of the recordings described here, Tenney's use of modulation significantly influenced the way (field) recordings were conceived of in this

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26 Cf. Julian Henriques on repetition (Henriques 2010: 77-78).

27 Cf. 'There is no need to fear or hope, but only to look for new weapons.' (Deleuze 1992: 4).

28 E.g. 'You will notice that this process is continually subject to random juxtaposition. Just what sign did you see in the Green Park station as you glanced up from the PEOPLE? Just who called as you were reading your letter in the TIMES? What were you reading when your wife broke a dish in the kitchen?' (Burroughs 2005:14).

thesis as bridges [29], or transductions [30], between different categories of sound [31]. Larry Polansky, writing on Tenney's works, notes that the modulation of parametric changes, as such, had been regarded as a widely compelling form in music:

> 'Composers (and listeners) have been fascinated by such works, and have experimented both with the concepts of apparent change along specific parametric axes (like Cage's pioneering Music of Changes), or with very slow and steady modification along one parametric axis.' (2003: 11)

Polansky adds that the Shepherd tone itself was already closely associated with the work of the composer Jean-Claude Risset. This influence of other works and composers can be partly traced to the way in which, as Tenney himself writes, the act of modulation itself seems to insinuate, or appropriate, other sonic forms.

Many of Tenney's works, like 'For Ann (rising)', repeatedly make use of algorithms which explore limited parameters of sound in quasi-natural, wave-like forms (Polansky 1983: 126). Relating them more broadly to contemporary technologies, such as tape splicing and digital code, Tenney understands such forms as able to perform transitions and connections, across extremes of cultures and sonic categories, to produce a smooth 'continuum' of sound (Kahn 1999: 8).

Such works also clearly perform, and make perceptible, the operation of modulation: producing both constant variation (difference) and connectivity. These sonic continuums are not then fully enclosed or resolved but remain 'palpably' open and accessible to a listener. Tenney describes 'For Ann (rising)' like an intensely machined version of ambient [32]. The work produces a mesmerising effect in which the listener is able to both wander about and to apply intermittent, individual, close-up attention:

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29 Cf. 'It is a temperamental thing of mine. I like to make those bridges, those connections.' (Tenney quoted in Kahn 1999 :1).

30 Adrian Mackenzie describes transduction, following Gilbert Simondon, as a 'resonance and coupling between diverse realities' (Mackenzie 2002: 13).

31 This is most evident in the two final projects "Dense Boogie" and 'For the Birds'.

32 'Ambient Music must be able to accommodate many levels of listening attention without enforcing one in particular; it must be as ignorable as it is interesting.' (Eno 1978).

> ‘A wonderful thing happens in For Ann (rising). So little seems to be happening, yet there is continual change, partly because it appears to be in some way completely predictable, right? The mind starts moving around in the sound in an extremely interesting way, and everyone is taking a different path through it. You can just sit there and follow unintentionally and find yourself going here and there or you can actually focus your hearing and cause yourself to change your focus within the texture.’ (Tenney in Kahn 1999: 7)

The pervasive influence of the figure of modulation that Polansky describes above is also more intimately reflected in the modulation of volume in SI which connects both to familiar experiences of private listening and to well-known experimental works such as John Cage’s ‘Imaginary Landscape No. 4’ (1953), for example. Beyond the appropriation of local and site-specific sounds at the conference, the SI applications might also be conceived of themselves as appropriations of existing works, like Tenney’s and Cage’s above. At the same time, through the action of modulation, SI does not then only repeat these, but moves on to implicate and appropriate further recorded and environmental sounds.

6. Haptic Reception

> 'It is said that composers do not hear: they have close-range hearing, whereas listeners hear from a distance'. (D&G 1988: 493)

Description of Sonicinteractions Player v2 (2011)

Sonicinteractions v2 [33] is the 2011 version of the standalone player that was substantially developed at the time of the Sonic Interactions conference in 2005. Both versions of the player were compiled in Max [34]. The 2011 update altered the graphics of the player to include a Sonic Interactions logo [35] that was part of the original conference typography. Since they are nearly functionally identical, the more recent version is described here.

Sonicinteractions v2 is made up of two main windows ('Shell' and 'Operator') which open on the program start up and remain on top. Three user selectable windows ('About Sonicinteractions; 'ReadMe; 'ScreenShot') provide further information. The top window ('Shell') instructs the user to drag an audio file (.aif or .wav format) onto it. The file name is then displayed in 'Shell' and, when the audio button in the 'Operator' window is on, played back by clicking on and highlighting the name. The application then plays back the audio file with the modulating algorithm applied. At the end of playback, the file name greys out, as the audio file is automatically turned off [36].

The Sonicinteractions (SI) applications produce, what is intended to be, an automated version of an individual listener's 'dial twiddling' (Gould

33 See pp. 259-261, figs. 2-4; DVD II: Sonicinteractions/Sonicinteractions v2.

34 In Max/Msp 4.5 and Max 5 for the Macintosh PowerPC; compatible with Mac OS X to version 10.6 ('Snow Leopard').

35 © Goldsmiths, University of London.

36 The user is warned that this potentially produces an extreme range of volumes: from silent to very loud. It is also important to note that any silence at the start of a playback is not a malfunction.

1988: 347) at home [37]. The gain levels of any recording made or played through them are constantly variably adjusted by the algorithm. This produces a restless and fragmentary experience of recorded sound, which is clearly heard together with any playback context. Whilst this might already be the case in a less formal playback situation, such a reception is more unusual within the absolute, disciplinary context of a conference.

SI sometimes reproduces, across the extremes of the algorithm, the effect of either an individual 'taking control' of, or of themselves being controlled by recorded sound (e.g. where this is a loud monologue). Whilst this also situates SI in relation to the 'monster' of control, discussed previously, I am more interested in the tactile involvement of a listener, in relation to a background of recorded sound, as producing something less delineated and purposeful.

This is directly influenced by Glenn Gould's depiction of domestic recording playback, in the essay 'The Prospects of Recording' (1966), and expanded by further discourses which connect haptic epistemologies and accounts of reception more broadly to mass media and to technological modernity. These are drawn from Walter Benjamin, Marshall Mcluhan, and Gilles Deleuze and Félix Guattari (D&G), all of whom describe 'distracted' and tactile modes of reception emerging in relation to haptic spaces ('acoustic'; 'nomad'; 'smooth'). SI mainly focuses on the specific modes of perception that these spaces imply rather than on the spaces themselves, which are discussed more fully in relation to the final two projects.

Glenn Gould: participation

Gould's essay describes the contemporary emergence of a listener who is a participant and 'associate' in the production of music; rather than only a passive recipient. He depicts a listener at home who effectively co-produces the recorded work by physically engaging with the knobs and dials of the playback equipment. Although Gould describes the on/off buttons, and volume controls, as 'primitive' and 'regulatory', providing only weak and limited interactions, Gould, nevertheless, anticipates and connects these to extended possibilities of participation [38]. He adds that he finds in this potential the 'greatest

37 Although it is clear that this is no longer necessarily a dial.

38 Cf. Nicolas Bourriard's contemporary linking of the consumer's remote control to

achievement of the recording industry'; understanding that it would ultimately efface any differences between composer and listener (Gould 1988: 347).

The evolution of this is traced, paradoxically, to the disciplinary scene - which Gould relates to all mediated sound - of 'an audience of unprecedented numbers' in fact being 'a limitless number of private auditions' [39]. These private interactions with recorded sound then produce, what Gould understands to be, a heightened expression of subjectivity in which, through modulation, personal tastes and preferences, however marginally, then alter the experience of a recording. Gould adds that as the listener adjusts the equipment: 'he transforms that work, and his relation to it, from an artistic to an environmental experience' (1988: 347).

Gould describes a listener who, through tape splicing and collage, is able to produce their own version of a piece of music. This would only reflect and add to, what Gould understands, as the 'complicated gestation' already implicit in all recorded music, and which renders any one 'horizontal' (historical or biographical, for example) approach to recording pointless and inappropriate (Gould 1988: 343). Such a linear, or straightforwardly genealogical, depiction of music has also already been made difficult or irrelevant, Gould continues, through the juxtapositions and simultaneous playbacks of mediated sounds of Mcluhan's '"global village"'(1988: 349).

The development of the 'listener-consumer-participant' is then connected to background recorded musics, as such (1988: 350). Gould writes that Muzak makes extensive use of melodies from the entire repertoire of music, which, as background musics, are then indiscriminately cross-referenced and blended together, in a more conscious and deliberate manifestation of the 'global village' above. This proliferates and naturalizes a succession of voices and genres to produce a situation which, Gould argues, erases earlier modes of reception (1988: 340). These become 'absorbed' through an omnipresent, environmental 'Muzak', rather than more directly understood (1988: 350-1) [40].

Gould further argues that - because environmental musics minimize and make considerations of genre, chronology or individual artistic production irrelevant -

the figures of the artist and deejay and to a narrowing between production and consumption (Bourriard 2005: 39).

39 Cf. panopticon (Foucault 1995).

40 Cf. Benjamin pp. 55-57.

the listener is able to treat each playback as part of an extensive environment of recorded sound, in which they themselves have now become implicated:

> ' . . . all the music that has ever been can now become a background against which the impulse to make listener-supplied connections is the new foreground'. (1988: 350)

The neutrality and unobtrusiveness of background musics provides, what Gould then understands to be, a 'becoming-environmental' of music in which music becomes an indistinguishable part of everyday life, available to all. Through tactile reception, and modulation, the audience starts to appropriate and interact with recorded sounds, and therefore actively participate in and respond to their wider environment. This produces, what Gould optimistically depicts as, a series of conflations - of composer and listener, public and private, art and life - so that ultimately:

> 'The audience would be the artist and their life would be art' (1988: 353)

Walter Benjamin: distraction and close-up

Gould's depiction of the listener, above, has significant resonances with Walter Benjamin's influential, early account of mass reception, in the Artwork essay (Benjamin 2008). In the essay, Benjamin relates new forms of audio-visual experiences produced by mass media, such as film, to profound changes in apperception (2008: 41). He links film audiences to an increased participation in art works in general, which at the same time, Benjamin argues, has altered the quality and 'mode' of that participation (2008: 39). Benjamin cites contemporary criticisms of mass participation [41] - in terms of their 'distraction' and opposition to classic forms of contemplative reception - in the essay, before developing a significantly different approach to 'reception in distraction' (2008: 40).

Relating such new modes of reception to existing, mundane experiences of architecture, Benjamin argues that architecture provides a prototype for the former; because it is an art work which is experienced daily and collectively, in a 'state of distraction' (2008: 40). He describes the way in which everyday architectures - against those encountered as a spectacle by a tourist - are

41 Cf. acoustic ecology pp. 32-34.

appropriated indirectly and through tactile means; rather than visually at a distance or through focused concentration:

> ‘On the tactile side there is no counterpart to what contemplation is on the optical side. Tactile reception comes about not so much by way of attention as by way of habit. The latter largely determines even the optical reception of architecture, which spontaneously takes the form of casual rather than attentive observation.’ (2008: 40)

This tactile reception is figured, like the Deleuzian haptics that Bogard has described, and again in Mcluhan and D&G below, as operating across a range of senses that include the optical, rather than being restricted to actual touch. At the same time, Benjamin adds, there is no tactile version of contemplation, placing it in ‘polar’ opposition to distraction:

> ‘Distraction and concentration form an antithesis which may be stated as follows. A person who concentrates before a work of art is absorbed by it; he enters into the work … By contrast, the distracted masses absorb the work of art into themselves. ‘ (2008: 40)

Benjamin understands this changing epistemology to have been produced in response to the serial ‘shock effects’ of technological modernity that would otherwise be impossible to absorb. Rather than being directly confronted or contemplated, he argues, such changes are instead gradually and obliquely ‘mastered’ and absorbed through repetition and habit (2008: 40, 53).

This is also partly suggested, in the Artwork essay, by Benjamin’s description of mass media as ‘meet[ing] this mode of reception halfway’ (2008: 21). Citing phonography and radio, he relates this effect to both to their status as copies and reproductions - which are therefore able to be returned to and repeated - and to their portability; enabling them to be experienced by the individual as part of the everyday, at home (2008: 37).

At the same time through new media, such as film, close-up and mundane details, which would otherwise be unnoticeable, become isolated and accessible to analysis (2008: 37). Benjamin understands that the medium in this way, through splice, close-up and repeatability, simultaneously encourages immediate, critical assessments together with a relaxed, wandering inattention.

In each of these ways Benjamin understands distraction, as a gradual,

cumulation of energy, which is able to covertly influence mass audiences by enabling them to absorb art works into themselves, rather than entering into them and being absorbed. The audience instead obliquely appropriates and assimilates the work through incidental close encounter and repeated exposure (like waves):

> 'Their waves lap around it; they encompass it with their tide' (2008: 40)

Marshall Mcluhan: 'Acoustic Space'

The concept of 'acoustic space' is developed across a number of Mcluhan's writings [42], where he relates it to electronic mass media and the changes in perception that he argues these have produced. Mcluhan places acoustic space dialectically opposite to visual space, describing their differences in a series of oppositions. Visual space is Euclidean and reliant on vision alone; it is experienced as enclosed, stable, continuous, regular and measurable. In contrast, acoustic space is 'boundless, directionless, horizonless' (Mcluhan 1970: 13); it is produced by an 'audile-tactile' interplay of all the senses (Mcluhan 2011: 62), and experienced in terms of simultaneity and discontinuity, resonance or rhythmic interval.

Mcluhan's interest in spatial theories was developed alongside a number of other theorists who influenced an understanding of acoustic space as independent of visual space, produced through distinct modes of perception (see Cavell 2003: 20-23). Edmund Carpenter's work on Inuit perception in the journal 'Explorations' was especially influential (Cavell 2003: 51); providing a way for Mcluhan to relate new forms of electronic media directly to acoustic rather than visual space, and to changing modes of perception.

In 'Space Concepts of the Aivilik Eskimos' (1955), for example, Carpenter evidenced that perceptions of space were socially and culturally constructed, rather than universal or essential features. He wrote that in the arctic:

> 'There is no middle distance, no perspective, no outline, nothing the eye can cling to except thousands of smoky plumes of snow running along the ground before the wind - a land without bottom or

42 Examples include Mcluhan 1969; 1970; 1988; 2011. Mcluhan & Powers 1989; Mcluhan & Fiore 1996; Mcluhan in Mcluhan & Zigrone 1995: 38.

> edge ... when travelling by boat along the coastline in a heavy fog, a navigator relies on the sound of waves arid the direction of the wind. Without seeing light or land, and without any stars, he is still able to find his course by checking the wind and listening for the sound of the surf.' (Carpenter 1955)

The analogies between experiences of an arctic landscape and the mass mediascape, which Mcluhan then makes, are developed in the paper 'Acoustic Space', co-written with Carpenter (Carpenter & Mcluhan 1970: 65-70). After relating preliterate and 'Eskimo' perception to the transition in perception produced by mass media, they describe acoustic, or auditory, space in detail:

> 'Auditory space has no point of favored focus. It's a sphere without fixed boundaries, space made by the thing itself, not space containing the thing. It is not pictorial space, boxed in, but dynamic, always in flux, creating its own dimensions moment by moment. It has no fixed boundaries; it is indifferent to background. The eye focuses, pinpoints, abstracts, locating each object in physical space, against a background; the ear, however, favours sound from any direction'. (1970: 67)

Mcluhan describes the tactile, or audile-tactile, qualities, which are produced in relation to such environments, as multi-sensory; distributed amongst the senses like other haptic accounts of reception (Mcluhan 1969: 5). Tactile awareness is produced instantly and simultaneously with events: 'not . . . by a gradual finding in and out of consciousness, but by catastrophic contacts and breakings of contacts' (Ivins in Cavell 2003: 57). Acoustic space brushes up against the subject 'close up' and produces a constant sense of surprise or 'shock'; producing a sensitive and responsive alertness to the variations and intervals between things (2003: 214). The discontinuities, Mcluhan adds, produce a participatory effect; unlike visual spaces which, by 'having everything covered', exclude this potential (2003: 122). The viewer or listener is, therefore, able to become actively involved with production.

Gilles Deleuze and Félix Guattari: haptic, 'nomad' or 'smooth' space

In 'A Thousand Plateaus' (1988), D&G also develop a concept of haptic space, which they otherwise call 'smooth space' or 'nomad space' (1988: 474), and similarly link to close-range perception. Like Mcluhan, they oppose 'close

vision - haptic space', which operates across all of the senses, to optical, 'striated' space (1988: 492). D&G also associate haptic expressions of space and perception with nomadic locations and forms of engagement; using the terms 'nomad' and 'nomadic' across the book and relating them, both literally and metaphorically, to nomadic geographies, lifestyles and practices, warfare, politics, philosophy, art and music etc.

It is worth quoting a passage from Chapter 14 '1440: The Smooth and the Striated' in 'A Thousand Plateaus' at length here, where D&G explain the differences between haptic and optic modes of perception:

> ' . . . it is said that composers do not hear: they have close-range hearing, whereas listeners hear from a distance . . . The first aspect of the haptic, smooth space of close vision is that its orientations, landmarks and linkages are in continuous variation; it operates step by step. Examples are the desert, steppe, ice, and sea, local spaces of pure connection. Contrary to what is sometimes said, one never sees at a distance in a space of this kind, nor does one see it from a distance; one is never "in front of," any more than one is "in" (one is "on"...). Orientations are not constant but change according to temporary vegetation, occupations and precipitation. There is no visual model for points of reference that would make them interchangeable and unite them in an inertial class assignable to an immobile outside observer. On the contrary, they are tied to any number of observers, who may be qualified as "monads" but are instead nomads entertaining tactile relations among themselves. The interlinkages do not imply an ambient space in which the multiplicity would be immersed and which would make distances invariant; rather they are constituted according to ordered differences that give rise to intrinsic variations in the division of a single distance.' (1988: 493)

D&G expand 'smooth' spaces to include places like the desert and sea, describing these in terms of sound and tactility influenced, like Mcluhan's account of acoustic space above, by Carpenter's depictions of Inuit perception (1988: 494, 574 n.28) [43]. Following Carpenter, they stress the nomads' indifference to visual information, such as astronomy, developing instead, what D&G understand to be, 'a whole minor science of qualitative variables and traces' (1988: 557 n.56).

In haptic space everything is experienced, outside any proper perspective in

43 D&G also cite: 'There is no middle distance . . . '. See pp. 57-58.

a mode of constant and close-up variation [44]. Details, and small or temporary, differences become important and are tested and sifted through on the ground. Orientation is gradual and conditioned on marginal, close-up differences rather than mapped out against a horizon or clearly defined background (1988: 478-479).

Because a smooth terrain itself is in a state of drift, any tracks made through it are transiently produced on the surface as the subject moves across it, quickly becoming covered again (1988: 381-2). For this reason, the subject responds to smooth space with constantly changing assessments and evaluations of its qualities and symptoms. In this way, any nomadic subjectivity is made (and erased) simultaneously with any immediate environmental moves that the subject makes; rather than being essential, prior or externally caused.

The distinction that D&G make between the listener and composer can also be related to the other accounts above. D&G place the listener's reception at a distance against a composer's haptic, close-up engagement, which they argue is no longer hearing as such. Gould similarly predicates the transition from listener to composer on a tactile contact with a haptic, smooth space of environmental background sound, reflected in accounts of acoustic space. The tactile appropriation of Benjamin's 'reception in distraction' together with his depiction of the audience as an 'absent minded' examiner, in the face of mass media (Benjamin 1977: 243 [45]) is also like the nomads' drifting evaluation.

44 Cf. modulation.

45 The first edition of the Artwork essay.

7. Conclusion

> ‘ . . . took over bars cafes and jukeboxes of the world cities and installed radio transmitters and microphones in each bar so that the music and talk of any bar could be heard in all his bars and he had tape recorders in each bar that played and recorded at arbitrary intervals . . . so he set waves and eddies and tornadoes of sound down all your streets.’ (Burroughs 2010-2: 240)
>
> ‘ . . . modulation is no longer a filter for a stable world but is applied to modulation itself, so that everything is taken up within this modulation of modulation.’ (Murphie in Massumi 2005: 191)

Volume

The dynamic changes in SI are experienced in terms of a continuous variation, rather than as stable effects. Various states rapidly follow on from each other and pass through different intensities and thresholds to produce, what Tenney has called, ‘sonic continuums’ of both volume and sound. The algorithm moves from nearly silent, through average to loud levels, and between different categories of recorded and background ambient sounds.

The repeating operation of modulation produces a further lack of differentiation between different instances of recording that also makes the beginning and end of a recording less clear. Because any silence that SI produces is potentially only transitory, there is no final framing and separation of ‘work’ from ‘environment’. During playback, the point at which a recorded sound starts or finishes is also sometimes critically undecidable [46].

One of the effects of volume modulation is to implicate the sounds of the playback site alongside any recorded sound. In this way SI formally reveals

46 Cf. ‘the skin of the recording’ (Appendix 1, p. 238).

an environmental depiction of recording, in which recorded sounds are not only exclusively listened to. If the volume levels are low, or drop out, in the SI applications, the noises of the room that any audio file is recorded or played back in, become a tangible part of the experience of a recording. Recorded and real-world sounds are both integrated together - into a 'smooth space' - and fragmented into parts. At the same time, SI exhausts absolute accounts of recorded sound by making such modes of listening impossible.

Modulation

Sonicinteractions (SI) attempts to foreground the operation of modulation as a 'modulation of modulation', which specifically attempts not to process or 'filter' other works or sounds into further stable categories or events. Whilst the individual instances and content of modulation are contingent and random, the effect of modulation itself is clearly heard. None of the recordings that are associated with SI are definitively established or encompassed as parts of a complete or repeatable new work. Nor is SI interested in the absolute presence, or essential site-specificity of the conference, home, or of any of the sounds happening there [47].

Discipline/control

SI produces an experience of environmental recorded sound within a disciplinary setting, whilst also evidencing this disciplinary structure. Because the recorded content of SI is drawn entirely from the Sonic Interactions conference, the recordings also confront the conditions of their own production there (cf. 'talkbacks'). The SI algorithm disrupts the sonic organization of the conference by fragmenting any concentrated or total experience of recorded sound in it. This happens both by appropriating a further participant's recording and by modulating it against both a talk and site-specific context, so that the ambient background can now also be heard.

In this way different disciplinary structures also become parameterized and modulated through SI; producing a continuum between disciplinary and control that reflects understandings of control as the straightforward intensification of the disciplinary. At the same time, the modulation produces a haptic and

47 Cf. ' . . . to consider music (and by extension, artistic process) not as a produced object, but rather as a set of parameters embedded within specific localities'. (Henritzi, Ielasi, LaBelle, Sato & Wollscheid 2002: 3).

environmental experience of, what might otherwise be realised as, a series of discrete and autonomous forms (recording; room noise; audience; speaker etc.).

The disciplinary situation also provides a concentrated context in which recorded sound, as such, can also be listened to, not only in terms of discipline, but also as modulation or control. The individual's core private parameter of volume is singled out and played back against the convention of an audience's silent, absolute reception of sound. In this way the silence of the audience can be tangibly heard as a participation and production itself in relation to the dynamic levels of the recording. At the same time, as the algorithm passes through a range of volumes it reveals a range of auditory modes: from close-up, haptic to distant and perspectival.

Whilst SI is modelled on the individual listener's paradigmatic control, it also reveals a careless, supple automation. This evidently has the capacity to territoralize, deterritoralize and reterritoralize sounds, and as it does so, to produce different subjectivities and behaviours [48]. The algorithm simulates both an individual tactile, restless, explorative reception and - as it relentlessly, automatically changes tack and covers ground - a more sinister, alien probing.

Private/public

A main concern of SI has been to implicate, through modulation, the private and public, home and work, working and 'being worked', and production and reception, together. The convergence between the private and the public has been found to be one of control's most troubling effects; expressed in terms of a radical constriction and curtailment of free or open space. This has been evidenced here in the different accounts produced by Deleuze and Bogard, Burroughs, and most tangibly expressed in criticisms of functional and environmental musics by theorists such as Westerkamp.

The same conflations have also been construed in SI, following Benjamin and Gould, as an emergence of the individual home listener as composer precisely in relation to a mass of environmental recorded sounds; and upon 'whose fuller participation', repeating Gould's argument, 'the future of the art of music waits'

48 Michel Serres clarifies this effect: 'The condition of his being a receiver, a subject, an observer, is, precisely, that he make less noise than the noise transmitted by the object observed. If he gives off more noise, it obliterates the object, covers it or hides it.' (Serres 1995: 61).

(1988: 347). In this way, the ‘primitive’ modulation of volume becomes related to haptic receptions (distracted; tactile; audile-tactile; nomadic) and spaces (acoustic; nomad; smooth).

The different public and private, recorder and player aspects of the SI application and contexts; the automation of the gain parameter connecting recording and composition to home reception and hi-fi controls; the range from absolute to distracted modes of listening; the appropriation of other peoples’ presentations and recordings. Each perform different conflations of public and private; working together towards, what is understood here as, a ‘smooth’ space.

Environmental music

Environmental music - not so much a genre, as a proliferation of recording playbacks and a mode of reception which involves all recorded sound - has become conceived of as an everyday, everywhere ambient, which unavoidably permeates across environments and individuals. Instead of thinking of this as only a functional intensification and the ‘tighter hold’ of control and capital into every part of life - Deleuze’s ‘coils of the serpent’- absorbing every particular and individual as it despoils the environment, alternative characterisations of environmental musics consider their creative, resistant potential to move across and disorder hierarchies and boundaries, which have themselves been fixed and naturalised through such channels of control (LeGuin 1994: 7-8; Kassabian 2001: 4).

Today, a more extensive situation of ‘reception in distraction’ has been made possible, through code and the miniaturisation of technologies, which has also allowed more tangibly interactive points of access and participation. Unauthorised, alternative expressions of environmental music have provided, what has been described as, ‘a necessary critique of control in its purest form to date’ (Bailey 2011), which points to control’s ambiguous operation. However, instead of arguing here for a ‘power user’ who adopts and replicates strategies of control [49], or for a listener-composer who only exchanges one clearly circumscribed subjectivity for another, SI focuses on the way in which such subjectivities are only transiently produced alongside haptic, smooth and acoustic spaces.

49 Cf. Stevenson 2007: 16.

The ‘white noise’ mediascape of environmental recorded sound and the wandering inattention that acoustic ecologists, amongst many others, want to recover can be refigured as haptic, smooth spaces and modes of reception. The close-miking and monstrous amplification that Schafer listens to ‘downtown’ (1994: 43) can be alternatively constructed as the close-up, haptic reception of D&G’s composer above; now democratized. In close-up, new linkages and connections are made amongst themselves, apart from any directive or stable orientation from elsewhere. This is also expressed by Gould in the listener-composer transition, and ultimately in the ‘becoming environmental’ of music; precipitated through the modulation of the hi-fi dials at home.

‘ . . . articulate something Natural . . .’ [50]

At the same time as SI repeats the sweeping, exploratory surveillance of control, and the ‘program of haptics’ . . . to ‘ simulate the body’s feelings of manipulating objects in the real world’ (Bogard 2007), it also cuts up and contingently relates together recorded and environmental sounds. Charles A. Baldwin, writing on John Cage’s ‘Imaginary Landscape No. 4’ (1951), relates the continuousness and apparent autonomy of functional mediated sound itself - ‘radio is always on, though no one’s listening’ - to the potential of tuning as the ‘cut-up of programming’ (Baldwin 1996).

Whilst random modulation cuts-up monologues and regularised categories of sound, it also produces new connections transiently out of these. The contingent relations that the modulation of mediated sounds make, in this way, become a critical part of their effect. Much of this potential - like in Burroughs’ cut-ups - emerges outside of any individual authorial intention (Hegarty 2007).

Aleatory music has also been more directly related to a haptic sensibility, in something close to modulation, which is no longer focused on individual skills, associations or tastes. Tenney, for example, relates the ‘palpable’ perceptibility of ergodic works such as ‘For Ann (rising)’ to the degree of control the composer has over a ‘field’ of possibilities and wonders about the ‘usefulness of [his] controls over the course of parametric means and ranges’ (Polansky 2003). Cage, borrowing from Mcluhan, understands the ‘no work’ of aleatory composition in terms of a sensitive, tactile connectivity produced through the random mutual conditioning of ‘information brushing

50 Hans Haacke Untitled Statement (1965) (Selz 1966:37). See Appendix 1, p. 239, n.3.

against information' (Cage in Kostelantz 2003: 232).

As environmental mediated sounds become increasingly pervasive, reception can also start to be understood in terms of modulation: a variable tuning into and out of a continuously available sound; rather than only in terms of enclosure or immersion (cf. D&G 1988: 493). Recordings are then experienced, like real-world environmental sounds, mundanely and habitually rather than only exclusively. In haptic accounts of reception, the habits of individuals and contingencies of environments become implicated in any sonic production. The necessary relaxation and freedom of movement and affect that haptic reception implies also suggest that it impossible for control to be applied in any direct or straightforwardly productive way [51].

Bogard explains this in relation to technologies of control, which he initially describes as acting as enclosures which impoverish and 'block the number of connections a body can make and decrease its capacity to be affected' (Bogard 2007). At the same time, Bogard argues, these technologies only simulate and modulate tactility and haptic space. They are not able to control tactility and haptic spaces themselves: because '[t]here are no controlled "parameters" of affect, no digitalized thresholds of tactility'. Instead, following Deleuze, Bogard understands these produce a 'becoming different' in which:

> '[e]ach move through haptic space is a change of nature, not a controlled modulation.' (Bogard 2007)

Waves

The wave-like sound of modulation can be absorbing to listen to. This might be interpreted, following Jacques Attali (1985: 6), as the fascination of listening to power. In this case, the mesmerising impingement of control as it relentlessly moves into and 'fills up', or erases, the interstitial spaces between things (cf. Adorno in Frith 2002: 38).

Yet this fascination, I would argue, is produced by the rhythmic way in which modulation repeatedly territoralizes and deterritoralizes different categories of sounds, and produces transient sonic continuums, rather than by any sonic content as such. The pattern of compulsory contraction and release that Deleuze locates at the heart of control also potentially produces something in

51 Cf. 'Muzak claimed to make workers more useful, shoppers less penurious, chickens lay more eggs and mango trees produce more mangoes'. (Lanza 1991: 44).

excess of this which is resonant and participatory. Mcluhan's original statement concludes:

> ' When information is brushed against information...the results are startling and effective. The perennial quest for involvement, fill-in, takes many forms.' (Mcluhan & Fiore 1996: 76-78)

PART II: Doublerecordings (2005 - 2007)
1. Introduction

Overview

As in Sonicinteractions (SI), a software application was developed in Doublerecordings (DR) arranged around a single audio parameter, with a recorder and player version [1]. These recorded the left and right channels of an audio file from a stereo microphone pair, or played back the two channels of an existing stereo recording, with a randomized or selectable delay between them.

Whereas SI remained focused on the applications, in DR the 'doublerecordings' that were produced provided the main focus of the project; together with other recordings which were made around them. The latter were developed through a series of further methodologies, which either repeated the delay using the same algorithm ('doublererecordings'), made recordings of existing doublerecordings using generic audio recorders ('rerecordings'), or reversed the original delay ('recovered' recordings). These built on the automated productivity of the DR applications to produce complex aggregates of recorded sounds.

The initial doublerecordings were randomly generated from a feature of Max [2] where audio is played back simultaneously from any open patcher windows [3]. This occurs unintentionally if the same window is opened more than once and is hidden. In the case of DR, two very similar field recordings were accidentally

1 See p. 258, fig. 7; DVD II: Doublerecordings/ Applications/Max/Doubleplayer 1.0; Doubleplayerdelay 1.0 and . . . /Applications/Doublerecorder 2.0.

2 See p. 22, n. 1.

3 Although Max objects are arranged in independent patcher windows, certain objects, such as audio output are global.

played back together; producing a slight effect of reverberation. This effect was repeated and intensified, in DR, by setting random or specific latencies between audio files and making this small time difference its core parameter. The delays produced echoic effects ranging from a subtle brightening of sound, through phasing and reverberation to echo.

The related series of field recordings and recording methodologies in DR were produced in anticipation of an installation player which was also being developed at the same time [4]. However, this was not eventually used in respect of DR. Instead, DR repeatedly and randomly produced a large number of recordings of short duration. These were intended to be tested against, and related to, further instances of sound; rather than be experienced, as sustained or complete recordings, only intrinsically. In the version of DR described here, complexes of doublerecordings and other recordings, which had been developed together, were selected and placed onto CDRs [5].

Introduction

> 'I think the echo on Elvis's "Heartbreak Hotel" is better than the song itself, by far. Nobody could tell me what that was, in my family. They didn't know what to make of that sound. It turns the studio into a cave.' (Eno in Tamm 1995: 17)

The DR applications add a random millisecond delay between the channels of a stereo field recording to produce a range of familiar echoic effects, commonly applied to technologically mediated sounds. In this respect, they only increase an existing delay which already occurs between the channels of any stereo recording.

In a stereo recording, two microphone capsules are positioned at a specified angle and distance apart from each other [6]. These pick up distinct audio signals, which are then recorded onto separate channels and later reproduced on a pair of loudspeakers, also placed apart. This chain of technologies has

4 See p. 275, fig 26; DVD II: ForTheBirds/Installation_Player_v2.2.

5 CD051115_01 (see p. 262, fig. 5; DVD I: Tracks 7-12); CD051115_02 (see p.263, fig. 6; DVD I: Tracks 13-17) ; DVD II: Doublerecordings/CDR.

6 Examples of stereo microphone patterns include A-B, Ortf, X/Y.

been understood to produce a realist effect in which recorded sounds are experienced as convincing reproductions of original real-world sounds.

By producing a further delay between the channels at the point of recording or playback, however, the DR applications disrupt the spatial realism of the stereo format. In this way, the delay is the crucial feature of any DR recording or playback; rather than only subsequently being applied in post-production. The further recording strategies in DR then extend or reverse this original effect.

At the same time as disrupting the stereo realism, however, the applications continue to produce two channel recordings and playbacks. The different DR recording methodologies also sometimes make convincing simulations; whether of echoic effects, or of the 'secondary', virtual space of a recovered field recording.

Real-world and mediated echoes and reverbs are also sometimes directly evident in the original recorded content. In this respect, a strategy of 'doubling' in DR extended from the documentary reproductions of straight field recordings, through appropriations of further recordings, to the doublerecordings and different rerecordings.

One of the main focuses of DR was to produce recordings which related to other instances of both real-world and mediated echo. Although echoes are only exceptionally produced in natural locations (e.g. in caves), and more frequently heard as artificial effects, reverberance is evident in nearly all real-world environments and interiors.

Recordings and amplifications also evidence the ubiquity of real-world reverberation by making it hearable, as such. At the same time, the presence of sound reflections and resonance [7] has been found problematic in many processes of recording and rerecording. The practice of close-miking has become widespread in response to this, with echoic effects then reinserted in post-production.

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7 Resonance is the result of the introduction of a frequency into a system (e.g. a room) that matches an existing frequency. This produces a sympathetic vibration that results in an amplification of the resonant frequency (Truax 1999).

As well as enhancing the realism of mediated sounds, fabricated echoes and reverbs have been used to relate different instances and categories of sounds together [8]; and to produce enlarged or, in some way disturbed, virtual spatialities (Doyle 2004: 31). Each of these effects are also relevant to the DR recordings, which were intended, however briefly or incidentally, to reference echoic effects in popular music [9].

Certain music genres have also been characterised by their use of echo and reverb as a core effect. Whilst no specific works from these directly influenced DR, genres like dub reggae (dub) and ambient music (ambient) have been regarded as having a significant and continuing influence across popular musics (Prendergast 2000: 4; Veal 2007: 220-257). This made these more broadly relevant to the project, which was also concerned to relate to wider depictions of environmental mediated sound.

Recent theories of both dub and ambient, have also been critically useful in developing a discursive context for DR. Although echo and reverb have been characterised within both genres as producing disorientating temporalities - evoking archaic, even oceanic, prehistories alongside virtual space-age futures - they each develop distinctive depictions of echo and delay.

Michael Veal's book, 'Dub: Soundscapes and Shattered Songs in Jamaican Reggae' (2007), relates dub's use of delay to it's larger structure of 'versioning' and appropriation. Veal describes both the production and reception of dub in transgressive and participatory terms, which support an alternative depiction of recorded echo, than that developed in early ambient or within the acoustic ecology movement, for example.

Although other characterisations of ambient music are less explicit, the composer Brian Eno, who formulated ambient partly in response to existing environmental musics, describes autonomous-seeming, extensive and protracted soundscapes, which partly insulate the subject from other concerns. This is reflected in depictions of both real-world and recorded echo drawn from

8 E.g. where a number of recordings are treated with the same reverberation in post-production to imply that these have been made in the same location; or where reverb is used to blend a live amplification together with electronic sounds. (Senior 2008-1).

9 See p.95, n.59.

acoustic ecology, which are further related to environmental recorded sounds.

In an essay, written in response to Marshall Mcluhan's paradigm of 'acoustic space', R. Murray Schafer links recordings, as such, to the earliest deliberate production of echoes in caves. Within this schizophonic model, sounds are 'split off' and multiplied from their original sources; producing instead, what acoustic ecology understands to be, controlled spaces of simulation and ultimately the extensive, 'closed off', 'lo-fi' environment previously described in SI [10].

Yet, as briefly suggested there, the proliferation of recorded sounds in the global environment has also been characterised, after Mcluhan, as producing resonant and participatory effects (Cavell 2003: 214). The DR project, to an extent, by making many echoic recordings, attempted to both minimally perform this environmental proliferation, at the same time as banally evidencing Mcluhan's idea.

Elsewhere, the ethnomusicologist and field recordist Steven Feld has proposed an alternative account of schizophonia, in which the multiple diffusions of recorded sounds are themselves considered a significant part of any recording's production (Feld 1996). Feld's positive reassessment of recording playbacks invites more inclusive, and less controlled, accounts of mediated sound production; already implied by the spread of consumer audio technologies.

Beyond Schafer's definition of lo-fi, the term has also described a mode of production - rather than a genre - of recorded sound that has been related to a more democratic aesthetics and politics of recording (Grajeda 2002: 357). Lo-fi's use of location recording and resonant spaces to record in, for example, also evidently shares procedural aspects with DR, as well as with ambient and dub. The DR recordings potentially also sound similar to these.

Tony Grajeda has related lo-fi techniques more precisely to a deconstruction of the material production of recorded sounds, which works against the realism and corporate structuring of stereo and hi-fidelity (2002: 362). This is reflected in Rebecca Leyden's account that relates echo and reverb in mid-twentieth

10 See pp. 32-34.

century popular musics to ‘inferior’, domestic productions of sound (Leyden 2001). Within this context, the different parts of DR - most tangibly the doublerecordings and the recovered recordings - also situate recorded sounds produced mainly at ‘home’, against their potential stereo realism.

By repeating a recorded sound with a random delay, as well as by sounding echoic, the doublerecordings also minimally recreate the real-world production of an echo. By remaining as 2 mono files (i.e. by not writing the delay to an audio file), the doublerecordings retain a sense of fragmentation and splitting which is only then transiently brought together during playback [11].

Whilst this, together with the randomness and number of DR productions, suggests both Schaferian and alternative paradigms of schizophonia and lo-fi, conceptions of delay and rerecording in DR are concluded through further depictions of sound production as intensive and liminal. These are briefly drawn from individual, more or less Deleuzoguattarian, accounts of real-world and recorded echo from Christof Migone, Brian Massumi and Peter Doyle. Like Veal’s depiction of delay, above, they are also more broadly relevant to recorded sounds and issues of copying and appropriation.

11 [redacted]

2. Recordings and Complexes

> ‘ . . . the source was “a tape of a tape of a tape of a dub of a tape.”’
> (Robbie Robertson in Schwartz 1995:13 n.8)

Applications; equipment set-up

Although the doublerecordings and recovered recordings were mainly produced using standalone applications developed in Max, it is not my intention to discuss the applications in depth here. To a certain extent similar effects could have been made using a generic multichannel sound editor.

The ‘Doublerecorder’ [12] and ‘Doubleplayer’ [13] both used the same algorithms interfaced to a microphone or audio file input. These produced randomized or pre-selected recording durations and delay latencies between the stereo channels of recordings. In this respect, the automated proliferation of short recordings, in close succession to one another, was the Doublerecorder’s main effect. The delays themselves, in both applications, could also be understood as a part of this automated production of successive recordings, rather than as only an echo effect.

Whilst a significant number of the initial doublerecordings were produced using the internal microphone of a laptop [14], many of the subsequent recordings and rerecordings used the same recording equipment and set-ups as the other straight field recordings that were also being made at the same time [15].

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12 See p. 264, fig. 7; DVD II: Doublerecordings/Applications/Doublerecorder 2.0.

13 See DVD II: Doublerecordings/Applications/Max/Doubleplayer 1.0; Doubleplayerdelay 1.0.

14 [redacted]

15 DVD I: Track 18.

Complexes [16]: doublerecordings; rerecordings; doublererecordings; recovered doublerecordings; variable doublerecordings; clones

The DR applications evolved together with the doublerecordings and a further series of methodologies and recordings that were developed simultaneously. These intensified the effects of the original doublerecordings; by further delaying or 'recovering' doublerecordings; and by rerecording them either using generic technologies or again through the Doublerecorder ('doublererecording').

In the same way that the DR application produced two marginally different mono files each time a doublerecording was made, the project also made further closely similar audio files from the original doublerecordings, by making rerecorded and 'recovered' versions of these.

Together these built up complexes of related recorded sounds accretionally, which themselves remained open to most of the same 'double' procedures [17]. The complexes of recordings that were produced were neither intended to be perceived intrinsically as individual recordings nor finally resolved into aggregates. Instead they were proposed to point to the prolific, productive potential of further and future recordings.

This focus on the multiplicity of recordings and echoic effects, rather than the production of any one definitive recording, promoted an open, experimental and evaluative approach to the resultant recordings. Many of the DR recordings were produced with similar field recording content or in the same locations; further highlighting the range of effects that the different latencies produced.

Doublerecordings

After the initial development of the DR applications, the doublerecordings [18] were easy to produce, and a significant number were made during the project. The automation of the DR application, the randomised, brief recording durations, and the fact that the start and finish of the recordings were not

16 This describes a group of individual recordings that are considered associated together, rather than only in isolation (e.g. through an original place or time of production; or by a subsequent procedure such as rerecording).

17 Apart from the rerecordings from loudspeaker playbacks.

18 E.g. DVD I: Tracks 19-22; [redacted]

edited, made it possible to make many doublerecordings in quick succession. The duration of the doublerecordings (and therefore the other DR recordings), typically ranged from a few seconds to under three minutes.

Rerecordings [19]

Although the first project, Sonicinteractions (SI), also produced analogue rerecordings, these were developed more decisively in the subsequent projects. This was partly because the effects of the rerecording process were more evident in the smaller and more regular shaped spaces the later rerecordings were produced in. However, there was no attempt to reduce these effects in DR.

Whilst the two final projects tried to minimize the degeneration of the rerecording process, in DR it provided a further strategy of 'double' recording, which added to and intensified the recording complexes. The material, site-specific artefacts of rerecording, in this way, became audibly implicated with virtual echo effects. Rerecordings, by producing echoes and reverbs, also foregrounded and 'naturalized' these effects, as an inevitable part of the recording process, and, by doing so, exposed the work and illusion of stereo realism.

Recovered doublerecordings [20]

Later versions of the DR application also sometimes included a text file that listed the random durations and delays of the doublerecordings made during its run-time. This made it possible to accurately reverse the effect of the doublerecordings to produce, what would sound like, untreated, straight field recordings.

Clones [21]

A further strategy in DR identified a 'clone' each time a recording was digitally

19 DVD I: Tracks 8-12 (CD051115_01).

20 DVD I: Tracks 13-17 (CD051115_02). E.g. compare DVD I: Tracks 23 (original doublerecording) and 24 ('recovered' doublerecording (rerecording from loudspeaker playback)).

21 See p. 262, fig. 5; p. 263, fig. 6.

reproduced. Although digital copying has no effect on the sonic quality of an audio file, the clones in DR were intended to mark each further individual production of a digital copy of a recording, on a hard drive or CDR [22].

CDRs were numbered each time a further CDR copy was made (e.g. '_c4'). In this way the physical materiality of each recorded copy became related to the 'versioning' of the doublerecordings themselves. Each further instance of a recorded sound was then acknowledged as a production; rather than confining this to the repetition or reproduction of a singular or original point [23].

Variable doublerecordings

An adaptation of the DR algorithm, which could be applied to either application, also variably altered any delay set during recording or playback; using a line input to produce a continuously variable delay over the duration of a recording. This moved from an echoic to a non-echoic effect, making it possible to slowly 'recover' a doublerecording to a classic stereo recording [24].

Although the variable delay was not used extensively in DR, it suggested a method through which to audibly connect straight field recordings continuously together with both further genres of recorded sound and real-world acoustics; by adjusting delays to match existing recorded and site-specific instances of echo and reverb. This production of a 'smooth continuum' between different categories of sound became a predominant concern of the two final projects.

The variable delay also relates the DR recordings more explicitly to the use of gain modulation in Sonicinteractions, through the persistent exploration of a single, linear axis of recorded sound. In the case of DR, the stereo format itself might be considered as a parameter of recorded sound, which works against its typical habituation through realism. The DR recordings, within this paradigm, can be understood as adjustments to and from stereo realism; producing a range of effects from the inferior quality of 'lo-fi' to the clarity of a classic stereo recording, or of a virtual echo.

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22 This strategy quickly became unworkable.

23 Cf. Simulacra.

24 DVD I: Track 25.

CDR format

The development of significant numbers of doublerecordings, and other DR recordings, also encouraged an enquiry into whether it would be possible to play these back in a more coherent and sustained way, without then losing their transitory and contingent qualities. The question of format was ultimately left unresolved in DR, and a series of CDRs were made from selected doublerecording complexes [25].

Whereas the doublerecording playbacks through the DR application preserved the split between the original 2 audio files, these became interleaved stereo files when reproduced on CDRs. In this respect, the complexes of DR recordings on CDRs did not fully reproduce either the form, or flexibility, of the original doublerecordings [26]. This remains an unfulfilled potential, which might be realised in the live production and simultaneous diffusion of a DR complex within a sound installation.

Because the DR recordings were produced randomly, in large numbers, it is not possible to individually detail all of these. Instead, the recordings that make up the DR complexes written onto CDRs are mainly presented here. 5 CDRs were ultimately produced which were each arranged around an individual doublerecording complex. The complexes were either related together by their content, the millisecond length of a delay, or methodology.

Field recording content

The DR project continued an approach to field recording that has, to an extent, informed each of the projects in this thesis [27]. Within this, individual field recordings were made randomly and repeatedly from my own daily life, and the recorded content was nearly always contingent on where I happened to be; rather than deliberately sought out. Local production noises, such as equipment handling, were minimised during field recording; and, in post-production, few, if any, significant edits were made beyond cutting the starts and finishes.

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25 DVD I: Tracks 7-12 (CD051115_01);13-17 (CD051115_02); DVD II: Doublerecordings/CDR.

26 [redacted]

27 See pp. 178-185.

Many of the DR recordings, like in the wider field recording practice, were of the mundane, everyday sounds of a rural UK environment. These included natural sounds (e.g. wind; leaves; birds) and indoor and outdoor technological noises (e.g. washing machines; computers; TV; DIY noises; garden and agricultural machinery; traffic; airplanes).

Some of the original DR content directly related to the real-world environmental presence of echo and reverb (e.g. in room ambiances or night-time exteriors). A number of doublerecordings also intentionally included real-world echoic effects (e.g. pheasant calls and fireworks) [28]. These further connected to the existing contingent content of other individual field recordings, which independently featured echo and reverberation [29].

Through producing field recordings from everyday situations, the DR recordings, as in the wider field recording practice, had the potential to evidence the ubiquitous presence of recorded and mediated sounds in the environment. A number of the doublerecordings also included brief extracts from two DVD films [30]. Although these were only indirectly appropriated, the recordings in DR were also intended to more broadly suggest and relate to further recording instances through their use of delay.

28 DVD I: Tracks 15-17, 26.
29 DVD I: Tracks 27, 28.
30 (Herzog 1971; Dick & Kofman 2002).

3. Echo, Reverb and Delay

Popular musics and media have been associated with an extensive use of echo and reverb, with influential music genres like ambient and dub foregrounding these as core effects. Many of these effects have become widespread (Doyle 2005: 5; Reynolds 2012: 171); and the doublerecordings sometimes approach banal and ‘lite’ evocations of these; as well as relating to more subtle uses of fabricated echo in mediated sound.

Mediated echoes and reverbs have been used to simulate a range of virtual spaces; ranging from accurate modellings of site-specific reverberances, through depictions of generic echoic spaces, such as cathedrals and tunnels, to more vague and indefinable atmospheres: subterranean; oceanic; ‘spacey’; haunting or mysterious. Elsewhere, similar effects have been used to reproduce a ‘lo-fi’, everyday ambient, which emphasizes the materiality and texture of a recording, as such.

In this way, echoes and reverbs are experienced both as acousmatic fragments, shattered apart from any definitive source or original production, and, conversely, in murky relation to further sounds, muddying and distorting them. The DR recordings also reveal this double potential: of a virtual, ‘other’ space, together with a palpable sense of mediated materiality.

Definitions of Echo and reverb

Real-world echoes and reverberations are produced from mixtures of direct and indirect sounds that result from the interactions of the sound waves of an original sound source hitting against a reflective surface. Reverberations are typically associated with fully, or partially, enclosed spaces; whereas echoes are produced by sound reflections bouncing off the surface planes of obstructions, such as rock faces, in relatively open sites.

Whilst in both cases the original sounds become multiplied and fragmented, these are differently defined. In echo, the delay time between an original sound and its repeat occurs after approximately 50 milliseconds, and a clearly repeating initial sound is heard one or more times. In reverberation the sound reflections multiply and interrelate more quickly, and individual echoes become indistinguishable from one another in a mixture of direct and indirect sounds (Truax 1999; Lacasse 2000: 116-7).

Whereas reverberation is almost always present in any natural acoustic, as well as artificially produced in many mediated sounds, echoes are more commonly experienced as mechanical and digital productions, in the form of delays, rather than as natural events (Doyle 2004: 32).

A range of artificial echoic effects have been produced by recording or amplifying sounds in both natural and manmade structures. These have included bathrooms, churches, tunnels and caves, echo chambers and analogue and digital versions of these (Leyden 2001: 100; Doyle 2005: 27-28; Senior 2008-2).

Although echoes and reverbs can be understood as producing a disordering effect in relation to an original sound, the effect is also potentially, at least partly, repeatable. This could be achieved through reproducing a sound within the same real-world structure or place, or by repeating a preset digital echo (Senior 2008-1), for example.

Echoic effects in doublerecordings

The random delays of the Doublerecorder application were not modelled on real spaces, or intended to reproduce specific artificial echo effects, but were conceived of as having the potential to sometimes reference each of these. Although, unlike real-world echoes, which become quieter and eventually subside, the Doublerecorder produces a single delay only, which is as loud as the original sound [31].

The doublerecordings ranged from producing subtle latencies and reverbs to

31 Apart from any intrinsic differences of level in the original 2 audio files.

discrete echoes; depending on the length of the delay. The original content of the recording also affected the quality of any delay. For example, those with sharp transient attacks sound more clearly echoic [32].

Delay

In the DR application, the delayed recording was automatically produced alongside the initial recording as an independent mono file. By using a straightforward timed repeat, or replay, of an audio signal, the doublerecordings followed a model of delay. Except in the case of DR, it will be recalled, that rather than playing back an identical sound file twice, the two recordings were made through left and right microphone channels, so that any echo effect might be reversed.

Although, as discussed above, the structure of the delay was not based on a specific model, when the delay latency was approximately 20 to 60 milliseconds, the effect was close to, what is known as, a doubling echo; and where longer (60-100 ms), it started to sound more like slapback echo (Izhaki 2012: 386). Shorter delays created reverberant or phasing effects which produced dense blends of sounds (Truax 1999).

Doublerecordings vs rerecordings

The different strategies of doublerecording and rerecording in DR produced distinctive patterns of echoic sound. Whereas many of the doublerecordings sounded mechanical and repetitive, the process of rerecording often made a more naturalistic effect.

Several of the recordings, made using the DR application, sounded muddy and electronic rather than truly reverberant; especially where these were recordings of ambient background sounds, like wind [33]. Even when the delay latency was narrow, and the effect was closer to reverb, doublerecordings still sounded subtly regular and machine-like; rather than organic [34]. Because they are were procedurally similar to these, the doublerecordings also recalled tape

32 E.g. Compare DVD I: Tracks 22, 29.
33 DVD I: Track 22.
34 DVD I: Track 19.

delay effects [35].

The rerecordings, made from loudspeaker diffusions, were immediately more dense and incoherent sounding [36]. This is perhaps because resonant effects from sound reflections are an inevitable artefact of the rerecording process [37], so that they are experienced as integral, irreversible parts of rerecordings. Unlike the doublerecordings, which, through sounding repeated, remain open and 'workable'.

Echoic effects: spatialities; temporalities; subjectivities

One of the main characteristics of artificial echoic effects, such as delay, is to produce distortions of spatiality and scale, which alter any usual parameters or experiences of real-world spaces. Eric Tamm, for example, writing on Brian Eno's use of echo in ambient music, describes the use of delay lengths, depths and numbers of repetitions (especially where used in conjunction with sounds which already have protracted attack and decay envelopes) to produce 'vast fictitious acoustical spaces.' (1995: 148).

Although Tamm describes the virtual enhancement of spaces produced by delays, such effects can simulate a range of spaces. These vary from seeming vast and infinite to evacuated (Roquet 2009: 365); or severely reduced, in terms of both their scope and materiality (e.g. underground dungeons; metallic tunnels; 'canned').

Spatial distortions are also reflected in the extensive or confusing temporalities that echoic effects are able to suggest. These might manifest as a slowing down or dragging of time; a sense of timelessness or of a 'yawning' future (Reynolds 2012: 171, 229); or otherwise related to less specific, 'archaeofuturist', timescales (Doyle 2005: 6; Veal 2007: 198).

These alternative, virtual spaces also produce, what has sometimes been characterised as, the perception of an isolated, even incarcerated, individual subject (Reynolds 1995; Thaemlitz 2003: 98; Roquet 2009: 372-3). Whereas

35 See Brian Eno's description of tape delay (Eno 1975).
36 DVD I: Tracks 7-12.
37 Cf. 'I'm Sitting in a Room' (Alvin Lucier 1969).

in the more extensive virtual spaces, this interiority might be experienced as an unrestricted, wandering sense of movement - of the explorer or ‘space-cadet’ (McLeod 2003: 342), for example - otherwise a sense of alienation, suspension, or airless confinement is produced (Eno in Robinson 2006; Labelle 2010: 13).

In this way, the floating detachment and ‘yearning’ produced by unattainably grand and remote, virtual vistas, transitions into something only immediately tactile and obscure in dark subterranean tunnels and caves; and into self-absorbed, hallucinatory states (Reynolds 1995: 1-2; Doyle 2004: 36, 231). Following other fantastic, simulacral accounts of musics, like ambient and dub, Thomas Bey William Bailey also moves beyond, more or less, ‘optic’ accounts of subjectivity, as he elaborates the effects of post-industrial ambient music; describing the spatial disordering which this produces as permeating the subject to create an uncanny, ‘neither here nor there’ state of liminality or threshold (Bailey 2011).

4. Schizophonia and Lo-fi I

> ‘The challenge of the schizophonic situation for the listener is to make sense of the juxtaposition of two different contexts.’ (Truax, 2001: 134)

Together, the various recording methodologies in Doublerecordings (DR) propose a different paradigm of, what Schafer has called, ‘schizophonia’ (1994: 273). Schafer uses the term to describe the dissonant playback of recorded and amplified sounds in the environment that are split apart from the immediate source, context, and time of their production. According to Schafer, schizophonia ultimately produces the chaotic and monotonous lo-fi environment, previously described in Sonicinteractions (SI) [38]. Its effect has been further understood to have been made more critical through simulation (Westerkamp 1988: 25).

The DR recordings relate to the concept of schizophonia as recorded sounds, as such, but also because of the way in which they minimally play out a realisation of what has been understood, following Schafer, as some of its effects. By making and playing back two recordings closely together, for example, the doublerecordings sometimes sound muddy and indistinct, and at other times produce convincing virtual effects.

The doublerecordings, when played back through the Doublerecorder application, are also intended to reproduce a minimum paradigm of a real-world echoic effect. The left and right channels are separately articulated as two independent productions and ‘surfaces’ of sound. Any echo or reverb then happens as these are brought together anamorphically during playback.

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38 See pp. 32-34.

In ‘The Soundscape: Our Sonic Environment and the Tuning of the World’ (the ‘Tuning of the World’), Schafer briefly relates both schizophonia, and amplified and mediated sounds, to the production of real-world echoic effects (1994: 90); before developing a closer analysis of echo in an essay written in response to Edmund Carpenter and Mcluhan’s depiction of ‘acoustic space’ (Schafer 1993: 29-44). Schafer’s and related theorists’ accounts of schizophonia, lo-fi and echo are introduced below, before turning to alternative characterisations of these in the next chapter.

Schizophonia and simulacra

Schafer coined the term ‘schizophonia’ to express the discordance and bizarreness of the disjunction between recordings and their actual productions; especially where recordings are abstractly constructed or take place apart from any real-world context or appropriate attention (Schafer 1994: 91). In the ‘Tuning of the World’, Schafer argues that recording technologies uproot and dislocate sounds from ‘their proper places’ to chaotically and unpredictably repeat and replay elsewhere:

> ‘Originally all sounds were originals. They occurred at one time and in one place only. Sounds were then indissolubly tied to the mechanisms which produced them . . . Since the invention of electroacoustical equipment for the transmission and storage of sound, any sound, no matter how tiny, can be blown up and shot around the world, or packaged on tape or record for the generations of the future. We have split the sound from the maker of the sound. Sounds have been torn from their natural sockets and given an amplified and independent existence.’ (Schafer 1994: 90)

This characterisation of recorded sounds reflects a more broadly simulacral depiction of reproduction; also notably expressed in Jean Baudrillard’s ‘Simulacra and Simulation’ (1994), for example [39]. Simulacra, the images which simulation produces, have been defined in Western metaphysics, following Plato,

39 Baudrillard relates simulacra to the contemporary electronic mediascape; describing a final stage of images, or simulacra, after representation, as ‘that which ‘has no relation to any reality whatsoever’ (1994: 6). He argues that where copies are produced which are indistinguishable from originals, then any final distinction between an original and copy vanishes. This then produces, what Baudrillard understands as, the possibility of a total simulation, in which signs are completely substituted for real things and every reference to the real is lost (1994).

as‘copies of copies’ or as ‘false copies’ (Parr 2005: 250). Within this hierarchical definition, only the original, or model, has self-same identity, whereas the ‘true copy’ or representation exists as an impoverished and secondary version of it. Unlike models or ‘true copies’, simulacra have no relationship, in any way, to an original.

This understanding of simulation is reflected in Schafer’s concept of schizophonia, which is similarly concerned with the differences between originals and copies, and the effect that recorded sounds have in relation to real-world environments; in particular where these are experienced as simulations [40]. Schafer, above, depicts recordings which are like the ‘false copies’ of simulacra: ‘split’ and torn apart from their original producers, sources and locations and then multiplied and played back elsewhere, without any proper reference to these.

Schafer on acoustic space

Although accounts of schizophonia, like Schafer’s, describe recorded sounds as independent, and fragmented, from real-world sources, as simulations they also imply the production of extensive territories of privatised, ‘walled off’ sounds. Schafer, in the ‘Tuning of the World’, also briefly connects schizophonia to echo effects and to an earlier pre-technological imaginary and desire to dislocate and separate sounds, both spatially and temporally:

> ‘The introduction of . . . echo effects, the splitting of resources . . . were all attempts to create virtual spaces . . . just as the breaking forward and backward to find new or renew old musical resources represents a desire to transcend the present tense.’ (Schafer 1994: 90-91)

This argument is developed in the essay ‘Acoustic Space’ (Schafer 1993: 29-44), where Schafer again relates echo effects to the virtual spaces produced by recordings, whilst specifically addressing Carpenter and Mcluhan’s depiction of acoustic space as boundless and participatory. Although Schafer acknowledges Mcluhan’s description of acoustic space as a mosaic of

40 Schafer and Baudrillard also independently produce strikingly similar accounts of quadrophonics, an early surround sound format, in terms of total simulation (Schafer 1973-2: 34; Baudrillard in Gunkel 2007: 4).

simultaneous and disconnected productions (1993: 43), he challenges its definition as:

> ‘ . . . a sphere without fixed boundaries, space made by the thing itself, not space containing the thing.’ (1993: 33)

Schafer outlines, instead, a territorial and proprietorial depiction of (anthropogenic) sound production in relation to space. Within this, acoustic space, on the contrary, has a definite extent, which is occupied by commercial, governmental or regulatory interests, and imposed as a monologue on individuals (1993: 33). Giving an example of the church bell covering a parish, Schafer relates such sounds to a concept of ‘Sacred Noise’ in which loud and encompassing noises - otherwise subject to censure - are able to be produced repeatedly and freely by selected groups (1993: 35) [41].

These noises are traced back, by Schafer, to the earliest sound productions within enclosed interiors, such as caves, which, he argues, were then intentionally developed into crypts, churches and cathedrals and, in modernity, into amplified musics. Schafer writes:

> ‘The only space where sound can be naturally bounded is the interior space, in the cave, which was extended by deliberate design to the crypt, the vault, the temple and the cathedral. The magical sensation of unbroken, sound-filled space is only possible after man moves indoors and begins deliberately to shape his buildings to achieve that sensation. Then resonant frequencies are used as natural amplifiers to strengthen fundamental tones, and highly reflective materials are sought to extend reverberation time, giving sound a numinosity and amplification quite unlike anything possible en plein air . . . One sounding event is made to follow another in resonant sequence and without interruption. All contradictory sounds can finally be pushed out of the door into obscurity.’ (1993: 36)

Schafer links the production of natural echoic effects to both artificial constructions of these and to amplified and recorded sounds. They are understood as deliberately extensive, persistent and repeatable productions, which either take place within interiors or - through audio technologies - produce and extend such enclosures into the wider soundscape; as evidenced in environmental musics (1993: 36-7). In this way, the homogeneous lo-fi

41 DVD I: Track 30.

environment is understood as a consequence of schizophonia [42].

Lo- fi and hi-fi in acoustic ecology

Lo-fi soundscapes have been previously described here as incoherent and monotonous environments produced by widespread technological noise and exacerbated by mass media [43]. Schafer originally defined them together with 'hi-fi' soundscapes, which he dialectically opposed them to, and theorists associated with the World Forum of Acoustic Ecology [44] have continued to use both terms.

The hi-fi soundscape is characterised by low levels of sound from all frequencies, and a lack of masking from loud or persistent noises. This provides a wide perspective of both background and foreground sounds which, Schafer writes, are predominantly experienced as 'discrete and interrupted', rather than continuous (1994: 78). Schafer relates the clarity of distant sounds made available in such environments to experiences of far-range vision; noting the significant perceptual changes in listening that the increasing prevalence of lo-fi has produced [45].

Resonance in hi-fi environments

Accounts of hi-fi environments also note their resonant effects. In his introduction to acoustic ecology, Kendall Wrightson relates echoes and reverberations to the amount of sonic information made available:

> 'The lack of masking facilitates the propagation of "acoustic colouration" caused by echoes and reverberations that occur as sound is absorbed and reflected from surfaces within the environment, and due to the effects of weather related factors such as temperature, wind, and humidity. The resulting colouration offers significant information for the listener, providing cues relating to

42 However, Schafer also recognizes a contemporary 'momentum for blending' expressed in a 'draw[ing] together' of music and environmental sound (Schafer 1993: 115). This is also explored in the 'Patria' cycle (Schafer 1966-) which Schafer writes is '. . . colourful, simultaneous and haptic . . . it demands participation.' (Schafer in Robinson 2008: 35).

43 See pp. 32-34.

44 WFAE Website 2013.

45 Cf. accounts of close-range haptic perception pp. 56, 58-60.

> the physical nature of the environment and expressing its size in relation to the listener.' (Wrightson 2000: 11)

In such information-rich environments, Wrightson argues, following other acoustic ecologists, a diversity of discretely hearable and knowable sounds are reflected in the cognitive and perceptual capacity and actions of individual listeners, who are thereby able to guide and subtly orientate themselves in space.

This account is effectively illustrated elsewhere, by an example that Hildegard Westerkamp gives of the echolocation that a blind person uses through tapping (Westerkamp 1988: 11). Westerkamp depicts this, following Barry Truax (Truax 2001: 21), as an acoustic searching, 'testing out' and participation in the environment. Echoic productions, in this way, combine what acoustic ecologists understand to be, a vital balance of sound-making and listening, which can only occur in hi-fi soundscapes (1988: 11-12).

Quoting Don Idhe, Westerkamp clarifies a conception of echo, which, through its behaviour over time, reveals vital surface and spatial information. She describes tapping as an interaction with a surface that produces an anticipatory sense and knowledge of further spaces. Although Idhe writes that 'auditory space is opened up', Westerkamp concludes that any differences between the surface and a further interior or distance (between near and far) it reveals are resolved in the temporality of sound: 'The space of sound is "in" its timefulness' (1988: 11).

5. Schizophonia and Lo-fi II

> ‘The term “bootleg” carries an image of some schlub with a tape recorder sitting in the cheap seats and recording mostly echoes and feedback.’ (Anderson 2011)

Theorists such as Westerkamp and Truax, following Schafer, depict schizophonia as a break from the real-world and a ‘closing off’ of participation; whether through the abstract noise of a lo-fi environment, or through simulation. However, in DR it is proposed that recordings might be listened to as simulacra which, following Mcluhan’s depictions of acoustic space, are also able to produce a resonant and participatory effect.

This was both literally realised in the DR recordings, which sometimes sounded banally echoic, and implied through their tangibly fragmented, random and ‘lo-fi’ productions. Instead of being focused on any one original real-world sound or recording event, the DR recordings attempted to reveal the multiplicity and discontinuity of productions and diffusions of recorded sounds.

This different paradigm of recorded sound is briefly introduced below through Steven Feld’s response to Schafer’s depiction of schizophonia developed across two essays: ‘From Schizophonia to Schismogenesis: On the Discourses and Practices of World Music and World Beat’ (1995) and ‘Pygmy POP: A Genealogy of Schizophonic Mimesis’ (1996). Both texts elucidate alternative accounts of recording playbacks in relation to an original source or production.

Discourses on ‘lo-fi’ recording effects are also relevant to the DR recordings, which both sometimes sounded like these and shared certain procedures. These are mainly drawn from Tony Grajeda’s essay ‘The Sound of Disaffection’

(2002), where he characterises lo-fi recordings as partly democratic productions opposed to mainstream and corporate stereo realism. Rebecca Leyden develops a similar argument in respect of reverb in popular musics. Together these clarify the way in which lo-fi and banal effects are used together with straight field recordings in DR.

Steven Feld on Schizophonia

Writing on recordings of world music, Feld calls for a positive re-articulation of schizophonia, after tracing Schafer's concern with original versus copies back to Walter Benjamin's Artwork essay (1995: 98). Feld invites a reappraisal of the term, calling for the multiple instances and transience of recording playbacks to be taken into account.

Relating schizophonia to diverse academic and commercial interpretations of ethnic documentary field recordings, Feld understands that once such recordings are in circulation, as commodities, they are no longer controlled by their original producers:

> ' . . . documentary field recordings have served to validate very diverse agendas, many of which were unanticipated and may now be unwelcome or distasteful to recordists or those recorded . . . Unwittingly or not, they - we - have been central players in creating a global schizophonic condition whose consequences are now vastly more complex and open to contestation than any of its participants could have anticipated.' (1996:11)

This moves the focus from an original recording production, the field recordist and sources of sound, to the ways in which these are then distributed, circulated and consumed [46]. Feld, reflecting in the earlier essay on Schafer's account of schizophonia in the 'Tuning of the World', makes a similar point; arguing from the perspective of, what he understands to be, the 'final stage' of schizophonia, made possible through digital technologies. Within this, he writes, it is clear that any sound, from anywhere, can be recorded, sampled, processed and played back any number of times (1995: 98).

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46 Cf. Gould p. 54.

Feld also takes into account the impermanence and unpredictability of schizophonia:

> 'Against this earlier and somewhat monolithic anxiety about the jeopardy to primal originality, I urged that schizophonia needs now to be imagined as more varied and uneven, as practices located in the situations, flows, phases, and circulation patterns that characterize how recordings move in and out of short- and long-term commodity states.' (1996: 14)

This alternative depiction of schizophonia moves away from any original, stable version of a recorded sound to the multiple, short-lived instances of recording production; evidenced both in individual playbacks and in the, now extensive, appropriation and sampling of recorded sounds. Elsewhere, schizophonic productions and receptions are more overtly linked together in 'lo-fi' procedures of recording, which are also relevant to DR.

Lo-fi procedures

Despite the negative formulations of lo-fi within the acoustic ecology movement and in audiophile literature more generally (Keightley 1996:153), the term has also implied other potentials of recorded sound, beyond that of straightforward reproduction, and been more favourably applied. Although lo-fi procedures are still related to individual, 'compromised' productions of recorded sound, these have also been, at least partly, understood as an expression of democratic productivity and opportunity; reflected in both how and where a recording is produced and diffused, and by whom (Grajeda 2002: 364).

Within this definition, which focuses on the production as much as the playback of recordings, lo-fi is characterised in terms of non-expert individuals using cheap or defunct technologies; 'authentic', non-professional, recording places (e.g. bedrooms; bathrooms; corridors); and unorthodox and unauthorised techniques (e.g. incorporating handling noise; random accidents; 'bootlegged' recordings).

Lo-fi, here, describes both an aesthetic of recorded sound and an actual

materiality of production, which, Tony Grajeda argues, performs a critique of both stereo realism and any system that controls its production and distribution (2002: 360-2). Its sounds happen outside, and in excess of, the systems of corporate representation implied by hi-fidelity. This has been made possible - to a certain extent like many field recording practices - through an increasing access to sound production technologies; and, again as in field recording, is situated in, and operates amongst, the quotidian and everyday.

Field recordings are often produced using expert technologies, with an emphasis on either documentary realism (Schrimshaw 2012: 1) or on a precisely determined individual perspective (e.g. López 1997; DeLaurenti 2004; Dauby 2007; Grzinich 2008; Chaves 2012). In lo-fi, however, a series of apparently 'second rate' and 'inferior' individual decisions and productions - from the context of recording, through the equipment, to the diffusion - encode, what Grajeda understands as, a lack of representational definition (2002: 366).

Distortions or departures from stereo realism can also be experienced as a foregrounding of the texture and materiality of a recorded sound, in terms of its actual production (Grajeda 2002: 363, 368). Lo-fi recordings disclose recording contexts, handling noises, playback sounds and technological glitches, which, as Grajeda describes, become nostalgically reinscribed as naturalized and organic (2002: 360). In this way, they both inclusively invite the potential of participation and involvement, at the same time as producing apparently authentic, 'human' - sounding documentations of real-world events (2002: 359).

Lo-fi and echoic effects as feminine

Beyond situating lo-fi against a prevailing paradigm of stereo realism, Grajeda also writes that lo-fi effects have been depicted in terms of a loss of mastery and control, and related to predominantly feminine modes of reception and production. Within these, 'scattered', 'sloppy', fragmented, and incomplete experiences of recorded sound - like so many echo effects - are produced by passive and distracted forms of reception in domestic spaces (Grajeda 2002: 364-366).

Grajeda associates, what he understands to be, the feminization of lo-fi, within

discourses of pop music, with a 'form of (degraded) mass culture . . . a form of (banal) consumption', that he argues is exacerbated by its production at home (2002: 365). He adds that this is both a return to previous forms of cultural production (e.g. singing around a family piano) and an expression of the post-modern conflation of work and home [47].

Similar accounts of production have also been more directly related to echo effects. Rebecca Leyden, writing on reverb in mid-twentieth century popular musics (Leyden 2001), has argued that characterisations of reverb in recorded music have historically followed a gendered and high-low trajectory. These have trivialised and positioned echoic effects against the absolute orientation of stereo hi-fidelity (2001: 102).

Whilst stereo recordings have been understood, by audiophiles and others, to produce precisely controlled and defined spatial orientations, Leyden traces contemporary cultural depictions of echoic effects in terms of technical inadequacy, distortion, ambiguity and excess (2001: 99, 101). She writes, for example, that, unlike stereo,

> 'Reverberation . . . reaches us from a multitude of reflective surfaces, so that the precise location of the source often cannot be identified. Reverb, then, acts as a kind of surplus – something in excess of what we determine to be the sonic essence.' (2001: 99)

Leyden relates this 'magical' surplus to a maximal production of sound in relation to a minimal effort expended in achieving it (2001: 104). She gives examples of shouting in empty spaces, and singing in the bathroom, which suggest playful, unauthorised, individual experiences of sound-making and production. In this way artificial reverbs in mediated sound, like lo-fi, tangibly relate to private sound productions, as well as to ubiquitous personal, domestic experiences of listening to recorded sound. These take place casually and indirectly, rather than only exclusively; even sometimes from the same places in which the reverbs themselves might be initially produced: in bathrooms and through doors, for example (2001: 104).

47 See. pp. 41-42.

Doublerecordings, schizophonia and lo-fi I

The millisecond delay in the doublerecordings is still able to cause an immediate disordering and confusion of recorded sound that Schafer finds in schizophonia and lo-fi. In DR this might be experienced as either a blurring of information or otherwise a simulation, however inadequate, of the real-world effect of echo and reverb. In this way, the DR recordings formally reproduce a minimal paradigm of schizophonia and lo-fi.

As in the critical phase of schizophonia that Feld finds above, the significant effect of DR happens during diffusion rather than in relation to an original or singular recording point. The DR recordings no longer emphasize the production of individual recordings by the field recordist/composer [48]. In the doublerecordings, this is already partly achieved through randomizing the duration of the recordings and, to an extent, any recording content, together with the length of the delay.

The other DR recordings continued a strategy of situating recorded sounds predominantly in relation to further recordings, rather than to original production points. These either directly produced, invited, or undermined further productions of recordings. By relating to other recordings as much as to real-world sounds, they invite simulacral and post-genre accounts of recording (Davis 1996: 11; Fink 1998; Reynolds 2007). The DR recordings also approach the effects of schizophonia in other ways: by being made randomly in large numbers, using lo-fi techniques; and by using the same delays repeatedly, with similar field recording content.

Aside from their content and the way in which they were produced, the recordings in DR also sometimes more obviously connected to straight field recordings, as individual mono or 'recovered' stereo recordings. In this way field recordings are implicated alongside other genres of mediated sound within characterisations of schizophonia in DR; rather than categorising or bracketing these in some way apart [49].

48 Cf. 'The magical experience of producing an echo is an experience of effortless excess' (Leyden 2001: 104).

49 Cf. 'To record sounds is to put a frame around them. Just as a photograph frames a visual environment, which may be inspected at leisure and in detail, so a recording isolates an

Doublerecordings, schizophonia and lo-fi II

The doublerecordings and other DR recordings were intended to connect to other lo-fi expressions of recording, without then losing their critical potential in relation to other recorded and real-world sounds. Straight field recordings are characterised by their transparent use of recording technologies, and in doublerecordings this effect was made remotely available, through the reversal of the delay. However, to a certain extent like in field recording, the lo-fi, 'primitive' effect of delay also relates DR away from professional and authorised categories of production.

Because the doublerecordings were produced in mundane, everyday situations, the circumstances of recording were also often inevitably lo-fi. Rather than being produced in specialist spaces, recordings were made in domestic interiors and outdoors; where random and unsolicited background noises and interruptions, room resonances and wind noises were also sometimes present.

Although many of the doublerecordings were made using professional, rather than consumer, recording technologies, several of these were also recorded using the internal sound system of a laptop. This was partly an expedient as the DR applications were developed at the same time as the recordings on the same machine. These produced a discernably lo-fi quality of recording which also highlighted the equipment and processing sounds; notably of the laptop's internal hard drive [50].

A lo-fi aesthetic was also partly explored in the content of some of the further doublerecordings (e.g. fireworks [51]). The DR recordings that appropriated further recorded sounds, and many of the rerecordings, similarly reproduced the degenerative, lo-fi effects of the rerecording process. In these, like in bootleg recordings, the frequencies of an original recording become distorted through the resonant characteristics of a room. In this way rerecordings reproduce both the aesthetic and authenticity of lo-fi (because these effects are an inevitable part of the rerecording process).

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acoustic environment and makes it a repeatable event for study purposes.' (Schafer 1973-1).

50 [redacted]

51 The mixer levels were not correctly calibrated in advance to accommodate both the relatively low level dynamics of nighttime and the loud fireworks. DVD I: Tracks 10,11.

6. Echo and Environmental Musics

Doublerecordings and field recording content

Doublerecordings (DR) was informed by random, natural, 'trivial', banal, and fantastic forms of sonic production. Examples can be drawn from both the contingent content of the doublerecordings and individual field recordings that were made alongside the projects, as well as from further experiences of mediated sound. These included recordings of pheasants calling across rural fields in the late autumn [52]; cockerels in the mountains at night [53]; a child clapping in a church [54]; a karaoke song [55]; outdoor amplified musics [56]; and the numerous echo and reverb effects in popular musics and film soundtracks [57].

Several of the field recordings produced alongside the main projects, both contingently and sometimes intentionally, included the pervasive and repeating sounds of recordings and amplifications in the environment [58]. This encouraged a broader approach to - mainly popular [59] - music and media recordings which conceived of them as connected to, or at least not significantly categorically distinct from, either field recordings as a genre, or from further environmental sounds.

Field recordings of these also informed a direct awareness of the artefacts of rerecording. Echoic effects are also already subtly evident in the content of any field recording; because, as previously discussed, outside of the anechoic

52 DVD I: Track 26.
53 DVD I: Track 27.
54 DVD I: Track 31.
55 [redacted]
56
57
58
59 Because this is what I mostly heard. Cf. Corbett's analysis of popular music 'as a formal genre'; including 'All music is now popular' (Corbett 1990, 82-3).

chamber or specialist studio, every real-world environment is inevitably reverberant; however unmarked or curtailed this reverberance might be.

During the production and monitoring of field recordings these effects become more distinctive; especially through direct comparisons with real-world sounds. It is also possible that the pervasiveness of lo-fi and echoic effects in mediated sounds, observed by Corbett and others (e.g. Evens 2002: 186 n.17), for example, influenced an awareness of the echoic and resonant characteristics of recordings.

Echo in popular musics

This chapter introduces a number of discourses which focus on fabricated echo effects. These are mainly developed in relation to specific genres of music, like new age and ambient, which use echo as a core effect. Arguments that relate to these are also pertinent to contemporary mediated sounds more generally because echoic effects have become pervasive, partly through the influence of such genres (Reynolds 1995; Veal 2007: 220-256; Roquet 2009: 364).

Echoes and reverbs have also been more directly implicated in the production of an omnipresent, banalized mediascape. Certain accounts, like Schafer's previously, understand recorded echoic effects as directly intensifying schizophonia through further fetishizing the sourceless production of generic and immersive virtual spaces. Whilst, in part because of their length, many of the DR recordings do not achieve some of the more extreme renditions of echo and reverb described below, they still have a potential to briefly play these out and reference them.

Echoic effects can prolong, amplify and repeat sounds to produce an expanded, unfocused or unlocatable sensation of time and space, which, at the same time, diminishes any sense of individual production. This has suggested schizophonic and autonomous accounts of recordings: which become characterised as automated or self-generated (e.g. Eno 1975; Labelle 2010: 14-15); disconnected from original real-world sounds; or only able to reference further recordings.

John Corbett on echo

Similar concerns are clarified in accounts of popular musics, where echo has been described as eliding differences, both intrinsically within recordings, and between different instances of these; as well as suppressing those between recorded sounds and real-world environments.

John Corbett's paper on 1970's new age music exemplifies these concerns; where he relates echo and reverb, amongst other studio techniques, to the fetishization of recorded sound as an independent production (Corbett 1990). Corbett argues that echo effects erase and smooth away any trace of a performer from a recording; intensifying an 'audiophile' sense of recorded sound's autonomy:

> 'Echo, by doubling the sound upon itself . . . by doing away with unseemly transients, wrench[es] the sound of music from the body of the performer and erase[s] its trace . . . [it] appeal[s] to a fantasy of absolutely independent music.' (1990: 92)

Although echo's ostensible function in popular music is to amplify and underscore presence, Corbett argues, echo instead reduces and eliminates any particularity 'to make the individual body interchangeable and the sound of its contours more manageable' (1990: 92). Echoic effects are used, both during recording and in post-production, to alter and efface any prior relation of a recording to an original performance.

Through echo and reverb, Corbett continues, this effect is carried through into further instances of recording, and the recording becomes detached and autonomous, relating instead only to further simulations (1990: 92). Because this echoic blending and exchangeability is precisely codified and much repeated, the lack of any individual or local differentiation also extends across many different musics, becoming a generic and banal effect.

Whilst Corbett writes about examples of music which foreground their use of echo, he notes, in 1990, that the codification of such effects has started to dominate and constitute what most popular music sounds like (1990: 92). This has also been a more recent concern within acoustic ecology in relation to the

practice of close-miking (Truax 2004: 47-8; Droumeva 2005: 3), which has encouraged a more subtle, widespread implementation of artificial reverb.

Close-miking

Close-miking describes a technique of recording in which the microphone is placed close to a sound source in order to minimize room reflections and colouration, and to isolate it from other sources of sound (Senior 2008-2). This produces a direct, dry sound which, on its own, is experienced as flat and unrealistic [60], but to which echo effects can then be freely added to reintroduce a virtual liveness and spatiality in post-production.

The non-reverberant sound of close-miking enables, what Milena Droumeva understands to be, a more fluid and transferable - and so schizophonic - milieux of background recorded sounds, which are then able to produce pervasive surrogate environments (Droumeva 2005: 3). As in Corbett's example of echo, above, the same effects are widely reproduced, and so become limited to a few archetypes (2005: 4).

These accounts relate fabricated echoes to the production of regulated and repeatable virtual realities, which are autonomous and exclusive, as well as banal. Instead of being used to orientate or clarify where or how a recording is produced, echo and reverb, as parameterized, interchangeable effects, only supplement an otherwise 'dead', or inert, acoustic in mediated sound. These then evoke and simulate virtual spaces and atmospheres, whilst enabling a producer to maintain maximum control over any representation.

Discourses of echo in ambient

The more general influence of ambient and background musics in this thesis is discussed at more length in relation to the two final projects; both of which produced field recordings reflecting further aspects of these. Descriptions of ambient, like the new age music described by Corbett above, also highlight its core use of echo and reverb to spatialize sounds and make recorded content atmospheric and diffuse (LeGuin 1994: 5; Reynolds 1995: 1; Bailey 2011).

60 'If all real-world sounds were to be somehow stripped of their cloaking of reverberation, it would be a wholly disorienting, dead, almost spaceless and depthless world.' (Doyle 2005: 38).

The series of ambient works produced by the composer Brian Eno from 1975 to 1982, as well as sharing certain methodologies with the recordings in DR, also clarify different conceptions of echo which are relevant to the project [61]. Like other examples of environmental music, ambient has a similarly subdued sense of overt production and development, and is characterised by a lack of distinctive breaks within it (e.g. from voice or beat) [62]. This produces, what has been described as, nearly static extents of glacially emerging, often lush, non-consequential sound (Toop 1995: 193; Reynolds 1995: 1; Ultrared 1997-1: 2; Roquet 2009: 371; Hibbett 2010: 291, 303).

Delay in 'Discreet Music'

In a 1996 interview, Brian Eno situates echo and reverb effects as integral parts of an ambient composition (Korner 1996). In 'Discreet Music' (1975), for example, the composer's first ambient LP, Eno set up a generative system, using tape recorders, based around a long delay with feedback. Relating the work to minimalist and process music, Eno describes the planning and programming of the piece to be almost his only compositional role (Eno 1975). The direct use of echoic effects in the album also underscores its sense of autonomous production (Bailey 2011).

Although the effects in 'Discreet Music' were initially discovered by accident (cf. DR), Eno's later works, such as 'On Land' (1982) intentionally use echo and reverb to shape specific spatial locations and effects, sometimes drawn from the composer's memories of childhood (Eno 1982/1986). Echo effects are able to produce, what Eno understands to be, an illusion of place and placement, which can be manipulated and morphed to 'evoke a whole geography' (Eno in Tamm 1995: 72).

Whilst these can simulate a range of real-world spaces, Eno directly relates these to landscapes, rather than to interiors as such:

> 'I was . . . moving into a kind of landscape sensibility of music, the idea being that one is listening to a body of sound presented as a

61 These discourses move from something like an acousmatic characterization of echo (Eno 1975); through a landscape/soundscape sensibility (Korner 1996) to more or less virtual depictions of echo (Eno 1982/1986).

62 Or, where used, only function to underscore the reverberant effect (LeGuin 1994: 6).

> happening in a particular type of space, a location of some sort. One of the characteristics of recorded music is that the composer is in a position to design not only new instruments but new locations for them. One does this by using reverberation, echo, and other such treatments as a part of the composition and not as a cosmetic.' (Korner 1996)

Although echo and reverb have been used to add realism to recordings and to reference existing spaces, Eno is more interested the virtual, or psychoacoustic, locations that such effects produce. Writing in the liner notes of 'On Land' (Eno 1986), Eno describes the way in echo effects are used, not only to invent 'exaggerat[ed]' virtual spaces, but also as a means with which to process diverse sounds together:

> 'I never felt any sense of obligation about realism. In this category I included not only recordings of rooks, frogs and insects, but also the complete body of my own earlier work. As a result, some earlier pieces I worked on became digested by later ones, which in turn became digested again. The technique is like composting: converting what would otherwise have been waste into nourishment.' (1982/1986) [63]

Eno uses echoic effects partly to absorb differences: drawing in and mingling diverse content and works from other periods and places, in a depiction of echo not dissimilar to Corbett's above, in which everything 'becomes music' [64].

In this way the 'landscape sensibilty', that Eno finds above, expresses a continuous, immersive 'visual space' in which echoes and reverbs are used to relate sounds extensively and coherently together. In the 'dark' ambient of 'On Land', he relates this to changing conceptions of landscape:

> ' . . . the landscape has ceased to be a backdrop for something else to happen in front of; instead, everything that happens is a part of the landscape. There is no longer a sharp distinction between foreground and background.' (Eno 1982/1986)

At the same time, as different virtual spaces are produced, any clarity between foreground and background is collapsed, so that effortless movement in all directions becomes possible [65]. This is then experienced, both intrinsically

63 Cf. Dub recycling p. 110.

64 Cf. Cage quoted in Kostelanetz 2003: 70.

65 Cf. ergodic p. 46.

within a recorded work, and extrinsically as a sense of immersion, or suspension, in a pervasive and orchestrated atmosphere [66].

Certain later discourses also identify Eno's use of field recordings in ambient to suggest a more intensive, productive and immanent depiction of echo and appropriation. Peter Suchin, for example, quotes from an interview in which Eno describes the work in terms of 'a number of actions carried out near microphones'; rather than as a completely worked out or coherent piece (Suchin 2005). This sense of discontinuity and non-completion is also reflected in the way in which, in 'On Land', Eno both directly incorporates other temporalities by using previous works of his own; and further understands such works as the production of virtual spaces that have 'affinities' with other possible, although unrealised, pasts, presents and futures (Eno 1982/1986).

Suchin also relates the mixture of field recordings and other recorded sounds, in 'On Land', to the theorist Roland Barthes depiction of an emerging post-modern form of art: as a 'disconnected', 'heterogenous' and textured plurality of sights and noises. Suchin then clarifies Eno's use of appropriation - again quoting Barthes - describing such works as:

> '" . . . woven entirely with citations, references, echoes, cultural languages . . . antecedent or contemporary, which cut across it through and through in a vast stereophony . . . the citations . . . are anonymous, untraceable, and yet already read: they are quotations without inverted commas."' (Barthes in Suchin 2005)

Beyond Eno's incorporation of his own previous works in 'On Land', the echo effects themselves, and the field recordings of birds, frogs and insects, in 'On Land', can be understood as part of the vast web of anonymous citations traced above.

The familiar, non-confrontational, even bland appropriations within ambient music, have been understood, in this way, as points of stability within evolving and challenging new sonic environments. These produce, what Paul Roquet describes as, a resonant Mcluhanesque interface between the subject and the

66 E.g.' The choice of sonic elements in these places arose . . . from listening to the world in a musical way . . . The effect of this simple technological system was to cluster all the disparate sounds into one aural frame; they became music.' (Eno 1986).

work, which allows:

> ‘ . . . the body to latch onto the aural-tactile environment around it, both consciously and unconsciously. In this way, music acts as an interface between subject and landscape, establishing resonances between them in particular ways.’ (Roquet 2009: 366)

Reflections on doublerecordings

Whilst Corbett mainly discusses the application of echoic effects to voice in popular music, the field recordings in DR often lack any specific foreground or voice, or only evidence this randomly or vaguely. In this way the DR recordings, like the new age and ambient music described above, might be understood to exacerbate echoic effects, through a considered reduction of any foreground presence.

The recordings in DR can sound both autonomous and non-produced, through the combined use of automation, randomness and contingency in their production. By using the same or similar delays, the effect can seem banally repetitive, or extensive, across the different recordings.

The banal potential of echo is critical to DR because it highlights the repetition of recorded sound, without then making this only secondary to a prior representation. That is, by using delay, DR does not, through reference or reproduction, only guarantee or assert an original sound or recording, but - by repeating a sound – also produces a tangibly new and different version of it. At the same time, because this is clearly codified, as an echo or reverb, it is also recognizable as a version, as such, in relation to other instances of recorded and real-world sound [67].

The echo effects in DR, like those in Eno’s ‘On Land’, are similarly realised against the stereo realism of random field recordings [68]. This edge between

67 Cf. ‘Repetition is a form of change’ (Eno in Akin 1985).

68 ‘When I was in Ghana . . . I took with me a stereo microphone and a cassette recorder, ostensibly to record indigenous music and speech patterns. What I sometimes found myself doing instead was sitting out on the patio in the evenings with the microphone placed to pick up the widest possible catchment of ambient sounds from all directions, and listening to the result on my headphones.’ (Eno 1982/1986).

banality and the mundane appropriation of everyday sounds produces, what is intended to be, a subtle sense of involvement and participation; rather than only submersion or stasis. The DR recordings also similarly incorporate earlier versions of recordings, by producing rerecordings for example, but these are not intended to be finally subsumed within an overarching ambient, but open to reworking [69].

In the ambient described above, the intrinsic use of echo within a recording emphasizes a slowed down and visceral sense of production. This acts like a denser version of the longer temporalities between original instances of recordings and their appropriation. The DR recordings, however, because of their short durations and multiple co-production, produce a more shattered and fragmentary experience of recorded sound.

In DR, a sense of protracted, tangible production instead plays out liminally across virtual and real-world spaces: in the displacements of technologies; in the repetition of effects; and then distributed amongst the different DR recordings and complexes; and to other instances of mediated sound. (More like dub).

69 Cf. ‘The interlinkages do not imply an ambient space in which the multiplicity would be immersed and which would make distances invariant; rather they are constituted according to ordered differences that give rise to intrinsic variations in the division of a single distance’ (D&G 1988: 493).

7. Dub

> ‘ . . . when McLuhan announced that the Global Media Village as ‘a proper place for the birth of metamorphosis’, his sentiments had met their match in King Tubby’s echo chamber.’ (Martin 1995)

David Toop includes dub reggae (dub), amongst cave sounds, field recordings of environmental sounds and lists of other music genres, within his definition of ambient music (Toop 1995). Its connection to ambient had already been suggested by Brian Eno, who cites the influence of Jamaican dub on his own use of echo and appropriation (Eno 1979). Like ambient, dub is characterised by the use of echo and reverb as a core effect (Reynolds 2012: 171). Although dub seems closer, both audibly and conceptually, to the lo-fi music previously discussed (see Veal 2007: 79) [70].

Dub’s immersive electronic spaces have also been linked to avant-garde works such as John Cage’s ‘Imaginary Landscape’ series (1939-52), as well as to ambient (Hopkins 1993; Reynolds 1995: 2; Veal 2007: 39). Each of these produce pervasive, ‘alien’ spaces out of specific electronic processes and effects applied to existing recorded and mediated sounds. In addition, dub, like ambient and other environmental musics, has been understood to have widely influenced further music strategies and genres. As well as similarly contributing to the increasing hybridisation and/or erosion of categorical differences between these, as Toop suggests above [71].

Although, unlike many environmental musics and the DR recordings themselves, the music described below often makes predominant use of rhythm and voice,

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70 See pp. 93-95.

71 Also Davis 1996: 11; Reynolds 2007.

a number of contemporary discourses surrounding dub reggae also make it relevant to DR. The articulation of dub's use of delay and appropriation within these make it possible to elucidate some of the strategies also used in DR; and to connect these to a more positive depiction of simulacra, than introduced earlier [72]. Dub also evokes a more fragmentary, 'shredded', and less solipsistic account of recorded sound production and reception than the more orchestrated, self-contained ambient described above, which make it both pertinent to the wider thesis and closer to what the DR recordings try to achieve.

Dub

Jamaican dub artists in the 1970's, notably Lee 'Scratch' Perry and King Tubby, appropriated and stripped out tracks from the popular music which was locally available to them at the time. Having removed the vocal and foreground parts, through editing or dropping these out (Clarke 2007: 55), the artists then further manipulated the tracks; using eight-track recorders and later, echo and reverb units (Clarke quoted in Korn 1992: 329 n.29; Davis 1996: 7; McLeod 2003: 342) [73].

These processes built up 'huge' amounts of reverberation and 'spaced out' tracks; resulting in what Erik Davis describes in terms of an ecstatic, hallucinatory, nearly cyborgian, version of Eno's 'studio as compositional tool' (Eno 1979):

> 'Dubmasters like King Tubby would saturate and mutate individual instruments with reverb, phase, echo and delay; abruptly drop voices, beats, and guitars in and out of the mix; strip the music down to the bare bones of drums and bass and then build it up again through layers of distortion, percussive noise, and electronic ectoplasm. Good dub sounds like the recording studio itself has begun to hallucinate.' (Davis 1996: 7)

The sense of immersive enclosure, that the distended, 'heavy' use of echo in dub creates has been depicted, like ambient music, in terms of a oceanic,

72 See pp. 86-87.

73 E.g. Upsetters 1976; Pablo & King Tubby 1976.

amniotic interiority (Davis 1996: 8; Toop 1995) Otherwise dub spaces, again like ambient, have been related to the infinite, alien openess and remoteness of deep and outer space (McLeod 2003: 342-3; Veal 2007: 198).

Yet dub also produces, what have been described as, more eccentric and disconcerting effects. Davis, for example, relates dub's unsettling, resonant, strangeness to a sonic realisation of contemporary deterritoralized, smooth spaces, like Marshall Mcluhan's acoustic space, when he writes of dub as:

> ' . . . a spacious electronic orientation of affect and quality rather than information and quantity, a space of simultaneity, superimposition, nonlinearity, odd repetitions, and odder resonances.' (Davis 1997: 6)

Simulacral depictions of dub

Much of dub's significant effect derives from the way echo and reverb is used to distort and mutate familiar everyday experiences and examples of music and sound (Veal 2007: 198). Recorded sounds are heavily reworked, with echo and rerecording, to produce a 'versioning' in which any original becomes submerged and obscured (Hemment 1998: 84). This pushes dub's echoic effects beyond, what Corbett understands above as, their generic and standardized uses, to more transgressive productions of echo and reverb (Corbett 1990: 98). Echo is not used to shape or 'pump up' existing pre-recorded material arranged around an individual artistic production; or to subtly blend it into existing patterns of sound, but to overwrite and disrupt these. Through echo effects and rerecording, recording is turned against recording in order, as Drew Hemment puts it, 'to tear that material out of its earth-bound context' (1998: 83).

Hemment relates the way in which dub exceeded, and prefigured, many other genres by producing recorded sounds which abandoned any 'dialectic of original and copy'; making the production of simulacra its fundamental concern (1998: 84). Erik Davis describes this in evasive and haunting terms:

> 'Dub arose from doubling—the common Jamaican practice of reconfiguring or "versioning" a rhythm track into any number of new songs. At a time when "roots" reggae was proclaiming a literally

> religious mythos of folk-cultural authenticity, dub subtly called it all into question by dematerializing and eroding the integrity of singers and song. There is no original, no motherland outside the virtual, no roots that are not at the same time rhizomes remixed on the fly. Yet by improvising and mutating its own repetitions of prerecorded material, dub added something distinctly uncanny into the mix.' (Davis 1996: 7)

Versioning

Dub's eponymous process, and core technique, was to reconfigure and produce multiple versions out of original recordings. Sylvan Morris is quoted by Michael E. Veal summarizing dub as '" just a version of the original which is done in many forms "' (Veal 2007: 54). Veal partly relates 'versioning' to an expedient and economic imperative in which it was important to exploit and maximize limited resources (of artists and production) to extend an original recording's commercial life (2007: 89).

Previous versions of dub in this way, Veal understands, act like advertisements for new ones; whilst new versions subvert and problematise originals. As the original songs are mined and recycled, memories of these are tapped into and manipulated; producing a sense of 'yearning' which, at the same time, represents what Veal, quoting Paul Gilroy, understands as '" a calculated invitation to embark on an archaeological operation, tracing [a song] back to its original version. "' (2007: 89).

Despite an economic imperative, Veal also argues that, through appropriation and often lo-fi technical innovation, for example, dub is still able to undermine different hegemonic practices of the music industry. As well as directly subverting copyright, the aesthetic of reuse and recycling in dub implies conceptions of recordings as open and participatory forms, which exceed any single individual or corporate definition. A dub recording's complex gestation belies and problematises any concept of an 'original' as such. (Veal 2007: 89-90).

Delay as a condensed version of appropriation

Veal further connects the reverb and echo effects of dub, which dominate in

the recordings, to its larger structure of appropriation (2007: 198). This is also reflected in Dick Hebdige's description of delay in dub, elsewhere, as a highly condensed, resonant example of the time differences between an original song and a version (Hebdige 2003: 2). Veal's characterization of delay as a primarily rhythmic effect (2007: 72) - rather than as a repetition of the same, or the repeat of an original - can also be more broadly related to recordings and appropriations as such.

Doublerecordings, ambient and dub

The use of delay in DR together with straight field recordings reflects certain aspects of ambient, and many of the recordings sound similarly intrinsically unfocused and non-consequential. Where these use the same content, delay latencies or processes, different DR recordings also start to become related together [74]. Their short durations, number and different recording methodologies, however, also fragments them; making any recordings only transiently immersive, and preventing them from being experienced exclusively as the total, 'walled off' simulations that Truax, for example, finds above [75].

This produces a more textured and tactile, searching effect than ambient, where something completely planned elsewhere and 'elsewhen' surrounds the listener-viewer. Different accounts of echo from ambient and dub, in this respect, also partly express the haptic/optic divide discussed in Sonicinteractions [76] [77], which the echoic effects played out in DR themselves banally allude to.

Both ambient and dub explicitly appropriate further music and recordings. Eno predominantly relates these to his own past compositions and experiences, which are then reprocessed into later works (Eno 1982/1986). Previous recordings were also intensively rerecorded in DR, but these were neither individually memorable nor nostalgically reintroduced. Instead they were intended to provide a subliminal sense of 'slowing down' or arrest [78]. The use

74 DVD I: Tracks 20, 23.

75 See p. 33.

76 See pp. 57-60.

77 Cf.. Doyle 2004: 36-37.

78 Cf. Elisabeth LeGuin's understanding of environmental musics as producing a memorable effect rather than actual 'arrest '(LeGuin 1994: 6).

of appropriation in DR, to an extent, also suggests this.

The appropriation of other peoples' works is limited in DR, which only incidentally uses these, and mainly 'feeds off' itself. Yet a similar concern remains to relate different instances of recording together, with each instance, at the same time, potentially remaining distinct or hearable. This might be audible, as such, or achieved by underscoring the fact that these have been brought together: whether through the figure of echo, or as indicated in the DR recording titles [79].

The former is made most evident in the doublerecordings, which through their lo-fi effects remain closer to the procedures of dub. In dub, lo-fi techniques and repetition are opened up and maximised to reveal and proliferate distinctive processes; whilst also evidently involving other peoples' works, without then only processing or making material out of these. Further works remain identifiable and relatively autonomous, acting as more transitory, less comfortable 'points of stability' than those found in relation to ambient above [80].

These further recordings provide arbitrary and banal counterpoints, like the environmental clichés in Mcluhan's quotation below [81], that 'arrest' and stultify at the same time as they invite participation and produce 'metamorphosis' and change (Mcluhan in Gordon 2010: 124). The listener is released from any singular or encompassed event, point or place of production, towards past and future works and other voices; and given permission to 'touch' or 'play'; in a process that Hebdige describes as 'dialogical, open ended, democratic' (2003: 2); or, as Toop describes, 'as if music was modelling clay rather than copyright property' (1995: 118).

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79 See p. 262, fig. 5 and p.263, fig. 6.

80 Cf. 'I realized while I was living this nomadic life, the one thing that was really keeping me in place, or giving me a sense of place, was music . . . We can use recordings to insert a sense of place in the various locations that we end up in. They repeat identically each time -- they're reliable portable experiences.' (Eno in Korner 1996). Cf. D&G's nomadic 'moving whilst staying still' (see pp. 62-64;157). Also Leguin 1994:6.

81 See p.113.

8. Conclusion

> ‘Cliché appears in many modes. All media whatever are environmental clichés. The effects of such surrounds is narcosis or numbing. This is a kind of arrest which, mysteriously, results in metamorphosis.’ (Mcluhan in Gordon 2010: 124)

The recordings in Doublerecordings (DR) relate to both their further versions in the complexes, and to other mediated and real-world sounds. The automation and further methodologies in DR, in this way, trigger and proliferate sonic productions which occur liminally between different instances of sound, rather than only finding these intrinsically within individual recordings.

The fabricated echoes and rerecordings in DR are also intended to relate to the reverberance evident in nearly any recording. In this respect, recorded echoes can be understood to foreground the conditions of their own production by making the virtual ‘secondary’ space of the recording more clearly audible.

Any field recordings of an ambient interior will show traces of reverberation, and a subtly distinctive ‘room tone’, produced by the reflections and interactions between the sounds and the enclosing surfaces. The more foregrounded these are, as when a recording is made in a reverberant space or with echo effects, like in the doublerecordings and rerecordings, the more this virtual spatiality is circumscribed and made palpably evident (Lansky 2004: 8; Doyle 2005: 15).

In this way, at the same time as implying an autonomous, virtual space, in which any original production seems remote or irrelevant, recorded echo and reverb can also emphasize the material production of a recording, as such. Echoic effects become amplified together with the artefacts of the recording

process and the sounds of the original recording site, which are then experienced together in a more intense materiality. Real-world and fabricated echoes and reverberations tangibly prolong, and play with, and therefore highlight and explore, the complex event of sonic production; apart from any original source or instrument.

As Rick Altman argues, any recording could be conceived of as presenting a double space (the sites of recording and playback) (Altman 1992: 27); and this might also be understood in more complex, 'echoic' terms. Christof Migone links Altman's double site of recording to an oscillation of spatial movement, in which any materiality is neither located in the recorded sound nor at the site of playback but, paradoxically, 'in the nowhere of the inbetween' (Migone 2003) [82]. Migone relates this effect to a 'generative definition of utopia' in which echo multiplies within, rather than fills, the emptiness:

> 'A space in movement is an amplified topography, one that inscribes notions of utopia and heterotopia to the heretofore singular space . . . As Robert Altman points out . . . in a recording we hear double, both the sound of the site it was recorded and the site where the recording is being played . . . In this double hearing we are presented with an elsewhere dissonant with other stimuli . . . Marin . . . provides us with a generative definition of utopia: "U-topia, no-place, the nowhere does not mean the unreal or the imaginary, but the indetermination of place, the neutral space of difference and the force of differentiation. Place which is neither here nor there, utopia presents an absence in the here and now of space.' (2003)

This differentiation of recording, through doubling, proposes a neutral, liminal, 'no-place', that challenges the 'landscape sensibility' that Eno, for example, finds above. Whereas in ambient, a virtual landscape is extended to absorb the playback environment into an immersive whole, in Migone's account the recording and playback sites remain separate and articulated as a multiplicity and a difference.

Within acoustic ecology, like in the ambient above [83], echo (and recorded sound) has been understood in terms of an extensive production that segues

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82 Cf. 'double resonance' p. 49.

83 Also: ' "New Age composers barely distinguish inner space from outer" '(Susan Grove Hall in Hibbett 2010:292).

interior and exterior spaces together [84] [85]. Both accounts of echo resolve the 'to and fro' indeterminacy of sounds into an oscillation that is set within the parameters or 'walls' of a recording, and only predicated on an original production (whether this is then experienced as autonomous or not).

These alternate characterisations of real-world and recorded echoes - as the extension and 'playing out' of an original sound and source or as immanent productions - are clarified by Peter Doyle in 'Echo and Reverb Fabricating Space in Popular Music Recording 1900-1960' (2005). In the book, Doyle makes an analogy between recorded echoes and Gilles Deleuze and Félix Guattari's (D&G) model of territoralization and deterritoralization, in their discussion of the refrain in music, in 'A Thousand Plateaus' (1988) (Doyle 2005: 16-17) [86].

Doyle relates D&G's terms to recorded echoes, which, he understands, underscore and play out different expressions of spatiality and territorality. These are both able to evidence the actual production of, and control over, sonic processes and territories, by delineating and overstating these, and to produce distinct virtual spaces. Doyle continues that:

> 'Synthetic echo and reverb might also be seen as the paradigmatic instance of the (de)territoralizing refrain. A sound emitted here is repeated there, the space in between is thus delineated, mapped, known, possessed. Or perhaps the opposite occurs: the echo is diminishing repeating irretrievably other. The echo and the space between here and there is alienated, lost, unknowable.' (2005: 17-18)

Within these terms, the recordings in DR make encounters between different sound productions explicit; rather than focusing on any one of these individually,

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84 Cf. public and private pp. 35, 41, 55.

85 Cf. ' . . . the recording of environments gives definition to a specific place . . . while operating to displace such specifics, to locate them elsewhere. That is to say, as a listener I hear just as much displacement as placement, just as much placelessness as place . . . difference and displacement form a backside to soundscape compositions' emphasis on immersion and origin.' LaBelle 2006: 211).

86 In brief, D&G depict music in territorial terms, as a continuous making ('territoralization'), unmaking ('deterrritoralization') and remaking ('reterritoralization') of spatial territories out of repetition and refrain. They further divide the refrain into three distinct, but related, organizations of space. These alternately produce calmness and stability within a larger chaos; create and mark home territories; or open up and connect such territories to the outside cosmos (D&G 1988: 311-312).

or stably resolving them together, by capturing or 'possessing' these. Recording is used against recording to produce further sounds, which are in some way in excess of, or independent from prescribed format, technological production or specific intention. These again play out an environmental depiction of recorded sound, in which its predominant effect happens after any original point of production: the ghostly sound of 'information brushing against information' (Cage in Kostelantz 2003: 232).

Minimum disturbances in DR - making and unmaking tiny latencies, repeating recording processes, using minimal, contingent content - expose the material production of recorded sounds, produce spatial and temporal disorderings, and make virtual spaces. A minimal delay, in this way, acts as a paradigm of the larger breaks and repeats which happen in relation to any recording. The shifting proximity of any DR recording to a previous or potential further version of itself also reflects this.

Together these produce a different characterisation of repetition in recorded sound, and consequently of appropriation, in terms of intensive production [87] and irresolvable 'echoic' effects. This is relevant to DR, as well as to the thesis as a whole, which attempts to develop a simulacral account of recorded sound away from tropes of representation and capture. DR uses delay and rerecording to position stereo field recordings apart from any one original source, production or genre, and to relate these instead to multiple further recorded sounds, which they both reference and realise through their own production and diffusion.

87 'An echo . . . cannot occur without a distance between surfaces for the sounds to bounce from. But the resonation is not on the walls. It is in the emptiness between them. It fills the emptiness with its complex patterning. That patterning is not at a distance from itself. It is immediately its own event. Although it is complex, it is not composed of parts. It is composed of the event that it is, which is unitary. It is a complex dynamic unity. The interference pattern arises where the sound wave intersects with itself. The bouncing back and forth multiplies the sound's movement without cutting it. The movement remains continuous. It remains in continuity with itself across its multiplication. This complex self-continuity is a putting into relation of the movement to itself: self-relation. The self-relation is immediate – in and of itself, only its own event – even though it requires distance to occur. The best word, once again, for a complicating immediacy of self-relation is "intensity" . . . Resonation can be seen as converting distance, or extension, into intensity. It is a qualitative transformation of distance into an immediacy of self-relation.' (Massumi 2002:14).

PART III: “Dense Boogie” (2007 - 2011)
1. Introduction

> ‘I recall meeting a young . . . composer who told me that he had given up writing music after becoming infatuated with the beauties of cricket song. But when asked how, when and why crickets sang, he couldn’t say; he just liked taping them and playing them back to large audiences.’ (Schafer 1994: 206)
>
> ‘Crickets may be the lazy hedonists lying in the sun, but they have amazing destructive powers.’ (Braidotti 2002: 148)

Overview

The sound installation “Dense Boogie” (DB) brought together a complex of recorded and amplified sounds. A foreground field recording of crickets was played back simultaneously with environmental background recordings, rerecordings and a site-specific live amplification.

The crickets recording playback was triggered from a touchscreen by a user; whilst the other recorded and amplified sounds were diffused throughout the duration of the installation. These were coordinated and played back using a software installation player built in Max alongside the previous project.

Although parts of DB were produced using multichannel technologies, the version described here was diffused in stereo at a conference held in the NAB building at Goldsmiths, University of London in July 2011 (Phonography Colloquium Website 2013).

The installation recordings and amplification were played back respectively from

stereo loudspeakers on a table in front of and from four pairs of headphones hanging behind a freestanding wall in the NAB concourse. A series of wall texts listed and referenced the sonic and other parts of the installation, which included a pile of blindfolds placed nearby [1].

“Dense Boogie” and other projects

The DB installation partly repeated some of the strategies already described in relation to the previous two projects, Sonicinteractions (SI) and Doublerecordings (DR). As well as producing a further complex of field recordings and rerecordings, DB also specifically reproduced an adapted version of the SI Player application; and revisited an academic location.

The same generic installation player and many of the strategies described in relation to DB were also important parts of the final sound installation, ‘For the Birds’ (FTB) [2]. Whilst many of the significant concepts and methodologies were substantially developed during the preceding months, the two final installations were shown in the same year (2011). Where aspects of DB and FTB closely reoccur, these are discussed in detail in relation to an individual project only and more briefly elsewhere; cross-referencing these to avoid unnecessary repetition.

Introduction

DB focused on a series of mimetic and appropriative strategies that aimed to blend a complex of recorded and amplified sounds together with real-world sounds of a phonography conference. Sonic strategies ranged from the selection of recording content and live amplification of the site, to the use of ambisonic rerecording techniques. The appropriation of local typography reflected the site-specific context; whilst the title and texts, together with the blindfolds, referenced or borrowed from other productions of recorded sound.

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1 The other installation audio equipment – Mac Mini, RME Fireface 400, microphones and stand - was also visible.

2 See pp. 172-221.

Some of the background recordings and the live amplification in DB included the sounds of audio technologies, such as equipment hiss. These are called *‘horspielstreifen’* to distinguish them from the ambient background recordings produced at the same time [3]. Although ambient and *horspielstreifen* recordings were relevant to both final projects, they are mainly discussed here, where they are related, both sonically and strategically, to examples of background environmental musics.

Despite the fact that they were, more or less, unhearable, the background recordings in DB provided a way to smoothly relate the different mediated and real-world sounds of the installation together. At the same time, although mediated sounds were diffused across the installation, the foregrounding of the crickets recording made it possible for the installation to be experienced as the straightforward playback of an isolated field recording.

DB partly evolved from a consideration of a field recording of crickets as difficult to work with as such. This was both because it was almost impossible, as a field recordist-’tourist’, to resist making a recording of crickets - because they sounded so compelling - and, later, because it was difficult to listen to the recording without ‘glazing over’.

This double lack of resistance - to producing the recording in the first place, and then subsequently to any stable or sustained listening - approaches some of the ways, previously discussed, in which environmental recordings have been more broadly negatively figured [4]. Like many contemporary depictions of environmental musics, the real-world sounds of insects, such as crickets and cicadas, have been persistently related to problems of rationality and affect in respect of audition; and depicted as ultimately distracting, disorientating and mesmerizing (G.R.F. Ferrari 1990).

Both real-world and recorded versions of insects like cicadas have also been conversely described, by the composer Francisco López, in terms of an ‘environmental acousmatics’ (López 1998-2). This implies that they are able

3 After the theorist Theodor W. Adorno, who used the term ‘horspielstreifen’ (‘hear strip’) to describe the noise of equipment hiss that starts before and persists throughout the playback of any recording (Kahn 1994).

4 See pp. 32 -34; pp. 41-42.

to listened to exclusively as ‘sound matter’, apart from any other signification (e.g. visual; biological; cultural etc.). Within López’s account, there is a further implication that such an invisible, sourceless production intensifies the existing potential of such insects to sound technological.

R. Murray Schafer makes a similar point, in the ‘Tuning of the World’, where he identifies such insect sounds as almost uniquely monotonous and persistent amongst natural noises. Schafer links their characteristics to the mechanical and electric drones of industry and technology in the environment (1994: 78).

In the book ‘Metamorphoses’ (2002), Rosi Braidotti draws further implications in respect of the insect/technology coupling, above. Following Gilles Deleuze and Félix Guattari (D&G), Braidotti argues that, through their sound productions, insects both evidence and create a liminality – between nature and technology, animal and human, for example - which is also relevant to a wider techno-acoustic sensibility.

Similar ambiguities, between real-world and recorded insects and technologies, are also evidenced in reviews of certain audio recordings. The, often unresolved, categorisation of these recordings, in terms of their genre, sometimes hinges on whether the insects on these are straight field recordings or synthesized electronic effects. This uncertainty has been frequently explored in many sonic and field recording practices. The cicada sounds in Luc Ferrari’s ‘Presque Rien No. 1’ (1967-70) are a well-known example that also influenced the development of DB.

A rerecording I made in 2007 of Maryanne Amacher’s ‘Dense Boogie 1’ (Amacher 1999), as well as obliquely connecting to this debate, was also directly influential. The fact that such sounds were not significantly altered by the process of rerecording contributed to the final selection of crickets, which appeared similarly unchanged. Although the ‘Dense Boogie 1’ rerecording was not finally used in the installation, the title and a quotation from Amacher remained.

The background sounds and extra-sonic parts of DB repeated similar

ambiguities around the more obvious natural/technological trope of the crickets’ recordings. The horspielstriefen recordings, for example, were diffused together with live loudspeaker hiss; producing a conflation between real-world and recorded sounds.

At the same time as the different parts of the installation were clearly attributed in DB, original sources and productions of sound (field recordists, composers, insects, loudspeakers, individual works and recordings) were assembled and diffused in such a way as to disperse attention from any one of these, towards their multiple, complex expression.

2. The Installation

“Dense Boogie” and ‘For the Birds’

The installation structure of both “Dense Boogie” (DB) and ‘For the Birds’ (FTB) developed from the same proposal to situate the foreground playback of a recording together with a complex of further ambient background recordings, rerecordings and real-world sounds. Although structured around the same paradigm, each of the installations was quite distinct. Their shared features are described below, before discussing the DB installation itself.

The foreground recording, within this general proposal, was intended to be the ostensible sonic focus of the installation. This focus might be produced by the recording’s content, dynamics or positioning; and supported by a cultural habituation to monologues of mediated sound. Its content would either be drawn from an existing field recording of my own (as in DB); from another source (as was considered for DB); or produced specifically for the installation (as in FTB).

Further installation recordings and mediated sounds were intended to be much less sonically obvious. Rerecordings, for example, proposed to closely reproduce original recordings. Background recordings, like amplifications, were supposed to be difficult or impossible to hear (e.g. where these have low levels; unremarkable, ‘neutral’ content; or are indistinguishable from the real-world sounds of the playback context).

‘Installation Player v2’ [5]

‘Installation Player v2’ was developed, in response to this proposal, as a generic application which routes, sequences and triggers multiple audio events and functions within a sound installation. Play, record, live and levels and fades were independently written into text scores [6], which could then be easily loaded, edited or exchanged.

The player was designed to flexibly produce different recording and diffusion set-ups; including B-format decodes and ambisonic playbacks [7]. The latter were used to produce rerecordings for both installations, and for diffusing ambisonic files in FTB.

Although some of the same functionality might have been achieved using a mix of existing programmes, the modularity and flexibility of Max [8] - which includes the direct implementation of interactivity using timers and sensors - made it a more appropriate choice. The graphic customization of the Installation Player, that Max makes possible, was also of interest; although this remained only partly explored [9] [10].

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5 See p.275, fig 26; DVD II: For_the_Birds/Installation_Player_v2.2

6 See DVD II: Dense_Boogie/ Installation_Player_v2.2.37/qlists.

7 The thesis projects use ‘first-order’ ambisonics in which an ambisonic microphone (Soundfield Micophone) captures 4 audio signals (X: left-right; Y: front-back; Z: up-down; W: mono (omnidirectional)) as a B-format file. This is then able to be decoded into different formats from stereo to periphonic surround sound. (Elen 2001).

8 See p.22, n.1.

9 During the DB installation, the Installation Player was hidden behind the touchscreen interface; although it was still remotely accessible through screen sharing. Whereas in this version of DB, the player was only referenced in the title wall text (‘programming’), it had the potential to become a more visible part of a future installation. This possibility impacted on the way it was developed. Whilst in projects like Sonicinteractions (SI) the software applications were intended to be distributed instead of, or alongside, the recorded sounds, in DB in particular, the Installation Player, although not visible, was still, in this way, partly implicated as a part of the wider work.

10 As well as reiterating a previous performance, in terms of its academic location, the new version of SI also reproduced some of the typography of the original Sonic Interactions conference. This was also reflected in an update of the original standalone application that was potentially to be made available during DB. The Installation Player, in this way, also evidences DB’s wider mimetic approach. See DVD II: Sonicinteractions/Sonicinteractions_v2; DVD II: Dense_Boogie/Installation_Player_v2.2.37.

‘Installation Player v2’ (“Dense Boogie”)

The recordings and amplification in DB were diffused using a customized version of the Installation Player [11]. Pre-prepared scores were loaded into the player before the installation [12]. This cued selected audio files and set up playback and recording start times and durations.

The Installation Player was interfaced with a version of the earlier SI application [13], which was initiated at the start of DB and operated throughout its duration. This featured an adaptation of SI’s core fade algorithm that now interacted with the player in DB and modulated the foreground and background recordings against their respective rerecordings.

The fades in the new version were set to operate within a narrower parametric range than previously; and could be further adjusted and fine-tuned to match site-specific acoustic levels. This produced a more regular and controlled, and much less obvious, dynamic variation than in the original, where the modulation was heard as an effect in itself [14].

Background to “Dense Boogie” and ‘For the Birds’

This concept for an installation evolved from a practice of making rerecordings of existing recordings alongside other background field recordings of room ambiences and uneventful rural exteriors. The rerecordings themselves also sometimes included such ambient recordings as part of them. A rerecording might be made, for example, of a foreground recording fading imperceptibly through an ambient background recording into real-world acoustic sounds. This might then be played back in the same place it was recorded in [15].

11 See DVD II: Dense_Boogie/Installation_Player_v2.2.37.

12 See DVD II: Dense_Boogie/ Installation_Player_v2.2.37/qlists.

13 See p.270, fig. 17; DVD II: Dense_Boogie/Installation_Player_v2.2.37/v2.2.37 (‘sonicinteractions’ window).

14 See p. 62.

15 I discuss this in more detail on pp.152-153.

Recording Complexes 09.06.06 to 02.02.09 [16]

Both DB and FTB were also anticipated by a series of CDR ‘Recording Complexes’ made before the installation player was finished. These were a development of the Doublerecording (DR) complexes discussed in Part 2 [17], which link the DR project to the two final installations.

The ‘Recording Complexes’, again, included a series of rerecordings; now alongside low level ambient recordings, and recordings of equipment noise - *horspielstreifen* - derived from the wider field recording practice. Together these different methodologies enabled, sometimes significantly, different recordings and real-world sounds to be related within the complexes.

Complexes in “Dense Boogie” and ‘For the Birds’

Although each installation set out a specific proposal at the start [18], the complexes of recordings in DB and FTB were developed relatively randomly and intermittently by repeatedly producing recordings and rerecordings. These strategies emphasized the productive, mutable and transient effect of recording, rather than the production of any one stable and repeatable work.

This might also be expressed, following DR, in terms of a more subtle, mimetic ‘versioning’ of field recordings; in which similar, even exchangeable, recordings are played back undecideably. Whilst this might be read as only a practical convenience, by sharing methodologies and recording locations, the DB and FTB installations could also be understood as versions of one another.

These effects were intensified, in both installations, through the lack of audible differences between recordings and real-world sounds or rerecordings; the minimal eventfulness and virtual silence of the background recordings; and in the use of generic recordings.

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16 DVD I: Tracks 37-45; DVD II: Dense_Boogie/Recording_complex_090202; For_The_Birds/Recording_complex_080502-080812.

17 See p.75.

18 See Appendix 2, p. 240; Appendix 3, p.241.

“Dense Boogie” Complexes

In DB, the live amplification also produced, what might be perceived as, further versions of the installation recordings [19]. As they were diffused through the loudspeaker pair, the DB recordings were simultaneously reproduced through the headphones, alongside the other sounds of the NAB concourse. These included the amplified sounds of a further sound work, and other events; such as people dining, assembling, and moving about the building, and outdoor sounds through the open windows [20].

Like FTB, DB played back a complex of recorded and amplified sounds which were intended to be conflated together, so that they were no longer only experienced distinctly. This happened intrinsically, between the different site-specific parts of the installation, as well as in relation to further instances and genres of real-world and recorded sound. Differences between individual field recordings, and field recordings and live amplification, were minimised by using similar locations and techniques, and by regulating and normalising playbacks.

“Dense Boogie” and field recording practice

Although DB only played back 2 background recordings, out of 4 final audio recordings in the installation, these were considered as part of a larger aggregate of further, sometimes similar sounding, field recordings. These had been made over an extensive period of time, as part of the wider recording practice, which had often used the same equipment and locations, and shared content and methodologies [21].

The background recordings in DB were also directly connected to FTB [22], because the two final installations were developed simultaneously, using the same technologies and rural location in Suffolk, UK. The same or closely

19 DVD I: Track 120.
20 DVD I: Track 46.
21 See pp. 178-185.
22 See pp. 172-221.

similar, ambient recordings and rerecordings were produced, which had the potential to become the background parts of either, or both, sound installations. All of the DB installation recordings were, therefore, made away from the installation site in London (Perugia, Italy and Suffolk, UK). The original crickets’ recording, which was not made specifically for DB, was also an (atypical) part of this larger practice. As a ‘tourist’ field recording, however, it was neither a usual example of my mundane, everyday experience and nor was it randomly selected, but rather produced in response to the compelling sound of crickets.

3. Background Recordings

The recordings and amplification in “Dense Boogie” (DB) were structured around a concept of background and foreground sounds. Apart from the foreground recording, ‘Evening Cicadas, Italy’ [23], the other sonic parts of the installation were intended to be experienced as background sounds. These also used methodologies which are similar to those found in environmental background musics; ranging from the selection of individual audio content, to the parameters of playback, and the context of sound diffusion.

The ‘ambient’ recording in DB was nearly silent, whilst the rerecording of this included technological sounds that subtly reflected site-specific noise. The live amplification in DB was also positioned so that this would obliquely pick up the installation recordings as background sounds themselves. The description of the ambient and *horspielstreifen* recordings below (apart from the live amplification) is also relevant to the installation ‘For the Birds’.

‘Ambient’ and ‘Rerecording (ambient)’ [24] [25]

The ambient recording and rerecording were diffused and modulated together, using the installation player with the SI adaptation, from the start of the installation and continued throughout its duration. Both of the background recordings were looped continuously until a user triggered ‘Evening Cicadas, Italy’. They were then crossfaded out, fading back in again as the foreground recording finished.

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23 DVD I: Track 47.
24 DVD I: Track 48.
25 DVD I: Track 49.

Production of background recordings

The final DB background recordings were made in the week before the phonography conference. These were recorded during the evening, away from the main installation site, in a domestic, rural interior. The intention had been to produce a relatively long, quiet and neutral field recording; and then to make a rerecording of it under similar conditions. The least eventful tracks were chosen out of a number of similar field recordings made at the same time. The rerecording and rerecording were then cut together to produce the same duration [26].

Ambisonics

Although the original ambient recording and rerecording were made using ambisonic recording techniques, these were then decoded to stereo for the DB installation in the NAB building. The selection of stereo playback emerged from the practicalities of available on-site equipment together with an interest in stereo as a ubiquitous and normalised form. The stereo format also connected to a wider preoccupation in the installation over loudspeakers as visually problematic objects [27].

Description of background recordings

The ambient recording [28] in DB was intended to be difficult, or even impossible, to hear within the context of the NAB concourse [29]. It lacked any exceptional or substantial content, and where heard at all, might be experienced as a diffuse and neutral drone of low level ambient sound.

Although ‘Rerecording (ambient)’ [30] more obviously included the sound of equipment hiss as a significant part of its content, the ambient recording also

26 This was just under 10 minutes. Although the original intention had been to produce much longer durations this was not possible; for technical and other reasons which became apparent during both recording and playback. These partly related to an audio file size limitation within Installation Player v2.2; also reflected in the final 48 khz sampling rate, 24 bit depth of the audio files.

27 See p. 157.

28 DVD I: Track 48.

29 See pp. 132-137; p.265, figs. 8 and 9.

30 DVD I: Track 49.

had a similar potential. Through its shared ambient environmental content (because they were recorded in the same place) and low dynamics, it either sounded very similar to the rerecording, or fell beneath the threshold of perception to bring attention to the live noises of playback equipment in the NAB [31] [32].

‘Rerecording (ambient)’ [33]

The ambient rerecording, which it was modulated against, was similarly featureless and drone-like. As a rerecording as such, ‘Rerecording (ambient)’ subtly related to the live noise of installation equipment and supplemented, or reinforced, the local sounds of diffusion. It was possible that, close to the loudspeaker cabinets, the sound of loudspeaker hiss might be louder than the recordings themselves.

In this way, the live loudspeaker and equipment noises potentially became more noticeable, or apparently predominant, in relation to any field recording [34]. At the same time, real-world equipment sounds become undecidably diffused together with, and critically indistinguishable from, the background recordings.

Background recordings within the context of the NAB building

Whilst it might be possible to listen nearly exclusively to such field recordings in a similarly quiet environment, or using headphones, and even make out the subtle distinctions between them, this was practically impossible within the NAB building.

However, further attention to the ambient recording and rerecording was also drawn in DB through the texts and blindfolds and from the wider context of the phonography conference. The background recordings were identified on the wall text above the touchscreen, which stated their titles and total time:

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31 In this respect, the onsite calibration of levels was a critical aspect of the installation.

32 Unlike in FTB, the installation loudspeakers in DB (Tannoy) were of a different model to those used to produce the rerecordings (Genelec 1029a).

33 DVD I: Track 49.

34 This relates to a further series of low level field recordings that I produced that require a quiet playback location. E.g. DVD I: Track 50.

‘Ambient’, ‘Rerecording (Ambient)’ ‘9’52’ [35]. The positioning of the text and loudspeakers also indirectly invited any participant to stand in an optimum ‘sweet spot’ position. The blindfolds similarly implied, or provided, a more intensely concentrated, acousmatic audition [36].

Low level, minimal sounds can encourage closer, strained attention, as well as being difficult or even impossible to hear (Perlman 2004: 796). The background recordings also inferred other possible categories of recorded sound. For example, these also might suggest ‘lowercase’ genres of recording [37], and it is possible they could be listened to as such.

Whilst the background recordings in DB were potentially unhearable during the installation, it was important that this was not experienced as a complete ‘drop out’ of recorded sound; because this might itself become a noticeable feature (e.g. where heard as a malfunction). Instead, the background recordings were intended to provide an unremarkable, subliminal ‘bridge’ between the foreground recordings and the site-specific real-world noises.

Live amplification

The microphones [38] for the live amplification were positioned so that these would only obliquely pick up the foreground recordings of crickets as background sounds themselves. They were focused instead across the wider NAB concourse. The live sounds were transmitted to a series of headphones hanging on a row of seats that faced away from the main concourse on the reverse of the installation wall.

The amplified sounds, whilst providing a less optical experience of the installation, also more explicitly introduced other site-specific sounds into DB. This also produced an alternative, more acousmatic, model of the installation in which nearly all of the sources of sound production, apart from the headphones, were out of sight.

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35 See p.267, fig. 12; p. 268, figs. 14 and 15.

36 See p. 164, n.129.

37 The term ‘lowercase’ describes a loose affiliation of minimal sound works that make use of silence and very quiet sounds (Roden 2011). E.g.s Günter 1993; Chartier 2002.

38 SE Electronics SE1A microphone pair (X/Y stereo configuration).

NAB Concourse [39].

The siting of the DB installation in the lower area of the NAB concourse conformed to other architectures typically associated with background environmental musics (Lanza 2004: 2). The basement of the NAB building was open to the roof and a central atrium linked informal meeting spaces, and a café, to enclosed lecture theatres and screening rooms across the levels of the building. Different events and activities in this way are able to simultaneously take place.

The DB installation was situated outside the main lecture theatre in an open thoroughfare with seats and tables casually arranged across it. The front part of the installation was set up against a narrow partition wall opposite the main staircase in the middle of the concourse [40]. The table and chairs used in DB were borrowed from the immediate setting. Despite it being situated in the basement, the installation site was visually well connected, through the extensive use of glass across the atrium, to the different levels, as well as to outdoors. Sounds could be heard, and were picked up by the microphones, from throughout the open parts of the building, including from outside.

Background and environmental musics

Some of the ambient and background music theories that are relevant to DB can be traced back to early experimental and utilitarian environmental musics, such as Erik Satie’s ‘Musique d’ameublement’ (Furniture music) (1920) and the mid-twentieth century productions of the Muzak Corporation [41]. Within these, technological sounds - either recordings or equipment noises - were intended to become perceived as indifferent, indistinct or continuous with each other and different real-world environments.

Although, within the context of this thesis, ambient background recordings were initially developed randomly from the broader field recording practice

39 NAB Website 2013.

40 See p.265, figs. 8 and 9.

41 ‘Muzak’ was rebranded in August 1998 as ‘audio architecture’ (Kushner 1998; Nunns 2002: 129) - and again, in February 2013, as‘ Mood’ (Sisario 2013; Muzak Website 2013) .

described here, in both later installations these also specifically conformed to certain functional strategies.

Background and environmental musics

The use of quiet dynamics, and uneventful, or neutral content, was commonplace in - particularly early - forms of functional background and environmental musics. Within these, continuous low level amplitudes of recorded sound were mixed with real-world noises; without either obscuring them or drawing attention to themselves (Minard 1996: 18).

Diffuse, steady-state and unremarkable atmospheres were designed to be experienced indifferently, together with an existing environmental context, and to be registered affectively beneath conscious attention (Vanel 2008: 94). In this way further activities alongside could continue undisturbed or be subtly supported and shaped.

Early functional musics were developed alongside other industrial and domestic utilities and public architectures (Kushner 1998). Sounds were designed to mask, smooth over, or supplement the hums and drones of the new systems. The new technological noises were also understood to at once encourage an uncanny absence of natural, human ‘social’ sounds and conversely, by bringing this to attention, highlight unavoidable and disturbing examples of these (Lanza 1991: 43).

A too low level of functional noise was itself, therefore, seen as problematic and, to address this, further sounds were added to insulate a space against ‘drop-out’ (Kaprow in Vanel 2008: 104) [42]. Environmental recorded music coupled with air-conditioning, for example, aimed to produce an indifferent and unremarkable ‘pseudo-silence’ (Westerkamp 1988: 65 n.8) that was similarly intended to be ignored.

42 Cf. *horspielstreifen* below.

Horspielstreifen

Other minimal recorded sounds were used to introduce and mitigate the abrupt effect of loud recording playbacks on mass audiences in cinemas. The philosopher Theodor W. Adorno, in an unpublished paper on radio (Adorno 1938), relates such recordings, which he calls *‘horspielstreifen’*, to the sound at the start of a 78 rpm record before the music began; and that continued throughout the recording as a background noise (Adorno & Leppert 2002: 218-19). In the paper, he argues that this background sound, which is described as ‘slight, continuous and constant’ (2002: 219), allows the foreground of music reproduced together with it to be experienced, albeit registered only unconsciously, as a projected or surface image [43].

Trailers of *horspielstreifen* subtly alerted the audience that a film was about to start; both preparing and settling the audience, as well as reassuring them that a mediation was under way [44]. This functional and subliminal use of recorded sound recalls the regulatory and utilitarian purposes of Muzak. Yet Adorno also understands *horspielstreifen* as decisively effecting modes of music reception; arguing that such sounds, because of their prevalence across all mediated sound, and apparent lack of substantial content, also have the potential to relate recorded (film) sound to the device and means of its ‘social distribution’ (Mowitt 2003: 270). In this respect, a lack of recorded content, itself, connects background recordings to further instances of recording; linking these together, at the same time as subliminally alerting listeners to the material conditions of their production (Mowitt 2003: 270).

Horspielstreifen in “Dense Boogie” and ‘For the Birds’

The concept of *horspielstreifen* is relevant to the practice of rerecording which the DB installation significantly evolved from. Many of the preparatory works and studies for both DB and FTB included field recordings of audio equipment noise [45]. They were called *‘horspielstreifen’* in order to distinguish them from

43 Cf. Rancière pp. 219-220.

44 Cf. ‘On hold’ telephone music (Rigby 1998).

45 DVD I: Tracks 40 - 42; DVD II: Dense_Boogie/Recording_complex_090202/ 090202_T04; 090202_T04_xfadein; 090202_T08; 090202_T10; 090202_T11; DVD II: For_The_Birds/Recording_complex_080502-080812/080804_T05; 080804_T08.

the straight ambient recordings and other rerecordings within the complexes. *Horspielstreifen*, within this context, were either recordings of the sounds of technologies simply turned on, without any further signal, or rerecordings of very low level ambient playbacks. Although, within these terms, it would have been more accurate to describe ‘Rerecording (ambient)’ [46] as a *horspielstreifen* recording it was instead called a rerecording in DB. This was so that the background recording and rerecording might be observed (in the installation text [47]) to rhythmically mirror the structure of the foreground recording and rerecording.

The *horspielstreifen* recordings focus on the sounds of playback technologies; especially the equipment hiss of loudspeakers. Many of the rerecordings were made of original ambient recordings diffused ambisonically across multiple loudspeakers [48]. This effect was therefore amplified (in comparison to a more usual stereo playback) in the *horspielstreifen* recordings, such as ‘Rerecording (ambient)’ [49] [50]. In this way, they obliquely reflect the technological sound of the insects in DB.

The *horspielstreifen* recordings were invariably made from the same position as the rerecordings; using identical technologies, set-ups and levels. They were often produced immediately before or after a rerecording and, like Adorno’s *horspielstreifen* above, were intended to be diffused together with them. This minimized any audible differences in production noise, between a rerecording and a *horspielstreifen*, or a *horspielstreifen* and an ambient recording, and enabled them to be effectively crossfaded or spliced together [51].

The two background recordings in DB, ‘ambient’ [52] and ‘Rerecording (ambient)’ [53], for example, fade in and out of one another unnoticeably. In this way *horspielstreifen* recordings, as well as connecting to real-world noises, also

46 DVD I: Track 49.

47 See p. 268, figs. 14 and 15.

48 See p. 153.

49 DVD I: Track 49.

50 E.g. compare stereo loudspeakers on; quad loudspeakers on; stereo and quad loudspeakers on DVD II: Dense_Boogie/Recording_complex_090202/090202_T04; 090202_T11; 090202_T10.

51 DVD I: Track 42.

52 DVD I: Track 48.

53 DVD I: Track 49.

intrinsically provide sonic ‘bridges’ between different rerecordings, and between rerecordings and straight ambient recordings, to produce something like the consistent subliminal tone of production that Adorno describes above.

Where such complexes of recordings are also diffused site-specifically in the same spaces they have been made in, they are also able to connect smoothly from foreground recordings to happening real-world sounds. Although this was not so relevant to the version of DB produced in the NAB concourse, this aspect is developed fully in FTB [54]. In DB the unmarked re-siting of the ambient recordings - from a rural to an urban interior - produces a radically subdued version of the more transparent displacement the foreground recordings achieve.

Dynamic levels and fades in “Dense Boogie”

As well as using the mimetic realism of field recording to minimise distinctions between the different sonic parts of the installation, the dynamic levels and transitions at the starts and ends of, and between, different field recordings, and between these and real-world sounds, were crucial aspects of DB (and FTB).

‘Ambient’ [55] and ‘Rerecording (ambient)’ [56] were intended to be dynamically consistent, as far as possible, at the point of recording. This was mainly achieved by reproducing each of the background recordings using the same recording equipment, position and levels at similar times. Because of environmental contingencies (e.g. meteorological changes, aircraft etc.), several attempts were made to achieve these.

Part of DB’s intention, in respect of the background recordings, was to produce field recordings that were qualitatively difficult to distinguish from the sound of a live amplification or ‘feed’ [57]. None of the DB recordings were, therefore, intended to have dynamic levels or fades written into them. Instead these were

54 See pp. 199-201.
55 DVD I: Track 48.
56 DVD I: Track 49.
57 See pp. 183-184.

mainly applied, using both the installation player [58] and SI applications [59], during the installation playback [60].

The background recordings, in this way, emerge and then disappear imperceptibly either from, or into, the real-world noises of the NAB, or in and out of the foreground recordings. Whilst the foreground recordings conform to many such recordings by discernably fading in and out over 4 seconds over the low levels of the background recordings.

58 The Installation Player included a fade function that allowed global and local fade settings to be read from scores. These could be programmed for individual installations and produced during diffusion; rather than written into original audio files. This might be done to calibrate different recording levels, for example. See DVD II: Dense_Boogie/Installation_Player_v2.2.37/qlists/_audio_stereo_2; _live.

59 See DVD II: Dense_Boogie/Installation_Player_v2.2.37. Open v2.2.37 application then click on ‘sonicinteractions’ window to open ‘scaling’ window.

60 In DB, the background recordings are automatically faded in at the start of the installation. They loop on continuously; until the foreground crickets’ recording is triggered by a user via the touchscreen. The foreground recording is crossfaded with the current playing point of the background recording, which then fades out. The latter fades seamlessly back in at the end of the crickets’ recording and loops on until the next interaction, or to the end of the installation.

4. ‘Evening Cicadas, Italy’

The foreground recording of crickets, ‘Evening Cicadas Italy’ [61], in “Dense Boogie” (DB) is an extract from a stereo recording that was made in August 2007. It records the summer evening sounds on the edge of a small village on the border of Perugia and Tuscany, Italy.

Although the installation reproduces a field recording of my own, this was used as an expedient rather than as a necessary requirement of DB [62]. My (limited) familiarity with such sounds had been informed as much ‘second hand’ and indirectly, from different media and genres, as by occasional experiences of these as a tourist. The recording was made with the informal, and erroneous, idea that the ‘singing’ insects were cicadas, rather than crickets. The mistake remains reflected in the touchscreen text, ‘Evening Cicadas, Italy’, and in some of the cited works.

Despite the fact that the personal nature of the field recording was not a critical part of DB, something of the compelling circumstances of its production, and the way in which the original evocative and mesmerising sound seemed to be sustained and reproduced in the recording was important to the work. At the same time the initial focus and attraction, towards both the real-world sound and recording, quickly deteriorated during reception into a glazed and hypnotic effect. This made the field recording difficult to work with, as my attention repeatedly drifted off. The recording itself seemed pointless and insubstantial.

Production of original field recording, ‘Crickets, Perugia, Italy’

It was relatively straightforward to make ‘Evening Cicadas, Italy’, which was

61 DVD I: Track 47.

62 I also considered inviting another field recordist to produce the foreground field recording.

an extract from a much longer field recording [63]. The extended recording was not planned or made for the purposes of DB; and as part of the further field recording practice, it did not require the insect sounds to be species specific or exclusive of any other noises, such as traffic.

The microphone set-up was quick and informal, since other field recordings had been made in the same wider location previously. A pair of microphones [64] were positioned on a convenient low wall, facing the wooded and grassy area where the insects were mainly singing from. It was a warm and still August evening and therefore minimal wind protection was required [65]. A DAT recorder and mixer were set up, and the levels were calibrated and then left to run, without any further change or monitoring. The insects did not appear to be disturbed by this activity, or the presence of the field recording equipment, as, for example, a bird might be, and continued to call.

Description

During the extended field recording [66] a dense and steady foreground of insects sings against a background of mostly anthropogenic (human-made) noise. A persistent low background of television, often with piano music, plays continuously alongside the insects. This fades in and out of the foreground, and sometimes a melody briefly becomes noticeable [67,68]. Low voices sound occasionally close by, whilst different dogs bark intermittently and repeatedly in the middle distance [69]. Car sounds are sometimes loudly obtrusive and nearby, although this did not appear to significantly affect the crickets’ performance [70] [71]. Towards the end of the tape there is less background activity and the insects can sound almost alone [72].

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63 DVD II: Dense_Boogie/Audio_other/070813.aif.

64 Schoeps CCM-5 (omnidirectional); A-B configuration.

65 Foam windshields.

66 DVD II: Dense_Boogie/Audio_other/070813.

67 E.g. [01:40]; [03:12]; [09:01]; [10:00]; [14:53]; [16:38]; [17:41 -]; [23:30 -]; [34:15]; [37:00]; [42:33]; [43’07].

68 [redacted]

69 E.g. [6:23]; [11:00]; [15:53]; [19:05]; [19:54]; [20:35]; [26:24]; [26:54]; [28:05]; [36:10]; [40:00]; [47:00]; [52:50].

70 E.g. [00:30]; [13:00]; [22:30]; [33:00].

71 Cf. blackbird in FTB; ‘Presque Rien No. 1’.

72 [c. 40:00 -].

The insects produce a persistent pulsating rhythm that has subtle variations in amplitude and frequency over time. There seems to be at least two distinct varieties of sound production that are rhythmically and persistently modulated against one another, which perhaps implies more than one group or species of insect [73]. A more shrill, musical noise can be heard together with a lower chirping or churring. The different sounds sometimes coincide, in terms of their broader rhythm and dynamic levels, whereas at other times they drift apart. They then overlap, or sound antiphonal, or less balanced where the higher sound becomes louder and starts to predominate.

‘Evening cicadas, Italy’ [74]

For the purposes of DB, the 5’ extract which was selected from the extended field recording (‘Crickets, Perugia, Italy’ [75]) was from the least eventful part of the tape; in terms of both the character and consistency of insect noise and the anthropogenic background noises. The crickets produce a repetitive rhythm and continuous level of shrill chorusing throughout the duration of the extract.

Although there is still a partly antiphonal effect, the different parts no longer sound very distinctive and they reflect one another more closely. In the background there are the low, smooth sounds of cars fading in and out of the middle-distance, with occasional fragments of low level television music and remote dog barks. The start of the track is cut to the zero crossing of the wave envelope and the finish ends at 5’ 00 on a low part of the sound wave [76].

‘Rerecording (‘Evening cicadas, Italy’)’ [77]

The foreground rerecording in DB, ‘Rerecording (Evening cicadas, Italy)’, was recorded in the same location, using the same technologies as the DB

73 Such insects were previously expertly identified in the field before the recent development of bioacoustics signal recognition (Chesmore & Ohya 2004). See also Schafer 1994: 36.

74 DVD I: Track 47.

75 DVD II: Dense_Boogie/Audio_other/070813.

76 Fades are applied from the Installation Player. See p. 137, n.58.

77 DVD I: Track 51.

background recordings, although at a different time. This made it possible to make a foreground rerecording which would subtly connect to the background recordings in DB and reduce any sense of dissonance between them; however unhearable this mutual sound might be, as such. At the same time a sense of rerecording, in this way, becomes subliminally available in the foreground rerecording, which would otherwise sound hardly different from the original crickets recording.

‘Non-work’

One of the motivations behind using a field recording of crickets as the foreground sound in DB was the way in which it was possible to make perceptually accurate rerecordings of such sounds. These were able to be rerecorded in domestic spaces without obvious room colouration.

An ease of reproduction was also evident during the making of the original field recording, ‘Crickets, Perugia, Italy’ [78]. The crickets performed regularly and predictably; emerging in similar places at specific times of evening. Although it was only possible to approximate their location - both because individual insects are unseen and because they are spread out in an unknown multiple - different recording equipment positions also seemed uncritical and interchangeable in respect of these [79].

Perspective

The crickets produced persistent, repeating, dense fields of noise, which seemed to come from ‘everywhere and nowhere’ (Schafer 1994: 29; López 1998-2: 5). This was a liminal, hypnotic effect that was initially difficult to ignore. At the same time, any intrinsic detail - apart from these larger fields of sound - was hard or impossible to distinguish, hold on to, or to later recall (Schafer 1994: 36).

The same effect, to an extent, carries through into field recordings of chorusing cicadas and crickets, like ‘Evening Cicadas, Italy’, which can sound similarly

78 DVD II: Dense_Boogie/Audio_other/070813.aif.

79 Cf. Dauby p. 184.

unplaced and non-perspectival. The location of the recorded insect sound in respect of stereo loudspeaker diffusions, can continue to seem non-directional and evasive, and contributes to their realist effect. Different field recordings are difficult for the non-expert to distinguish apart; and a further rerecording might be experienced as the same as, or very similar to, an original.

Background/ foreground

‘Evening Cicadas, Italy’ [80] and ‘Rerecording ‘Evening Cicadas, Italy’’ [81] ostensibly form the foreground sounds in the DB installation. However, as suggested above, the ambiguous quality of the real-world sound insects is maintained in recordings of these.

This effect is further confused, intrinsically within the original field recording, by the noise of the television that can itself sometimes be heard as a background sound behind the crickets. In the DB installation, the live amplification was also positioned so that this would obliquely pick up the ‘Evening Cicadas, Italy’ recordings as background sounds themselves. ‘Evening Cicadas, Italy’, as a highly repetitive recording, also produces a slight psychoacoustic after-effect [82].

Installation playback

Whilst the foreground recordings reproduce crickets as the almost only and predominant sound throughout their duration, in the installation they were not intended to sound dynamically overwhelming. The playback volume was adjusted to match a putative ‘natural’ sound level. The recording and rerecording of ‘Evening Cicadas, Italy’ were triggered by users and then played back intermittently for 5 minutes; rather than constantly looped, as the background recordings were. Furthermore, within the context of the NAB and a phonography conference, the recording itself had the potential to be experienced as a banal and commonplace introduction (Martin 1994; Toop 1995: 240; Dunn 1999: 27; McCartney); and therefore not requiring close attention.

80 DVD I: Track 47.
81 DVD I: Track 51.
82 See ‘Remanence’ (Augoyard & Torgue 2005: 87).

5. Insects and Technologies

R. Murray Schafer and Rosi Braidotti on insect sounds and technologies

The lush and densely repeating fields of sound produced by insects, such as crickets and cicadas, have been widely related to mechanical and technological noises. In the 'Tuning of the World', for example, R. Murray Schafer describes their 'continuous stridulation' as an exception to noises which have otherwise been exclusively produced by the mechanical and electronic drones of industry and technology. Schafer writes:

> 'More perhaps than any other sound in nature, [insects] give the impression of being steady-state or flat-line sounds. In part this may be an illusion, for many insect sounds are pulse modulated or varied in other subtle ways, but despite the "grainy" effect such modulations create, the impression with many insects is of a continuous, unvarying monotony. Like the straight line in space, the flat line in sound rarely occurs in nature, and we will not encounter it again until the Industrial Revolution introduces the modern engine.' (1994: 36)

Schafer depicts insect noises as 'flat-line' after the graphic image that their waveforms produce. Although he notes that mechanical and technological noises might take variable forms, Schafer describes their predominate feature as an unchanging and prolonged continuousness along a horizontal line; producing, what he understands to be, a state of 'low information high redundancy' (1994: 78).

Whilst Schafer consistently opposes natural and technological noises, he does not ignore the similarities between insect noises and technologies but leaves open the question of what this might imply. His depiction of insects in

relation to the contemporary global technological environment, although only briefly developed, anticipates other accounts which relate insect noises to technological modernity.

The sonic relationships between insects and sound technologies, which Schafer finds above, is more widely drawn in the work of Rosi Braidotti who, building on the work of Gilles Deleuze and Félix Guattari (D&G) in ‘A Thousand Plateaus’ (1988), critically relates insect sound production to the contemporary mediascape.

In the book ‘Metamorphoses’ (2002: 117-171), Braidotti relates insects, through their forms of sound production, to the emergence of the ‘post human’; arguing that insects are capable of producing sounds which are closer to the technological than the animal. Braidotti describes the post human in terms of an unfixed, borderline status that moves between binaries; such as living and non-living, animal and machine (2002: 152) [83].

As ‘multiple singularities’, insects produce a mobile liminality and interstitial status; remaining in a state in which, Braidotti citing Steven Shaviro writes, they ‘neither assimilate or expel’ (2002: 149). As such, productions of insects, like crickets and cicadas, both resist stable definition and evade subjugation, or operational use, under any single monolithic scheme (2002: 126).

As Braidotti notes the associations between insects and technologies in the social imaginary, following D&G (2002: 153-4), she argues that insects, like technologies, are able to ‘fantastically’ outperform and surpass human music. This characterisation moves beyond depictions of insects as scaled-up super-organizations (e.g. choirs, or orchestras [84] of tiny instrumentalists sawing away). As Steven Connor describes elsewhere:

> ‘It is not an orchestra, but the shimmering body of a multitude; it has the kind of mobile, diffuse intactness possessed by a swarm, or shoal, or horde or cloud.’ (Connor 2001)

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83 Braidotti adds that this uncertain fluidity is experienced in terms of the monstrous, the abject, the menacing and uncanny (2002: 142, 149, 170). Cf. the ‘downright frightening’ the first reviewer finds below p. 146.

84 Cf. Krause1987: 1; Schafer 1997:31, 37.

Crickets and cicadas, through stridulation - which is the rubbing of different parts of the body together - are able to produce sounds that are temporally and rhythmically much faster and more complex than any human production. This problematizes the way in which music is predicated and authenticated in terms of a central, virtuoso performance of a sole human producer or voice. Braidotti writes, quoting from D&G (D&G 1988: 308):

> ‘. . . insects constitute a real challenge for humanity; they deprive the human of his or her alleged monopoly over music-making: ‘Birds are just as important, yet the reign of birds seems to have been replaced by the age of insects, with its much more molecular vibrations, chirring, rustling, buzzing, clicking, scratching and scraping.’ (2002: 154)

Like D&G, Braidotti understands that such techno-acoustic sounds are able to reflect the current era more accurately than human music (Braidotti 2002: 154); writing that these: ‘ . . . mak[e] audible the irreducibility of in-between spaces, polyphonic hybridization, multiple sonic interferences’ (2002: 157). She also connects collective experiences of pervasive mass media to D&G’s account of nomadic reception as ‘moving whilst staying still’:

> ‘Most dwellers of the post-industrial urban space have developed a paradoxical relationship to their own acoustic space . . . technology has endowed us with the capacity to create and carry around in our own embodied self our own musical habitat. This may or may not coincide with the mass-produced saturation of commercial sounds . . . Of all the technologies we inhabit, the musical, acoustic or sound ones are the most pervasive but are also the most collective. They thus summarize the paradoxes of nomadic subjectivity as simultaneously external and singular.’ (2002: 154-5)

In this way, Braidotti concludes that generic, much repeated and shared reproductions are also paradoxically able to defamiliarise and affectively ‘actualize [...] the singular’ and reveal interrelations; rather than only resolving these into private instances and subjectivities (2002: 170-1).

Insect recordings

The lack of distinction between insect and technological noises is audibly demonstrated in recordings of insects and/or certain synthesized electronic sounds, where any sonic difference between the two has sometimes been found critically undecideable. This has encouraged speculation in respect of the identity and genre of such recordings, in field recording reviews and elsewhere.

This ambiguity has been commonly explored in many sonic and field recording practices and commented on by many music reviewers [85]. A review of ‘Cicadas And Crickets’ (‘Cigales Et Grillons’, 1999), a global audio survey of both genus’ by Jean C. Roche and Jean Thevenet, is suggestive:

> ‘ . . . the buzzing chirping sounds still sound familiar, comfortingly so. Yet alien too, when you think about it . . . this could just as easily be the work of an experimental electronic musician! Ryoji Ikeda, Noto, or Nerve Net Noise perhaps...and the examples of “buzzers” on the Conet Project also come to mind . . . Also, these bugs’ high pitched whines and massed chattering vary in intensity levels from the soothing to the downright frightening . . .’ (Aquarius Records Website 2013)

In another example, Frans de Waard, writing on the title piece from the sound artist Rolf Julius’ CD ‘Music for a Distance’, specifically relates instrumental and processed noises to cricket sounds and ambient music. Because Julius’ work is known to be produced through a variety of means, including field recordings and bespoke electronic devices, the listener is left uncertain as to what it is they are hearing. The review describes de Waard’s meandering, speculative experience of listening which fluctuates across different sound genres and sources; settling on an ambient, ‘intelligent sound’ which sounds like ‘loud singing crickets’ (de Waard n.d.).

85 E.g. Henderson 1998; Ffytch 2001; Montgomery 2009-2: 155; Pinnell 2011.

Evening Cicadas, Italy sounding technological

Following the arguments above, it is clear that the cricket recordings in DB, like other such insect recordings, have the potential to sound technological. A further aim of DB was to produce a foreground recording that was ungraspable in any individual, close up or transitory detail. Instead, a lush field of recorded sound would be heard to start, continue, stop and repeat; rather than to be intrinsically eventful.

Whilst ‘Evening Cicadas Italy’ [86] was an unfiltered, straight field recording, it was cut from the most consistent and least eventful part of the original recording in terms of other background noises. The total duration of 5’00 was also partly determined by this.

It was also intended to reflect an average and unremarkable recording playback duration. That is, one which could both be feasibly listened to completely and repeatedly, and, at the same time, because of the monotony of its content, be long enough to be found predictable or boring; without being so long that this becomes a feature in itself [87].

The intrinsic volume of the crickets was also consistent throughout and, through normalisation, across both recording and rerecording. The recordings were then diffused together during the installation at a median master level which was neither loudly foreground nor subtly background.

The pulsing repetitions of insect sounds in the recording were also reiterated in the modulation of the rerecording and in the larger repetitions of the recordings. The incessant regularity produced by the intrinsic cricket to cricket sounds were reflected in the recording to rerecording modulations produced by the SI algorithm throughout the playback of the foreground recordings.

Insect recordings in different genres

The difficulty in interpretation noted in the CD reviews above, in relation to

86 DVD I: Track 47.

87 Cf. durations of Cage’s ‘Silent Prayer’ (1948);‘4’33’ (1952) (Vanel 2008: 101).

insect recordings and technologies, also extends to their stable placement within any single genre. Whilst the foreground crickets recording is unusual in respect of the recording practice described here, such recordings have been commonplace across a range of genres.

Crickets and cicadas have provided significant background and foreground content in field recordings and phonography and frequently used as ‘wild tracks’ in film and TV. Samples of insect recordings, as indicated in the reviews above, are found across electroacoustic and experimental musics. Environmental musics, such as ambient and new age, have also made extended use of ‘bush muzak’ to produce relaxation and meditation tracks [88].

The playback of a straight field recording of crickets might imply a focused or expert interest in insects. Yet through multiple experiences of such sounds in the mass media - sometimes mainly, or only, gathered through recordings - a field recording might equally be informed by, or reference, this. Otherwise real-world experiences of insect sounds might recall recorded versions; even specific instances of these. ‘Evening Cicadas, Italy’, for example, was made after the Amacher’s ‘Dense Boogie 1’ rerecording [89], and was influenced by it [90].

Despite the fact that it was not my intention to produce a specialist entomological or bioacoustic recording, ‘Evening Cicadas, Italy’ [91] still had the potential to be listened to in this way. During the DB installation several participants approached the main diffusion area and (correctly) identifed the insects as crickets, rather than cicadas. Because the field recording was labelled on the touchscreen ‘Evening Cicadas, Italy’, along with its distinctive sound, it was further suggested that the subject of the recording might be the nocturnal Italian Tree cricket (*Oecanthus pellucens*) [92].

88 Selected examples include: Ferrari 1967-70; López 1998; Mizutani 2005/2006; Dauby 2007. Wild tracks: Malle 1974; Weerasethakul 2010 (see Morgan. n.d.); Hamilton 2005.

89 [redacted]

90 Cf. simulacra pp. 86-87.

91 DVD I: Track 47.

92 Thanks to Geoff Sample for suggesting this.

‘Evening Cicadas, Italy’ in “Dense Boogie”

Although it is clearly a misnomer, the original field recording was renamed ‘Evening Cicadas, Italy’ (from the original ‘sr070813_35-40mins’) in DB, in order to both informally relate it to other such recordings and to produce a more evocative effect. The mistake fortuitously reflects the paradoxical placelessness evident throughout the installation, because cicadas only sing during the day.

‘Evening Cicadas, Italy’ was not only used to repeat the insect/technological trope above, or to contribute to an already substantial sub-genre and subject of field recordings. As a reproduction of almost exclusive insect sounds, it also replicated many existing similar recordings. By sounding generic, and banal even, the listener was also invited to hear the recording as something familiar and repeated [93]. In this respect it was intended to provide an ambivalent focus.

The crickets recording was selected mainly for the way in which it effortlessly related to further instances of both mediated and real-world sounds, rather than for its intrinsic content. This was realised within the installation through its sonic and extra-sonic siting in relation to further instances of recording and sound (e.g. rerecordings; background recordings; site-specific sounds; Maryanne Amacher’s ‘Dense Boogie 1’ (1999).

Beyond the installation, the original recording produced a convincing representation of crickets that was, arguably, close to their real-world effect; as well as being able to be rerecorded without significant generational loss. The real-world acousmatic production of cicadas and crickets also lends itself to more convincing simulations than many other subjects of field recording [94]. Within DB, the stable status or definition of the original field recording was undermined by these different mimetic effects: of sounding technological; or like other recordings (rerecordings; further cricket recordings), or real-world insects. In this way repeating the wider mimetic strategy of the installation.

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93 ‘Evening Cicadas, Italy’ was also played back repeatedly during the installation.

94 Both because of the insects’ invisibility and the intense, diffuse fields of sound they produce.

6. Appropriation and Mimesis I

There is quite an extensive appropriative aspect to “Dense Boogie” (DB), although this is mainly extra-sonic. The title, “Dense Boogie”, was borrowed from a recording by the composer Maryanne Amacher; and her work is referenced again, in the installation, with an Amacher quotation from elsewhere. The blindfolds were copied from the composer Francisco López. In addition the typography and layout of the wall and touchscreen texts within the installation were informed by the site-specific graphics and fonts from the NAB concourse.

The background and foreground rerecordings, alongside the re-use of the Sonicinteractions algorithm, also evidence a plunderphonic approach to earlier field recordings and works of my own [95]. The original ‘Dense Boogie 1’ recording (1999), as well as being a subject of the rerecording practice described below, also informed the final selection of the foreground recording. ‘Evening Cicadas, Italy’ [96], as previously discussed, whilst an original of my own, was also influenced by, and references, further recordings and genres. The live amplification also appropriated the sounds of a further sound work by Lucia H. Chung [97].

Mimetic strategies in “Dense Boogie”

The use of appropriation in the installation was conceived of as part of a wider focus on mimetic strategies and affects, which extended across the project

95 The term ‘plunderphonics’ was coined by the composer John Oswald to describe recorded works which exclusively use other recordings as their own ‘raw material’ (Cutler 2000: 92). (See Cutler 2000; 2010).

96 DVD I: Track 47.

97 ‘Measurement No. 1.’ Lucia H. Chung 2011. DVD I: Track 119.

[98] [99]. Beyond the use of the audio technologies themselves, these included: the initial ‘lack of resistance’ to producing the field recording of crickets; the selection of background and foreground content which was similar to, or indistinguishable from, further instances of recording and real-world sounds. The extra-sonic appropriations, above, can also be understood within this mimetic context.

Although the use of mimesis in sound installations has sometimes been related to an extended and persistent effect of immersion and susceptibility (Bishop 2005: 82-101), it was not the intention to produce such a total effect in DB. Instead mimesis was used as a productive methodology which developed further versions of recordings from individual instances of sound, that were then distributed and referenced across the installation. In this respect, the mediated sounds in DB, not least the original crickets recording, might be understood to produce, what Claire Bishop has described as, a ‘yielding’ to the *‘trompe*

98 Rather than repeating a Platonic paradigm of mimesis (see pp. 83-84; also Potolsky 2006), my understanding of the concept follows from alternative depictions of mimesis drawn from contemporary theories developed mainly around Walter Benjamin (Benjamin 1999: 333-336). These understand mass media reproduction as a recovery of earlier mimetic forms of participation and engagement (e.g. Taussig 1993; Hansen 2000). Although these discourses remain largely outside the scope of this thesis, I want to briefly note some relevant aspects in respect of DB below. Following Benjamin, contemporary modes of subjectivity have been related to mimesis both produced in response to technologies, and through their use. In ‘Mimesis and Alterity’, Michael Taussig describes mimesis as an innate tendency and faculty - most clearly stated in human childhood, for example, but also found in nature - which has been recovered through reproductive technologies (1993: 35, 77, 211). Mimesis implies both a copy and a substantial connection, or material transfer, that produces a tangible, even mutual, contact between subject and object (Taussig 1993: 144-5). The subject becomes merged together with the object of its perception through sensuous contact; rather than producing a separation between the two. This mimetic resurgence has been interpreted as a widespread and necessary reaction to the increasingly industrial and technological milieu of modernity and post-modernity. Human subjectivity is understood to have shifted, out of necessity, from a semiotic and instrumental relation to nature to mimetic modes of engagement. This is in order to grasp, what has been described as, a radically and continuously changing relationship to a ‘second’ nature (Hansen 2000: 234). Quoting Susan Buck-Morss, Mark Hansen expresses this as a transition from a position of ‘mastery’ to one which is open and receptive to matter: ‘the “mastery” of our irreducibly technological relation to nature demands “being receptive to the expressive power of matter, a mimetic, not an instrumental skill”.’ (Hansen 2000: 247). Whilst this mimetic approach might be related more easily to modes of reception, it also implies a passive and ‘anti-heroic’ characterisation of production, more generally; as well as a less hierarchical characterisation of recordings and real-world sounds. These depictions of mimesis are relevant to both DB and field recording practices more broadly.

99 The DB installation further evidences, what might be characterized as, a ‘Cailloisian’ mimetic strategy: by aiming to produce recordings that were ‘just similar’, without having any other goal (Caillois, 1984: 30).

l’oreille’ [100] that is tactile and local, rather than absolute or hierarchical (2005: 100) (e.g. between the *horspielstreifen* recordings and loudspeaker hiss).

Rerecording

Although rerecording is, to a certain extent, a significant part of each of the projects in this thesis, its appropriative and mimetic aspect is explored most closely in DB. In the previous two projects, Sonicinteractions (SI) and ‘Doublerecordings ‘(DR), no attempt was made to minimize any artefacts of the rerecording process; such as room reverberance. In the former, the focus of the work and the structure and scale of the lecture theatre made this unnecessary; whereas in DR rerecording artefacts were included as an important part of its wider strategy.

The technical difficulty of producing accurate rerecordings has already been noted in relation to DR [101]. This became a critical concern of the later two projects which aimed to produce convincing reproductions of original recordings in smaller, private spaces [102].

Background

Rerecording had already been, both a random and sometimes intentional, part of the wider field recording practice. Earlier rerecording experiments also informed the structuring of the two final sound installations. In certain ‘Recording Complexes’ [103], for example, ambient field recordings and *horspielstreifen* were produced before or after the rerecordings in the same playback locations; using

100 *Trompe l’oreille* describes an auditory version of the more familiar figure of *trompe l’oeil* in painting. Following Katharine Norman (Norman 1996), Peter Batchelor emphasizes a more limited and transient account of *trompe l’oreille* in sound installation than Bishop’s, for example. This involves what Batchelor describes as: ‘the presentation of recognisable (or referential) sounds in a manner sufficiently indistinguishable in spatial and sonic behaviour from reality as to allow the listener to believe s/he is truly ‘hearing the thing’, if only (and in many cases explicitly) for a limited period. In the same way as its visual equivalent, the *trompe l’oeil*, it seeks to present a plausible landscape, often through the apparent extension of an existing one, from which it may be indistinguishable (Batchelor 2007: 1).

101 See p. 76.

102 See p. 207.

103 E.g. DVD I: Tracks 37, 38, 40.

identical technical set-ups.

Other recordings, which merged rerecordings together with background recordings [104], evolved out of the necessity of turning on and off an original recording without then making this production noise a part of the rerecording. Although these were initially produced by stealth, they were later sometimes triggered automatically, and were therefore able to include extended durations of ambient before and after the rerecording.

Techniques

After a series of experiments, one of the solutions which was arrived at, and later adopted, in relation to both later installations, was to make ambisonic rerecordings in a close equilateral triangle with a stereo speaker pair. A stereo recording was diffused through the stereo speakers and rerecorded in B-format through a Soundfield microphone positioned at the same height. This could then be flexibly decoded to whatever format was required [105].

Although many of these experiments were focused on producing convincing mimetic reproductions, rather than on any intrinsic recorded content, this remained an important qualitative aspect of any rerecording. For example, it was also possible to make a convincing rerecording of low level, uneventful ambient noise from the centre of a speaker cube. This also informed the foreground recording selection in DB.

Appropriations

‘Evening Cicadas, Italy’ has already been depicted here in terms of an evasive, liminal identity. I now want to expand upon this by showing the way its final selection specifically emerged in relation to further works. Two of these were also considered for the foreground DB installation recordings: ‘Presque Rien ou le lever du jour au bord de la mer’ (Luc Ferrari 1967-1970) (‘Presque Rien No. 1’); and the track ‘Dense Boogie 1’ on Maryanne Amacher’s CD ‘Sound

104 E.g. DVD I: Track 39.
105 See p.123, n.7.

Characters (Making the Third Ear); (1999) (‘Sound Characters’).

The cricket recordings in DB were intended to sound canonical to the extent that many such field recordings have been produced across different genres. This effect was also amplified through the well-known presence of insects in ‘masterpieces’ such as ‘Presque Rien No. 1’ (Caux in Drott 2009: 163). Although neither Amacher nor Ferrari’s recordings were eventually used, both remain (directly and obliquely) referenced in the installation.

‘Presque Rien No. 1’ and “Dense Boogie”

‘Presque Rien No. 1’ is a widely circulated and well-known work in the canon of Musique Concréte [106]. The work relates to DB in a number of different ways. A rerecording of ‘Presque Rien No. 1’ was made several years before the thesis projects; in what might be understood as an early plunderphonic response to a recording that I had liked at the time [107].

The recordings of cicadas in ‘Presque Rien No. 1’ also directly influenced the foreground content of the DB installation. In part, because of the way in which the insects provide a repeating and striking presence, which, as well as sounding intrinsically compelling, perhaps makes the composition more easily identifiable than it might otherwise be.

At the same time as ‘Presque Rien No. 1’ has been recognised as a canonical work, its focus on mundane, everyday sounds has encouraged an extensive debate in relation to the circumstances of its production. This has often focused on the cicada sounds and whether these are, or how they relate to, untreated, manipulated or synthesized sounds, which also returns us to the insect/technology discussion, above.

The debate has also extended to how the work, as a whole, is to be defined in terms of genre. Andra McCartney, for example, situates ‘Presque Rien No. 1’ within the tradition of soundscape composition, against a prevailing

106 See p.155, n.108. Also McCartney 1999: 104-106.
107 Cf. John Oswald (Duguid 1994).

electroacoustic trend (McCartney 1999: 104). Elsewhere, Howard Slater relates Ferrari’s method of field recording in it to sampling practices and appropriation more generally; in an argument that is also more broadly relevant to the field recording practice described here (Slater 2001) [108].

‘Presque Rien No. 1’ has further resonances with DB because of Ferrari’s approach to making the field recordings in the work. Within ‘Presque Rien No. 1’, as in my own practice to a degree, recorded sounds are drawn from the repeated random and unexceptional sounds that are produced by the everyday society and place that Ferrari finds himself in, rather than being specifically sought out (Warburton 1998).

This is also reflected in how the original recording of crickets, an extract of which became ‘Evening Cicadas Italy’, was produced on holiday. Ferrari locates ‘Presque Rien No. 1’ in specific relation to tourist photography; deliberately connecting it to both amateur and mass cultural productions (Drott 2009: 159-160). Although these have elsewhere implied a banal repetition of unoriginal imagery, and been related to impoverished experiences of reality (2009: 160),

108 Slater understands ‘Presque Rien No.1’ as a precursor of sampling which acts as a ‘subtly framed de-specialization of music’ (2001: 5) that is able able to bypass and challenge the existing canon. Slater argues that the canon imposes an ideological mode of listening in which categorical and dualistic distinctions are authorised and established between different the parts of a composition or field recording. The composer and the listener, the ‘villagers’, the ‘men’, the insects’ are in this way each separated out and underscored in order to submit the work to existing cognitive schemes and commodification. This de-specialization extends to the categorization of ‘Presque Rien No.1’ as a work within any one genre of sound production. Slater understands that its unplaceableness is achieved through Ferrari’s informal and transversive approach to creativity. This uses citation, as it moves ‘between different forms and interests’; and extends to perceptions other than the composer’s own. Slater continues: ‘This unaware-ness, a kind of informal creativity that is not conscious of itself, almost features as a challenge to the overly conscious metier that the canon bids us to imbibe. The very informality of the sounds that are captured and edited by Ferrari makes music-making an ever-present environmental possibility and so, in the sound-world of Presque Rien, being able to hear makes the listener into a meta-musician’. Slater further understands that within ‘Presque Rien No. 1’ reality is also used in the manner of a citation, rather than as a way to assert a pre-existing natural order. The act of making a citation or sampling, he continues, is foregrounded as an open and participatory social act which inevitably ‘brings other voices along with it’ (2001:6). In this way other productions of sound - a lorry revving, folksong, the cicadas’ song, along with Ferrari and the microphone - become complex collaborations which resist commodification as they are affectively experienced by the listener: ‘Presque Rien No.1 could be see to be resistant to such commodification in a way that is not at all dissimilar from live improvisation: it is the outcome of a sensitivity to a place whose people are collaborants, subjects in their own right, meta-musicians, rather than objects to be usuriously plundered for their exoticism.’ (2001: 6).

Ferrari understands such minimal works, instead, as an incitement to further popular productions of sound (2009: 159).

‘Presque Rien No. 1’ s ambivalent status as both a memorable, canonical work and as an unplaceable cultural artefact makes it relevant to DB. This undecideability itself has become foregrounded, in relation to both the work’s construction and genre, and sometimes focused on the cicada sounds themselves (McCartney 1999: 105-8; Slater 2001: 5-6).

Whereas McCartney tries to recover categorical stability through relating the recordings (of insects) to the perception and real-world experiences and work of the composer, Slater disperses the action from the composer to the many other human and non-human participants in ‘Presque Rien No. 1’; including the listener. By understanding field recordings as citations of a reality, rather than in terms of individual expression, Slater depicts the work as a co-production which, because it brings along with it a multiplicity of mundane and everyday sonic productions, resists being resolved on any one of these (2001: 6) [109].

‘Dense Boogie 1’ and “Dense Boogie”

Maryanne Amacher’s recording ‘Dense Boogie 1’ sounds like an extreme, almost painful, electronic-only version of cicada or cricket sounds. In this way, although it is unambiguously electronic sounding, it also evidences the insect/technological trope discussed above. Throughout the recording, the same high frequencies and dynamic levels repeat in a fast tempo; producing a relentless foregrounding and dense patterning of electronic sound (Kirk 2010: 317). It is also both mesmerising and difficult to listen to in any complete or perspectival way.

‘Dense Boogie 1’ is one of a number of Amacher’s recordings on the CD ‘Sound Characters’ (1999) which reproduce the otoacoustic emissions that a significant

109 The volume manipulation of the cicadas, and the sudden stopping of these at the end of the piece, make audible, what Slater understands to be, the sound of the recording process itself. This, Slater argues, enables the playback of ‘Presque Rien No. 1’ itself to also be experienced as a production; alongside the other sound productions it more obviously includes. (Slater 2001: 5).

part of her work has explored [110]. These are the complementary physical sounds that the inner ear produces when confronted with particular frequencies of sound. According to Amacher, although otoacoustic emissions are widely available, they are usually only subliminally heard. Amacher’s aim is to resensitize and activate these sounds (Oteri 2004). This is partly made possible through the use of intense repetition and redundancy in works such as ‘Dense Boogie 1’ (Kirk 2010: 317). Amacher describes the effect as follows:

> ‘When played at the right sound level, which is quite high and exciting, the tones in this music will cause your ears to act as neurophonic instruments that emit sounds that will seem to be issuing directly from your head. In concert my audiences discover music streaming out from their head, popping out of their ears, growing inside of them and growing outside of them, meeting and converging with the tones in the room. They discover they are producing a tonal dimension of the music which interacts melodically, rhythmically, and spatially with the tones in the room.’ (Amacher 1999)

Maryanne Amacher’s sound installations

Amacher uses the term ‘aural architecture’ [111] to describe the way in which her installations are architecturally arranged and encourage movement in the audience. In an interview with Frank J. Oteri, which forms the larger part of the quotation used in DB, she describes the evolution of the concept of ‘aural architecture’ in her work:

> ‘All of that began not because I had a fixed notion. Really it began because I hated loudspeakers. I was working in electronic media, so it was quite a contradictory thing. I was always interested in the spatial aspects of sound. I discovered that maybe if I put the speaker in there [points to the kitchen]—the way that you heard it from another room became much more rewarding. I could make a virtual meta-space, so you wouldn’t get the sense of these [gestures to a nearby loudspeaker] boxes.’ (Oteri 2004)

In Amacher’s sound installations, electronic sounds, otoacoustic emmissions

110 E.g. ‘Head Rhythm 1’; Chorale 1’ (Amacher 1999).

111 Cf. Muzak as ‘audio architecture’ p.42.

from the ears, and the other body movements of listeners, precisely resonate and interact with different structural parts of buildings and rooms. In this way, Amacher understands such installations, both as compelling virtual spaces and as works that are able to produce actual physical responses in the audience. These responses not only contribute to the work but also actively and reciprocally produce it (Shintani 2006:10).

Amacher’s installations are often arranged either across a series of rooms or distributed at different times; in order to avoid traditional paradigms of performance or sound installation (Licht 1999). This produces, what Amacher understands as, an intensification of affect in which certain projects are accessed individually as aural architectures or developed episodically over time, rather than as continuous works. This distributive effect is realised again by reproducing otoacoustic works like ‘Dense Boogie 1’, on the ‘Sound Characters’ CD (Ouzounian 2006: 74).

CD ‘Sound Characters (Making the Third Ear)’ (1999).

The recordings on ‘Sound Characters’ are remastered, ‘dual channel’ extracts from a series of site-specific, multichannel sound installations that Amacher produced in the 1990’s (Ouzounian 2006: 74). CD recordings like ‘Dense Boogie 1’ function in different ways: as archives of site-specific sound installations; documents of the individual ‘sound characters’ that Amacher developed in her studio; and, depending on the playback volume, autonomous electroacoustic recordings also capable of generating otoacoustic emissions (Amacher 1999).

Rerecordings of CD ‘Sound Characters’

Although ‘Dense Boogie 1’ was briefly considered for the foreground recording in DB, the title “Dense Boogie” and a quotation, were the only parts of the DB installation that were ultimately appropriated from Amacher’s work. Whilst Amacher’s distributed notion of sound installation was also influential, the textual references were all that remained from a broader interest in Amacher’s work and a series of ambisonic rerecordings produced in May 2007.

A rerecording of ‘Dense Boogie 1’ [112] was made alongside other recordings from the ‘Sound Characters’ CD. An ambient recording of the playback space was also produced using the same equipment, positioning and location immediately afterwards [113]. One of the main motivations for rerecording ‘Dense Boogie 1’ was the way in which it was able to be reproduced without significant generational loss. This was an important aspect of the DB project more generally and, in this respect, the Amacher rerecordings are part of the wider mimetic experiment which attempted to produce both recordings and rerecordings that sounded indistinguishable from original real-world and mediated sounds.

This effect was continued into the field recording of crickets; where the rerecording of this, which was also played back in the installation, also sounded very similar to the original [114]. In this way the final selection of cricket sounds in ‘Evening Cicadas, Italy’, by sounding, to a certain extent, like a natural version of ‘Dense Boogie 1’, also approaches and reiterates the same mimetic goal.

Like other examples of appropriation [115], the rerecording of “Dense Boogie 1’ was motivated by a personal interest in and enjoyment of Amacher’s recordings. However, ‘Dense Boogie 1’ is not a ‘middle of the road’, or widely known recording (Oswald 2001: 21). For this reason the references to Amacher in the installation were likely to be relatively obscure (see Licht 1999).

Although ‘Dense Boogie 1’ was considered for the DB installation, it was replaced in the final version with the field recording of crickets. Crickets are both popular as real-world sounds and as subjects of field recording. In this respect, ‘Evening Cicadas, Italy’ more closely approximates Luc Ferrari’s approach in Presque Rien No. 1’ and John Oswald’s and Tenney’s strategies, below, for example.

Stereo loudspeakers

The distribution of recorded and amplified sounds in Amacher’s sound

112 [redacted]

113 DVD I: Track 53.

114 Cf. DVD I: Tracks 47, 51.

115 E.g. Oswald’s recordings of Elvis Presley, Stravinsky, Count Basie and Dolly Parton (Oswald 1988; Duguid 1994); James Tenney’s ‘Collage # 1 (“Blue Suede”)’ 1961 (Polansky 2003).

installations, like the otoacoustic tracks on the CD, disrupt a identification of sonic production with local loudspeakers only. These are intended to be elided, as the Amacher quotation in DB suggests, as sounds are heard indirectly from other locations, or emitting from the structures of buildings and moving bodies of audiences. Elsewhere, Amacher insists that her music would be difficult, if not impossible, to achieve with only two speakers; although the otoacoustic recordings contradict this (Oteri 2004).

A similar motivation is, to an extent, reflected across DB; whilst using conventional stereo loudspeakers together with the further sonic and visual parts of the installation (live amplification, headphones, texts, blindfolds) to achieve this. Beyond the Amacher quotation used in the installation, this is most tangibly realised by the foreground crickets recordings which, although stereo, still sound ambiguous and unplaceable [116].

The background recordings similarly produce an uncertain effect in relation to the loudspeakers; whether this is produced by an apparent absence of recorded sound or through *horspielstreifen* recordings. The live amplification also reiterates other parts of the DB installation, so that these are heard from another place.

116 See p.141-142.

7. Appropriation and Mimesis II

Wall texts and touchscreen in “Dense Boogie”

The wall texts and touchscreen in DB were formally linked to each other through their graphics and layout which was repeated across the installation. The typography itself was appropriated from the NAB building.

Two of the wall texts (the title [117] and the background recordings [118]) were scaled to match the small touchscreen [119] [120] and mounted on museum board. The fonts and layout of each of these were borrowed from examples of screens and signage taken from the concourse. Apart from the title text - which was printed on orange card selected to match the wall colour - all of the fonts and backgrounds were in shades of black and white.

The Amacher quotation [121], although it used the same typeface, reproduced it at a larger point size on a sheet of A4 paper. This was fixed to the wall using sellotape, following other local examples of this.

The touchscreen and wall texts made reference to different composers, dates and categories of production (e.g. ‘live amplification, field recordings, programming’). They also clearly named the different field recordings (‘Evening Cicadas, Italy’, ‘rerecording’, ‘recording’), and referenced the appropriative structure of the installation (‘after Maryanne Amacher 2004’, ‘after Francisco López 2008’).

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117 See p. 266, fig. 10.

118 See p. 268, fig. 15.

119 See p. 267, fig. 12.

120 To access touchscreen: DVD II: Dense_Boogie/Installation_Player_v2/v2.2.37. Open ‘startupandcontrols’ window; select ‘Touch Screen from ‘Interaction’ drop down menu.

121 See p.269, fig. 16.

Title ‘‘Dense Boogie’’

The Maryanne Amacher citations (“Dense Boogie” and ‘’so you wouldn’t get the sense of these [gestures to a nearby loudspeaker] boxes.’’) were printed on two wall texts in DB. The installation title directly referenced the ‘Dense Boogie 1’ recording, and a footnote made the attribution of this to Amacher clear. By using an existing title, “Dense Boogie” also appropriated another title, as such.

At the same time, the use of double quotations was also intended to imply that the title either acted as a ‘placeholder’, or that it did not, in some way, completely represent the installation. The punctuation also inferred that the different recordings (‘Dense Boogie 1’ and ‘Evening Cicadas, Italy’) were in some way similar, or exchangeable. Otherwise ‘Evening Cicadas, Italy’ might be read as a stand in for the original ‘Dense Boogie 1’, which itself was unable to be played [122].

The double quotations of “Dense Boogie” also obliquely introduced the wider use of appropriation within the installation [123]. The title itself, by sounding like an obscure and out of place dance reference, also tried to suggest that this was not “Dense Boogie”, which is another work [124]. It also repeated the evasive placelessness evidenced throughout DB, and the tension between what was seen and heard.

However, the foreground recording of crickets, the complex of mediated sounds, the multiple texts and references, and the distribution of the installation layout also suggested something rhythmic, dense and unlocateable, which perhaps approached Amacher’s original composition. In the last part of the interview with Oteri, Amacher describes her work in terms of an elusive density out of which some sort of excess is produced; whether from her own brain, the minds

122 E.g. for copyright reasons.

123 ‘Musical language has an extensive repertoire of punctuation devices but nothing equivalent to literature’s “” quotation marks. Jazz musicians do not wiggle two fingers of each hand in the air, as lecturers sometimes do, when cross-referencing during their extemporization, as on most instruments this would present some technical difficulties. Without a quotation system, well-intended correspondences cannot be distinguished from plagiarism and fraud.’ (Oswald 1985).

124 The term ‘boogie’ itself is similarly difficult to define (Reynolds 2011).

of listeners or out of the loudspeaker boxes [125] (Oteri 2004).

Maryanne Amacher quotation

> ‘ . . . so you wouldn’t get the sense of these [gestures to a nearby loudspeaker] boxes.’ (Oteri 2004)

The Amacher quotation is an extract from the same interview with Oteri, above. Whilst, as an electroacoustic composer, they are clearly essential to her work, Amacher stresses her dislike of loudspeakers as objects and sets out some of the ways in which to reduce their visual impact [126].

Unlike in Amacher’s installations, the loudspeakers in DB were placed prominently on a table in the main part of the installation as a stereo pair. In this way, they reproduced a relatively commonplace audio set up which itself, through habituation, might be invisible to some extent (Corbett 1990: 90). The Amacher quotation, however, was placed centrally on the wall above the loudspeakers [127]. At the same time as the text reinforced their presence as physical objects (‘[nearby loudspeaker] boxes’) it invited the viewer/listener to ignore them; suggested a focus on some other part of the installation; or vaguely explained something about DB’s wider intention.

Blindfolds (after Francisco López)

A small pile of blindfolds was placed on the table close to the loudspeakers and touchscreen [128]. They were listed, in the DB title wall text, as part of the work

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125 ‘ . . . my music is so dense and has so many parts that to me it sounds like all these spirits are trapped in these boxes [gestures to a speaker] trying to get out and it sounds very harsh . . . It’s a mystery, so what am I doing? It’s so dense because it has a lot of parts. Maybe my brain just can’t deal with it and I’m imagining the sound that I get when it’s in one of these architectures. I think that’s also what people do that enjoy some of this dense music on CD because they’re imagining, which in itself is very interesting because I would like to dream that I could make music that triggered another music in the listener’s mind.’ (Oteri 2004).

126 See pp.157-158.

127 See p. 269, fig. 16.

128 See p. 266, fig. 11; p. 267, fig. 13.

of the installation, and accredited to Francisco López in a footnote. Although copied from a blindfold included in the CD ‘Live in San Francisco’ (López 2005), they were intended to reference López’s work more generally.

Francisco López is an entomologist and acousmatic [129] composer who uses field recordings and found sound drawn from a wide number of different sources, ranging from environmental to technological sounds, to produce compositions within a tradition of ‘Musique Concréte’ [130]. López describes these as coming from a ‘non-bucolic broad-band world’ in which natural sounds inevitably coexist alongside anthropegenic sounds.

Whilst López’s CDs and performances are prolific and known for the extensive range of recorded material and complex manipulations they use, at the same time the composer often emphatically refuses to reveal details of either their source materials or their technical and compositional production (López 1998-1).

In performances, López uses blindfolds, curtains and darkened spaces, together with surround sound, to produce total and immersive experiences of listening. In this way every visible part of the production - the loudspeakers, the instrumentation, the room, the composer and the audience - becomes hidden. López distributes the blindfolds to audiences before withdrawing behind a curtain in a blacked out space (Van Peer 2002: 12). In the ‘Live in San Francisco’ CD (2005), López underscores the acousmatic effect of recorded sound by producing a version of blindfolds for listeners at home.

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129 The term ‘acousmatic’ was first used by the composer Pierre Schaeffer to describe an only auditory experience of sounds, apart from any visual knowledge or appreciation of their source (Chion 2009: 11-13). The word derives from the ancient Pythagorean projection of lectures from behind veils or curtains to a separated, silent audience of *akousmatikoi*; which produced a concentrated focus on the words and voice of the speaker alone (Kane 2008). Today this effect has been widely normalised in mediated sounds, and Schaefferians such as López claim that these produce the potential for an acousmatic, ‘reduced’ listening, in which ‘sound matter’ can be listened to exclusively apart from any visual or other distractions (López 1998-2).

130 Pierre Schaeffer and Pierre Henry developed Musique Concréte in Paris, France, in the late 1940’s (Chion 2009: 37-39). Within this, recordings from electronic, instrumental and microphone sources are edited and manipulated to produce abstract ‘object sonores’ (sound objects) (Chion 2009:3 2) which are then assembled in compositions (e.g. Schaeffer & Henri 1950).

‘Environmental acousmatics’

Many of López’s recordings seem to directly invite, what has sometimes been depicted as, an ‘implosion’ of a range of natural and technological noises that is already partly predicated on an existing real-world sonic ambiguity. Within these, as in DB, the distinction between insect and technology is sometimes foregrounded. In ‘Live in San Francisco’, for example, one reviewer describes a ‘drone’:

> ‘. . . that sounds like a cross between a cricket field and a dishwasher. The minutes drift by, the din’s volume and frequency builds and builds until the insects and machinery shriek together, as if crushed the Earth’s gravitation pull’. (Dusted Magazine 2005)

This reflects López’s own insistence on ‘sound matter’ rather than source (Cox 2001: 4), which is set out more starkly in López’s CD ‘La Selva’ (1998)[131]. Unlike the field recordings in ‘Live in San Francisco’, those in ‘La Selva’ are known to be unmodified and unprocessed natural sounds; all drawn from the same jungle reserve in Costa Rica, South America.

The recordings in ‘La Selva’ represent, what López has described, over a trilogy of albums [132], as an ‘environmental acousmatics’. In each of these, sound recordings are produced from invisible environmental sources: hidden animal and plant sounds, wind, and technological sounds in buildings. In the essay, ‘Environmental Sound Matter’ (1998-2), López relates the tropical rain forest directly to a Schaefferian definition of acousmatic listening.

López describes La Selva as a ‘strong paradigm’ of acousmatics, because many sounds in the dark jungle are naturally heard without any visual reference. This

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131 Although López does not include blindfolds in ‘La Selva’, he uses other strategies to encourage an acousmatic experience of listening at home. Part of this relates to the way in which the CD itself is physically presented. The location details, the identification of species, acknowledgements etc. are all located in a sealed part of the CD, which López, in an unbound part of the same liner notes, challenges the listener not to access: ‘I did not want to omit these referential levels, because they inevitably exist and I have indeed dealt with them, but I also wanted to emphatically give you the opportunity to skip them, to have them in your hands and to decide purposely not to access them. ... This is not a game or a trick; it is a confrontation with the relational frameworks that blur our experience of the essential.’ (López 1998-1).

132 La Selva (1998); Buildings [New York] (2001); Wind [Patagonia] (2007).

produces a rupture between the ‘sounds themselves’ and their sources which, López understands, ‘contribute[s] significantly to the ‘blindness’ of profound listening’ (López 1998-2).

The hidden sounds of cicadas within La Selva, amongst other animal and plant sounds, are then given as an exemplary instance of environmental acousmatics:

> ‘There are many sounds in the forest but one rarely has the chance to see the sources of most of them. In addition to the fact that a multitude of animals are hidden in the foliage, the foliage also hides itself, keeping away from our sight a myriad of plant sound sources . . . Many animals in La Selva live in this acousmatic world, in which the rule is not to see their conspecifics, predators or preys, but just to hear them. This acousmatic feature is best exemplified by one of the most characteristic and widespread sounds in La Selva: the strikingly loud and harsh song of the cicadas. During the day, this is probably the most typical sound that naturally stands in the foreground of the sonic field. One can perceive it with an astonishing intensity and proximity; many times you hear the cicada in front of your face. Yet, like a persistent paradox, you never see it.’ (1998-2)

Within this paradigm, the sounds of insects, such as cicadas, already demonstrate the potential of acousmatic listening to detach sounds from any reference to their real-world sources [133]. This is reflected in their evasive status both in the real-world and in relation to mediated sounds. A lack of categorical definition, in relation to the source of a sound, produces what ‘Schaefferians’ understand as, an intense focus on the sonic qualities of natural and technological noises in themselves.

Through this, an extensive and continuous range of sounds becomes freely available to the composer, which are no longer predicated on, or correlated with, any ‘objective’ real-world sources [134]. The multiplicity of sources, as well

133 The dense repetitions that such insects perform also conform to Schaeffer’s understanding of repetition, as such, as encouraging acousmatic listening: ‘By repeated listening to the same recorded sound fragment, the emphasis is placed on variations of listening [...] if curiosity remains in acousmatic listening [...] the repetition of the recorded signal can perhaps ‘exhaust’ this curiosity and little by little impose ‘the sound object as a perception being worthy of being listened to as an object in itself’ (Chion 2009: 12).

134 López uses the term ‘sound matter’ rather than ‘sound object’ to reflect a continuity of sound material (López 1998-2: 5).

as testifying to the sonic complexity of the jungle La Selva, only highlights, what López understands as, the composer’s own activity and selective criteria in relation to these (Montgomery 2009-1).

Environmental acousmatics and “Dense Boogie”

Like ‘Presque Rien No. 1’, ‘La Selva’ provides another relatively well-known, ‘canonical’ example of a field recording composition in which the insect sounds within it are highlighted in the extra-sonic discourses which relate to these. In both compositions, the real-world sound of cicadas are pivotal in determining how the works as a whole might be listened to; as well as establishing these in terms of their genre.

The playback of ‘Evening Cicadas, Italy’ [135], partly by obliquely referencing existing works, also points to their repeated, non-unique production. These also foreground the indeterminate status and genre of field recordings; already implied by the mimetic realism of such insect recordings, which can both sound like real-world crickets and technological productions.

According to López, the environmental acousmatics of the cicadas demonstrates and legitimizes the release of sounds from existing sources and categorisations so that these can then be more fully exploited as an expression of the individual composer. In DB, however, this quality of insect sounds is related instead to their independence from any such solo, original expression. The persistent and perspectiveless, ‘flat-line’ noise of insects resists any obviously selective, personal approach a field recordist might take; at the same time as their compelling sound disarms any more considered production or reception.

135 DVD I: Track 47.

8. Conclusion

'Evening Cicadas, Italy' [136] was intended to produce a paradoxical intensity of focus which at the same time, through sustained repetition - both intrinsically and extrinsically through other similar examples of recording - quickly exhausted the interest and attention of the listener. After initially inviting its playback through the touchscreen interface, the crickets recording did not produce the intense, stable focus of acousmatic listening but, through its banal sameness and predictability, released and encouraged the listener to move across to the other parts of the installation and beyond.

The rerecordings and background recordings also performed mimetic strategies without then making these total or immersive experiences. The rerecordings produced uncertain transitions between one recording and another; so that neither recording nor rerecording was definitively realised or predominated. The background recordings attempted to subtly conflate the insect recordings together with the acoustic context of the NAB; both through their shared remote rerecording location and by producing *horspielstreifen* which then blended with local equipment noise. A similar effect was produced by the live amplification.

At the same time, an array of different sources of sound was made, at least visually, evident in the installation (through titles; references; the loudspeakers; the headphones; the sight of a further sound work and sources of site-specific sounds). Some of these, like the blindfolds and the Amacher loudspeaker quote, invited an erasure of such visible sources themselves, in order to produce a more intense audition. Through its environmental acousmatics, 'Evening Cicadas, Italy' also independently suggested this. The way these were related together in the installation, however, undermined their absolute,

136 DVD I: Track 47.

‘blind’ reception.

One of the initial reasons for using the crickets recording as the foreground recording in DB was the way in which it almost immediately produced a tangible lack of focus, or ‘glazing over’, and a tiring of effort during reception which was difficult to resist. At the same time, there was an awareness of this as a constant ‘sliding off’ and waning of both visual and auditory attention [137].

The dissipatory effect of the visual is what acousmatic composers, like Francisco López, attempt to minimize by using blacked out spaces and blindfolds; which most obviously partition the senses of sight and hearing. But whilst the blindfolds in DB point to this potential, the installation uses the foreground recordings of crickets, together with the other parts of the installation, in a deliberately more ambiguous way.

The more complete partitioning of senses and on-off focus is realised interstitially, instead, across the different visual and sonic parts of the sound installation [138]. This reflects the attempt, made across the installation, to amplify the liminality of the original real-world crickets, produced through multiple sonic productions and the ‘in between’ states that these make without ever resolving onto any one of these.

Different instances of sound production were made both site-specifically evident in “Dense Boogie” and, beyond the installation, through appropriating and referencing particular genres and instances of recorded sound. These both bolstered the structuring of the installation around a banal example of field recording and further neutralized and made the crickets recording redundant. They also clarifed the way in which the work was situated amongst other

137 Simon Emmerson relates this effect to a dialectic of seeing and hearing in which the different senses drop in and out of focus: ‘if the music at a dance performance demands my attention, my eyes glaze over and I become aware some time later that I have missed a section of the stage action. If, however, I concentrate on the action, the music ‘disappears’’ (Emmerson 1999: 135).

138 Jean-Godefroy Bidima, writing on Deleuze and music, also makes clear the relevance of this to conceptions of the DB installation as a haptic, smooth space. Bidima writes that Deleuze opposes sensory partitioning to a haptic aesthetic sensibility. In this respect, for Deleuze, rather than being limited to a self-referential aesthetic autonomy, art is precisely produced from the excess from and overflow of partitioned senses (2004: 179-80).

productions of sound.

The crickets recording was both ultimately placeable as a ‘canonical’ subject of field recording and, at the same time, seemingly sourceless and evasive. This effect was produced in different ways (e.g. through its virtual realism; lack of perspective; by sounding abstract or technological). Its straightforward stereo playback was also exceeded: both because it was modulated with the rerecording, and because of its diffuse playback that was further amplified through background recordings. A similar evasiveness was reflected in the difficulty of ‘handling’, or retaining, such a recording, both during production and reception. The background recordings, as environmental recordings, were also elusive through their lack of distinction and neutrality.

Insect sounds have been depicted here as liminal forms which connect to both contemporary expressions of music and to the sounds of technologies. These also move away from more individual, human-centred accounts of sonic production and from absolute categorisations of genres and sounds.

The crickets’ recordings not only intrinsically reproduce multiple sound productions but also, as commonplace recordings of insects, point to many more. The way in which they are located in the installation in relation to further sounds, and their ungraspableness during reception, also defuses these in terms of any one instance of production or capture.

Both insects and mass media, according to Rosi Braidotti, evidence a remarkable liminality that remains outside of any ulterior organizing principle. This provides an alternative to existing accounts of environmental musics. For example, where these have been negatively characterised in terms of an ‘absorbance’ of difference; or related to a mesmerized, debilitated subjectivity [139].

Environmental musics might also be understood as strategies which relate mediated and real-world sounds together; without reiterating these as stable categories or hierarchies of sound or within a unique, autonomous or total

139 See pp. 33-34.

order of production (e.g. an individual composer; a genre; technological or natural etc.). Their pervasive and sourceless, nearly mechanical, repetition becomes reconfigured here instead as a ‘shimmering’ [140] placelessness.

140 Cf. Roland Barthes’ description of the neutral: ‘a hyperconsciousness of the affective minimum, of the microscopic fragment of emotion . . . which implies an extreme changeability of affective moments, a rapid modification, into shimmer’. Barthes in Gregg and Seigworth 2010: 10).

PART IV: ‘For the Birds’ (2008 - 2011)
1. Introduction

> ‘I didn’t really record nature sounds because I thought that nature sounds are boring,” he sniffs. “There are many environmental records that sound like that, with water and birds.’ (Inoue in Ultrared 1997-1: 4)

Overview

‘For the Birds’ (FTB) is the title of a sound installation that was developed intermittently over three years. A version of the installation was finally realised in the UK over a period of weeks in Spring 2011. Its gradual evolution, alongside the installation player developed in Max [1], significantly influenced its production and eventual manifestation. Together with a text proposal [2], two archival CD recordings, from 2008 and 2011, were made to mark the installation [3].

FTB is the project which most obviously and closely developed out of the concurrent everyday field recording practice, which has, to an extent, informed the background to each of the works described in this thesis. The FTB installation somewhat reproduces this larger field recording practice site-specifically: in terms of its relatively random approach; the different sorts of recording methodologies which it brings together; and its siting within a familiar recording location.

FTB also has many formal crossovers with the project “Dense Boogie” (DB) in particular, which was developed as an installation simultaneously together

1 See p. 274, fig. 25; p.269, fig. 26; DVD II: For_the_Birds/Installation_Player_v2.2.
2 See Appendix 3, p. 241.
3 CDs ‘Blackbird II 05.06.08’ ;‘For the Birds 25.06.11’.

with the final stages of FTB. This is reflected in the customized use of the same installation player; the structuring of the FTB installation around the intermittent playback of a foreground recording; the simultaneous diffusion of other background ambient and *horspielstreifen* recordings; the way in which the mediated and real-world sounds were distributed across the installation; and in the use of generic, or banal, foreground field recording content.

The main distinctions between FTB and DB - apart from the obviously different foreground content - was the completely site-specific development of the FTB installation and recordings; the ambisonic diffusion of the background recordings; and, most strikingly, the interaction between a bird and a recording that inspired the development of FTB.

In the Spring and early Summer of 2008, a male Common Blackbird (*Turdus Merula*) (‘blackbird’) persistently and loudly interrupted the playback and monitoring of a series of ambient field recordings with its song outside the studio window. At the same time, the blackbird song became an increasingly recurrent and predominant recorded part of the rerecordings that I was also attempting to make.

After initially finding the birdsong obtrusive and annoying, I began to make repeated recordings of it. Several of the resultant field recordings approached classic, ‘purist’ [4] bird recordings: in which an isolated, close-up, individual bird sings against a distant and subdued background (e.g. ‘Blackbird II’ [5]).

The installation FTB proposed to reproduce this event, without trying to guarantee the presence of a blackbird (e.g. by deliberately producing a lure). In the 2011 version of FTB described here, a blackbird quickly established itself on a tree outside the installation site, singing prolifically and loudly. This made it possible to produce reasonably focused, solitary bird recordings during the installation, which, when played back, the real-world blackbird then sometimes sang together with (‘Blackbird IV’ [6]).

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4 See p.181 n.23.

5 CD ‘Blackbird II 05.06.08’ or DVD I: Track 108.

6 DVD I: Track 54.

Introduction

Field recordists on birdsong recordings

Recordings of individual, isolated birdsong have been identified as historic forms of field recording which have been largely surpassed by other forms of bird recording. This has been evidenced by field recordists and composers as diverse as David Dunn, Bernie Krause and Francisco López; as well as being depicted itself as part of a wider contemporary cultural turn.

The different perspectives of Dunn, Krause and López, amongst others, typically move from negative appraisals of isolated studies of individual birds; through more inclusive recordings of birds and other environmental sounds; to recordings which are conversely either completely abstract (López), or which, in some way, evidence or produce an interaction with a further sonic milieux (Dunn).

The FTB blackbird recordings, whilst they partly attempt to return to, and reproduce, earlier ‘canonical’ forms of bird recording [7], are also considered here in relation to these different accounts. Although it is Dunn’s approach to recorded sound that has more obvious parallels with FTB, the attempted production of purist bird recordings in FTB also reflects aspects of Krause’s practice. López’s depiction of ‘sound matter’, which was previously introduced in relation to DB, also invites comparison to accounts of ‘sonic molecularisation’ and ‘smooth space’ - drawn from the work of Gilles Deleuze and Félix Guattari (D&G) - which are also significant in providing a discursive context for FTB.

From ‘the reign of birds’ to ‘the age of insects’

The cultural transition from isolated birdsong has also been more widely expressed, following D&G, as a movement from the ‘reign of birds’ to the ‘age of insects’ (D&G 1988: 308), that has already been briefly introduced in relation to DB [8]. There, Rosi Braidotti links non-human, particularly insect, productions

7 The term ‘canonical’ is used here to describe an attempt to conform to existing practices and forms of bird recording rather than to imply that a canon of recorded birdsong, as such, exists. (Thanks to John Drever for clarifying this), See also Slater on canonical forms p.155, n. 108; Toop 2004: 49).

8 See p.145.

of sound to a contemporary techno-acoustics drawn from a passage in ‘A Thousand Plateaus’. Within this, after relating birdsong to music, D&G describe a movement away from ‘the songbird’ towards molecular productions of sound, which is worth repeating here:

> ‘ . . . birds are still just as important, yet the reign of birds seems to have been replaced by the age of insects, with its much more molecular vibrations, chirring, rustling, buzzing, clicking, scratching, and scraping. Birds are vocal, but insects are instrumental . . . The insect is closer, better able to make audible the truth that all becomings are molecular (cf. Martenot’s waves, electronic music).’ (1988: 308)

In ‘Metamorphosis of the Muses’ (2002), the philosopher Jacques Rancière, makes it possible to further relate D&G’s and Braidotti’s argument to contemporary sound and video installations. In the essay, Rancière links insect productions to the repetition and proliferation of samples and recorded sounds in themselves; rather than to any particular content or quality of sound.

Coincidentally anticipating the foreground and background *horspielstreifen* recordings in FTB, Rancière specifically includes bird recordings, alongside loudspeaker ‘crackles’, as a part of the eclecticism, re-use and exchangeability of many different sound productions that he finds characteristic of the contemporary cultural milieu (of sound and video installation).

After describing the Deleuzoguattarian shift in music from ‘birds’ to ‘insects’ (from notes and organised sounds to noise; from voice to instrument), Rancière writes:

> ‘Let us add that the insect is an eclectic animal. It can be serial or spectral, concrete or virtual. It can be in harmony with a tortured violin as much as with a misused electrical device, a synthesizer-produced sound, an electronic beep, the crackling of the loudspeaker or a recorded birdsong. It is the true interchangeability of these modes of production of ‘sound particles’. (2002: 127)

Rancière relates sonic molecularisation to the multiplication and ‘equalisation’ (2002: 128) of images, as distinct from copies, that has been made possible

through new reproductive technologies. Although appropriation, as such, was more obviously highlighted in DB, the FTB installation was also structured around the repetition and recycling of different sound productions.

Throughout the duration of FTB, repeated attempts were made to produce close-up recordings of individual birdsong, alongside ambient background recordings, without then treating these - and by implication any much repeated or ‘ready-made’ recording - as only redundant or closed forms. Instead, FTB paid a different attention to the environmental production of real-world and recorded sounds which was intended to approach the simulacral, molecular depiction of sound productions and installations that the different theorists find above.

This is evidenced across the FTB installation: in the mundane, repetition of real-world sounds within the wider field recording practice that FTB was originally drawn from; through the repeated use of recording and rerecording; at the level of the recorded content (another bird recording, another recording of loudspeaker ‘crackles’ or low level background ambient; and another sound installation featuring these); and, again, both diurnally and seasonally and at the ‘culmination’ of the installation, as the blackbird sang together with its own recorded song.

‘Smooth Space’

Accounts of simulacral proliferation and sonic molecularisation have also been related to an increasing lack of definition between art and ‘non-art’ or life (Rancière 2002: 125). This is also reflected, within the FTB installation, by the interpenetrations of real-world and recorded sounds, for example. Although both the FTB and DB installations were focused on, what was originally conceived as, the production of a homogenous and continuous space, over the course of the thesis this became clarified, instead, in terms of an acoustic or smooth space.

The haptic and nomadic forms of engagement that such spaces imply have already been discussed in Part 1 [9]. I have also written at some length, in ‘For

9 See pp. 52-60.

the Birds: a sound installation’ (Hawkins 2012), about the alternative, ‘non-expert’ modes of listening (e.g. ambient; ‘ubiquitous’ (Kassabian 2001); the bird’s own) that the installation seemed to invite. The final part of the thesis therefore focuses, instead, on FTB as the production of a smooth space.

2. Field Recording Practice

In ‘For the Birds’ (FTB) something of the isolated, purist bird, exclusive of an environment, found in early bird recordings, emerges, instead, on (what is an attempt to articulate) a smooth space: the molecular plane of ‘sound particles’, where recorded sounds interpenetrate with different sonorous and non-sonorous productions. Within this account, the use of surround sound technologies and mimetic strategies in the installation are also understood as capable of realising smooth spaces; rather than as only more effective and total reproductions.

Rural UK environment

The FTB installation was sited in a private space on the edge of an East Anglian village, in the same rural area of the UK that many of the individual field recordings had also been produced in. The village has a relatively low density of houses mainly arranged around a single street and is surrounded by a sparsely populated and extensive area of flat, arable farmland. The road connects local villages and towns; and much of the traffic on it relates to two village pubs, a shop, church and school.

FTB evolved, both directly and indirectly, from the existing field recording practice introduced at the start of the thesis. As previously described, this often focused on the mundane and everyday background noises of the area; rather than on exceptional or individual ones. Outdoors, these predominantly included the sounds of wind, birdsong and calls, together with the pervasive and repetitive sounds of public and private technologies (traffic; airplanes; garden and agricultural machinery) [10]. Interior noises included those from utilities (e.g.

10 DVD I:Tracks 55-58.

plumbing; electrical systems) [11]; media and communications (computers; audio equipment; TV; DVD; hi-fi; radio; telephone); and, not least, the sounds of my own and other people’s recording playbacks and live amplifications; also sometimes heard outdoors [12].

Although many of the outdoor background sounds occurred repeatedly and predictably, these were often intermittent and low level; and happened gradually, diurnally and seasonally, rather than being more constantly present. Their frequency and dynamic levels changed marginally and imperceptibly over long periods of time. Sometimes - at night, or on a Sunday - it was very quiet; with no obvious traffic or other technological noises at all [13] [14].

Background to FTB

In Spring and early Summer, when the FTB installation took place, both public and private, indoor and outdoor, sounds start to be heard in different intensities. These are conditioned by a range of parameters - meteorological, biological, social, cultural - relating to the seasonal, environmental changes. There is an increase of plants and animal organisms (leaves; crops; migratory and breeding birds; livestock); less wind or extreme weather conditions; more open windows and outdoor activities (agricultural spraying and harvesting; light aircraft; DIY; garden; walking; celebrations) [15].

A significant number of individual field recordings featured bird vocalizations as background and middle distance sounds. The same garden and farmland birds were randomly and repeatedly recorded; from similar local places, at different circadian and seasonal times [16]. Within this rural UK location, many of these are experienced as periodically predictable, sometimes mundane, background sounds; whilst other bird sounds are increasingly rarely heard, or have disappeared altogether [17]. The blackbird in FTB, within this context,

11 DVD I:Track 59.
12 [redacted]
13 Cf. Ruth Happel in Robair 2003: 6.
14 DVD I: Tracks 61, 62.
15 DVD I: Tracks 55, 56, 57, 58, [redacted] 62, 63-67, 68-73, 74-78, 79-85, 86-92, 93, 94, 95, 96-100.
16 DVD I: Tracks [redacted] 63, 69, 75, 83, 101.
17 E.g. nightingales; cuckoos.

remains a common UK garden bird, which is also heard across urban environments (RSPB Website 2013).

The bird songs and calls in several of the individual field recordings also appeared to be triggered, changed, stopped by, or in some way involved with, human events. Beyond the 2008 blackbird recordings which inspired FTB, significant examples of these include a dawn chorus which was apparently disturbed and started off by my arrival with audio equipment [18]; children mimicking the sounds of an owl, who then appeared to be copied by howling dog [19] [20].

'Hifi' environment

The relatively quiet and uneventful, rural situation that many of the field recordings were made in directly influenced the development of FTB. This environment intermittently nearly enables, what R. Murray Schafer has called, a 'hi fi' experience of sounds, which, as previously discussed [21], is predominantly associated with rural environments. Within this, very low level, environmental and animal behaviour sounds, for example, can sometimes be listened to with clarity, in close-up, and across large distances [22].

At the same time, the quiet rural context also highlights the different noises of technologies and mass media that happen both domestically, privately and across the wider public environment. In a more urban and 'lo-fi' environment these would often be experienced as part of a dense mass of noise rather than more distinctly heard.

The quiet background, intensified in rural interiors, also makes it possible to periodically reproduce a classic, absolute situation of reception, in which recorded sounds can be listened to nearly exclusively. Field recordings, made

18 DVD I: Track 102.

19 DVD I: Track 103.

20 Cf. p.149 n.98.

21 See pp.86-87.

22 'The hi-fi soundscape is one in which discrete sounds can be heard clearly because of the low ambient noise level. The country is generally more hi-fi than the city; night more than day; ancient times more than modern. In the hi-fi soundscape, sounds overlap less frequently; there is perspective — foreground and background.' (Schafer 1994: 43).

in this environment, have an intermittent potential to reproduce uneventful, very low level sounds or to focus on individual, discrete noises. This also makes it transiently possible to produce purist [23] field recordings that give the impression of a bucolic environment or a non-human 'wilderness'. Rerecordings can similarly sometimes be made with minimal interference from further noises and, therefore, sound like an original recording.

Random, redundant and neutral content

Many of the individual field recordings that were randomly and repeatedly produced alongside the main thesis projects were made from the same, or similar, interior and exterior locations. Their content was not intensely sought out, or required to conform to any *a priori* scheme. Although bass roll-off filters were often applied during outdoor recording to eliminate wind noise, field recordings were not then significantly edited in post-production. Only minimal edits were made at the start and finish, or to remove production noises.

Because the field recordings were repeatedly produced in the same or similar environments and seasons over many months, content was shared across many of the recordings. They were often also monitored, either in, or close to, the same places that they were recorded, in post-production as well as during recording, so that the same contingent background sounds (e.g. wind, birds, airplanes etc.) were often heard across both real-world and recordings [24]. This made it sometimes critically hard to distinguish the noises of the recorded sound from either those amplified on the headphones whilst field recording or in relation to real-world sounds when these were later played back.

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23 Jim Cummings makes a distinction between documentary 'one-take', 'purist' field recordings and those which are seamlessly reconstructed from different instances of field recording in order to reproduce a realistic sonic event (Cummings n.d.). Within these terms, all of my field recordings are purist; whereas Bernie Krause's recordings, for example, fall into the latter category and Krause himself understands his own field recordings in non-purist terms (Krause in Robair 2003:9). However, to a limited extent like Krause, the individual field recordings in FTB also attempt to achieve durations of 'unadulterated' sound (see pp.214-215) that are then played back together in the installation (rather than reconstructed on a CD, as Krause's are, for example). Elsewhere, Andy Hamilton describes such constructions as evidencing a more sophisticated version of purism in which the aim, rather than to maintain the 'diachronic and synchronic integrity' of the original, is to produce a 'realistic auditory image' (Hamilton 2003: 345, 351).

24 DVD I: Tracks 55, 63-67; 68-73; 56, 57, 74-78; 79-85; 86-92; 58, [redacted]93; 62,94,95; 96-100.

Although many of the field recordings were initially developed randomly, without aiming for a specific content, this lack of content itself started to become a focus of both recording and rerecording. Despite the fact that many of the recordings were made in a specific, rural location - which, given the size of the rural population in relation to an urban one (Pateman 2010/11: 43), might itself be experienced as exceptional - the mundane, everydayness and neutrality of the field recording content became a preoccupation. The content of many of the recordings was locally unremarkable and focused on unexceptional sounds that might also be found across a range of further environments.

Whilst the recordings were produced from out of the contingencies of my own life, directly personal sounds were either avoided or later edited out. For this reason, many of the field recordings are both unrecognised by me (in relation to an original real-world event), and relatively unmemorable and indistinctive as individual recordings; both because much of the recorded content is similar, or repeated, and the same real-world sounds are still available on site [25]. Although this might not be the case over an extended period, or where the field recordings are listened to in a different location.

'Negative capability' [26] [27]

Whilst a number of the individual field recordings described here were produced formally, using randomizing algorithms to fix their time and duration [28], for example, others have been developed less purposefully or systematically. These further recordings are conceived of here in terms of a kind of technological 'negative capability' [29].

Within this, the field recordist, with nothing better to do, sets up a microphone, wherever they are, and then leaves the live amplification, or recorder, running. The resultant feeds of sound have been understood by different field recordists, in relation to their own receptive inertia or boredom, as capable of producing

25 Both during the FTB installation and afterwards.

26 After John Keats, 1817 (Keats in Strachan 2003 :14).

27 It is interesting to note that Keatsian 'negative capability' has also been related to Walter Benjamin's depiction of mimesis (Hansen 2000: 247).

28 DVD I: Tracks 101, 104.

29 DVD I: Tracks 105-107.

quasi-subjects in indirect or unexpected ways [30] [31]. For example, David Dunn describing the development of the CD track ‘Chaos and the Emergent Life of the Pond’ (1991) writes:

> ‘I started making these underwater insect recordings by accident. On a recording expedition, while waiting to be picked up by my associates, I had nothing to record after the dawn chorus had ended. To alleviate the boredom I threw my hydrophones into a small pond.’ (Dunn 1999)

Elsewhere, the field recordist Bernie Krause understands the availability of ‘pure ambient’ field recordings as a by-product of the patience required by, and the boredom of, individual species recording (Krause 1993: 5). Such descriptions suggest encounters with other (natural) rhythms and events that occur independently of, and beyond, the field recordist’s own expectations, interest, effort or will. Dunn, for example, goes on to discover the micro-sounds of underwater insects in the pond.

Although such feeds of sound imply long, and sometimes nearly continuous, recording durations, many of the field recordings produced here achieve similar effects through repetition and multiplication, rather than through being extensive in time. Within this many of the field recordings seem nearly the same, or similar, to one another. In this respect different recorded content has sometimes started to emerge as significant out of an indirect, ‘absent minded’ [32] comparison between these different instances, often over a number of years.

Field recordings as feeds

A conception of field recordings as feeds of sound that are, at least partly, unsolicited and out of the individual control of the field recordist is also found within discourses that make a distinction between field recording and phonography. Within these phonographers and composers have understood their own gestural, instrumental performance, together with the selection and placement of the technologies, as a critical part of the work.

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30 See also Hawkins 2012: 211.

31 Cf. the environmental feed that informs Maryanne Amacher’s work (Amacher 1989).

32 Cf. Walter Benjamin p. 60.

Yannick Dauby, for example, writes that in phonography the ‘arbitrary choices of spatial positioning . . . of direction and field . . . of the moment, and the effect of the transducer, the medium’ are part of a practice, alongside the ‘gestures’ of the sound recordist (2007:3). Dauby then summarizes phonography as ‘a position in relation to the sounds which surround us’ against which a ‘field recording is nothing more than the result of a meeting between a terrain . . . and a technical device ‘ (2007: 4) [33] [34].

Much of the field recording practice described here, and the recordings in the FTB installation, however, try to minimize the perspectival presence of the field recordist in order to approach field recording in a different way. This is partly achieved through the removal of production noises together with the randomizing and selection of recorded content. Although certain purist practices of field recording also make significant efforts to eliminate individual and technological sounds of production from a recording, such recordings are usually then only characterised in documentary terms, as ‘transparent’ representations of reality [35].

‘Negative capability’ in ‘For the Birds’

The random, and mimetic, aspect of field recording, which produces long feeds of recorded sound, or a proliferation of many similar sounding recordings, is a critical backdrop to FTB. The uneventful sameness, both intrinsically within individual field recordings and in the lack of differences between many of them, produced a drift of attention during monitoring and playback, like Dunn’s and Krause’s above; together with an intermittent alertness to small differences

33 Also: ‘ . . . the term [field recording] evokes an idea of a collection of raw materials, devoid of intervention by the sound recordist as opposed to phonography, in which the sound recordist will meticulously re-listen, sort, and select an extract from his material (the “rushes”). The phonography he ends up with is a specific choice of a specific length that will be offered up for listening.’ (Dauby 2007: 4).

34 Cf. ‘ . . . we’re celebrating the . . . capacity of someone to use a tape recorder well’ (Dunn & Blackburn 2004: [c.18:30]).

35 Cf. ‘The longstanding ideal is to record invisibly, standing still or moving very slowly to document nature . . . with high-fidelity equipment. The recordist excludes unwanted human activity (airplanes,coughing during a song, dropping the microphone), ultimately editing everything into a smooth, seamless “reality.” I challenge those prevailing practices in several ways. I affirm the inevitable influence and presence of the recordist and recording gear both in the field and back in the studio [etc]’. (DeLaurenti 2004: 73). Also ‘ . . . conventionally mimetic field recording aspires to present a realistic ‘slice’ of the natural world (Montgomery 2009-2:150). Also Demers 2010: 168).

and detail.

Where so many similar recordings are produced together, it becomes difficult to conceive of these either in terms of individual productions or objects, or as a single, coherent mass. Instead the similarities between the recordings produce, what is more like, local build-ups of intensity and affect; in which certain features or content sometimes emerge and become predominant [36].

Together with the playbacks, which acted as lures, and rerecordings, which drew my attention to the bird, this broader approach to field recording provided the context out of which the foreground blackbird recording became possible, as such; and without this only becoming abstracted, objectified or commodified. It also informed a different approach to field recording, than, for example, Dauby’s above, which neither emphasizes the agency and subjectivity of the recordist nor, by ignoring or eliding their presence, is only found meaningless or superfluous [37].

36 Although the field recordings are individually unmemorable, and when compared together seem similar or the same, on close inspection minute variations become evident. In this way they are not homogenous.

37 Nor is it intended to evidence the field recordist’s skill more intensely; as certain accounts of ‘purist ‘ field recording imply (Bijsterveld 2004: 624; Bruynincx 2012: 137).

3. Birdsong Recordings

Although foreground birdsong and calls have remained popular subjects of field recording (Cusack 2001), these have increasingly included the sounds of their wider environmental context. Several field recordists and theorists have argued specifically against single species recordings of isolated animals and proposed different conceptions of recording to address the limitations they have found in these.

Purist forms of nature recording, whether of isolated birds or of pristine natural environments, have been criticized for decontextualizing their subjects. It is also argued that these manipulate or mislead listeners from both the immediate sounds of their production and the global social and environmental reality of noise pollution (Michael 2011: 207).

These different arguments are relevant to 'For the Birds' (FTB), because whilst the installation attempts to produce relatively purist field recordings, not least an isolated bird recording, it also proposes that these are able to relate to further recorded and real-world sounds. Field recordings are neither depicted here as impoverished or false representations of real-world sounds, nor as surrogate virtual realities.

A brief introduction to some of the earliest forms of bird recording in the UK [38], characterised by studies of solitary subjects, will also relate some of the technical issues that confronted nature field recordists, which were still pertinent to the production of the blackbird recordings in FTB. The way in which bird recordings have been developed in relation to longstanding individual awareness' of noise pollution, are considered here; alongside a number of

38 See also the development and use of parabolic reflectors in the production of isolated birdsong recordings by the Cornell Laboratory of Ornithology, Cornell University, Ithaca, New York, USA (Bruynincx 2012: 138-140).

later critical perspectives.

Although each of these later criticisms stresses the way in which the recorded (bird; animal) content has been detrimentally isolated from a wider ecological and environmental context, these move from being focused on the inadequacies of representation; through conceptions of recording as abstract or hyperreal; to a more complex view of simulation in which recordings are understood to produce revealing interactions with real-world sounds and events.

'Classic' recordings of isolated birdsong

The early mono, and later stereo, bird recordings were characterised by individual studies of solitary birdsongs and calls against low level, uneventful backgrounds (British Library Website 2013). The recordings featured short sections of close-up bird vocalisation, such as a single birdsong or a few repetitions of a call. Ambient sounds, like traffic and further birds, were minimised in the recordings in order to prevent distraction to the listener; and, where present, these were only considered secondary to, and supportive of, the foreground 'solo' (Lewis 1966: 2) [39].

Bird recordings were marketed to have a broad appeal to popular audiences and 'bird lovers', as well as to amateur and professional ornithologists (e.g. Nicholson & Koch 1936; Lewis 1966; Simms 1970). Many of the early recordings had explicitly educational aims, with audiences taught to recognize and remember individual, often garden, birds. Listeners were sometimes given detailed instructions on how to listen. For example by being invited to repeatedly play recordings, or to make comparisons of these to wild birds outside (Nicholson & Koch 1936: 188).

Individual bird and animal recordings have remained a widely experienced and popular genre of field recording that have continued to be prolifically produced

39 Although Koch used close-miking in order to capture birdsong, he chose to work in the field (rather than a studio) and therefore to include some of the noise of the bird's natural environment (Bruynincx 2012: 137). In this respect, Koch's recordings provide, what Joeri Bruynincx understands to be, a naturalistic contrast to the 'detached', perspectiveless and 'sterile' bird recordings produced by the Cornell laboratory, for example. (Bruynincx 2012: 140).

(Van Peer 1995-1; Rothenberg & Ulvaeus 2001: 4; Toop 2004: 49). Such recordings are what the original ‘Blackbird II’, to an extent, reproduces, and the FTB installation attempted to repeat. Within this context, the foreground blackbird recordings in FTB were intended to sound familiar to a broad range of listeners; both as a specific genre of field recording and as a common UK garden bird.

Technical difficulty of production

From the start, many of the discourses surrounding bird recording report and highlight the practical and technical difficulties of making such recordings on location (e.g. Nicholson & Koch 1936: xxii-xxv). Beyond the individual inexperience or failings of the field recordist, these might be thwarted through equipment failure; adverse weather conditions (wind; rain); bird behaviours; and both local and extensive noise pollution (e.g. the sound of clothing; traffic).

Increasing complaints of noise pollution are made palpable in recording practices which aim to produce a distilled, purist object. The field recordist Victor C. Lewis, for example, after citing a 1942 account of a ‘noise-ridden’ world, emphasises the years of work involved in producing the ‘Bird Recognition’ series in 1966:

> ‘ . . . all the reproductions included in this set of recordings were obtained within the last seven to eight years: all were made in this country, and many thousands of hours have been spent in the process. Due to the advent of the jet aircraft and the present-day multiplicity of man-made noise generally, good quality natural history sound recordings are fast becoming virtually impossible.’ (1966: 3).

Bernie Krause, working later from a significantly different field recording tradition (bioacoustics; acoustic ecology; soundscape) and producing recordings worldwide, makes similar observations. In 1987, and again in 2007, he emphasizes the exponentially increasing amount of ‘gross’ work involved in producing any field recording because of noise pollution. Krause balances the excess of discarded recorded ‘waste’ against the fragments of sound eventually used in a final recording:

> ‘To obtain these recordings we would typically spend 500 hours on site to get 15 minutes of usable material...a ratio of 2,000:1. The long wait is due primarily to the introduction of human-induced mechanical noise(s) like chain saws (from 20 miles away), aircraft, motorized riverboats, etc. To date, our library consists of approximately 3,500 hours of material...20% of it from now-extinct habitats. (Krause 1987: 5)
>
> ‘When I started in 1968, it used to take me 14 or 15 hours of recording to get an hour of usable material. Now it takes me a year to get that same amount of material.’ (Krause in Robair 2007: 2)

These ratios of ‘usable’ field recordings to anthropogenic noise, over time, vividly illustrate what has been depicted in terms of an exponential and devastating loss of ‘open’ or extensive space. Beyond the diminishing returns of purist field recording, this has variously been expressed in terms of habitat reduction or species’ extinction; a critical loss of silence; psychological states of anxiety and claustrophobia (Van Peer 1995b: 4; Wrightson 2000: 10; Ingram 2006: 124; Hempton 2009: 142). The substantial efforts that individual field recordists like Krause and groups, like the original Vancouver Soundscape Project (Schafer et al. 1973-1), have made, also map out a disturbing model of simulation in which, they understand, ‘vital natural soundscapes no longer exist- except on tape’ (Krause 2002: 63).

René Van Peer: birdsong recordings

Over a series of essays on birdsong and nature recordings (1994; 1995-1; 1995-2), the writer René van Peer argues that studies of individual, isolated birds misrepresent the significant and varied contexts in which any bird sings and calls. Whilst such recordings often focus on the recognition of a unique bird sound, what is elided, he argues, is a far more complex environmental interplay of sounds (1994). This extended, often territorial, context frequently includes further birds, alongside many other ambient noises, which might also inform any vocalizations.

Such recordings further, Van Peer adds, ‘standardize’ such songs and calls by flattening out any variations that might occur in an individual bird. These might

happen diurnally; in developments of their song across a season; or in an adaptive response to local habitat and weather conditions (Van Peer 1994: 3).

The elimination of ambient background noise, found at its extreme in bird recordings, extends to purist soundscapes which, Van Peer argues, evacuate and ‘unpeople’ audio recordings; both by subduing the immediate sounds of production and by erasing a larger technological and social context (1994: 3, 4). Whilst these give the superficial impression of pristine, untouched natural environments, Van Peer finds that such recordings are suffused with a network of human intentions and productions, that he finds difficult to ignore (1995-1: 2).

Van Peer continues that field recordings of isolated subjects produce an uninformative and unmoored content, which he contrasts to those that include a more extensive ambient environment. The latter, he argues, produce a greater sense of vitality and realism through reproducing a larger spatiality and thus provide a sense of perspective and depth (1994: 4).

Francisco López: CD ‘La Selva’

Francisco López picks up on a number of these points directly in the essay, ‘Environmental sound matter’ (1998-2), included with the CD ‘La Selva’; previously introduced in relation to “Dense Boogie” [40]. The essay further contrasts the ‘total’ environmental sound that ‘La Selva’ reproduces with the focused analyses of individual species that inform contemporary bioacoustics (López 1998-2: 1-2).

Although individual species are listed in the CD liner notes, López argues, unlike in scientific studies, these are neither the focus of the original field recording nor of later editing; and they are not then indexed in the finished tracks (1998-2:1). Like Van Peer, López finds that recordings arranged around individual animals limit, or elide, the significant other sounds of water, weather and plants, for example, along with the less definable characteristics of a habitat:

40 See pp. 165-167.

> 'The birdsong we hear in the forest is as much a consequence of the bird as of the trees or the forest floor. If we are really listening, the topography, the degree of humidity of the air or the type of materials in the topsoil are as essential and definitory as the sound-producing animals that inhabit a certain space.' (1998-2: 2)

However, even where such studies expand bioacoustics from a single species to 'assemblages of sound-producing animal species' and ecosystems (e.g. Krause's 'niche hypothesis' (Krause 1993)), López argues that these are still arranged around analytical approaches. Within these, backgrounds and foregrounds become artificially delineated; and recording subjects are derived from categorical distinctions between differentiated, individual vocalizations of species (López 1998-2: 2).

'Plane of consistency'

The animal sounds included on 'La Selva', as previously described, are not pre-selected from already organised and rationalized categories; and nor are such recordings depicted in terms of hyperreal simulations or pragmatic demonstrations of 'reality' (López 1998-2: 3, 6). López insists, instead, on a sonic 'plane of consistency' [41] where all sounds are equivalent. He further predicates the multiplicity of sound matter, within this, on a diversity of natural and technological environments, neither of which are necessarily distinctive or have essential priority, rather than on a return to the bucolic (López 1997: 1; Cox 2001: 4). López writes, for example, that 'under some circumstances, nature can also be considered as an intrusion in environments dominated by man-made sounds.' (López 1998-2: 6) [42].

David Dunn: CDs and 'Mimus Polyglottus' (1976)

Like López (1998-2: 3), the field recordist and composer David Dunn has also understood purist and other nature field recordings as simulations which, rather than reproducing a real-world environment, only 'confuse the map for the territory' (Dunn & Van Peer 1999: 67). Instead of preserving such environments or promoting environmental activism, Dunn argues that such recordings 'flatten [. . .] out the complexity of an acoustic environment'; and,

41 Cf. smooth space (Bonta and Protevi 2004:144).

42 Cf. 'Blackbird II', pp. 196-197.

by doing so, ultimately misguide and divert listeners from any affirmative action.

This is not only achieved through discourses which ‘falsely’ emphasize their status as real-world documents, as truthful representations of a prior reality, but, for Dunn, also by removing the immediate techniques and sounds of their production together with any other anthropogenic environmental noise:

> ‘Most of the time, what you hear in these recordings is someone who sat long enough between periods of airplanes and cars passing that they could get something that appears to be a pristine recording. To put that forth as the reality is a lie.’ (1999: 67)

Dunn develops this argument partly through his experience of producing field recordings for the CD ‘The Lion in which the Spirits of the Royal Ancestors Make Their Home’ (1995). These were commissioned as ‘classic’ soundscape recordings of an African waterhole for a zoo, and could superficially be heard as such. Dunn, however, in the liner notes and through further commentaries, problematizes each of the recordings on the CD; relating these apparently ‘wild’ soundscapes themselves, instead, to a zoo (1999:67).

In a paper on Dunn’s soundscape recordings, David Ingram acknowledges the composer’s efforts to remain ‘self-reflexive’ and critical about resisting the commodification of such environments; whilst continuing to make field recordings and CDs (Ingram 2006: 125). Ingram, however, also compares Dunn’s selection of content and use of editing in certain audio recordings, itself, to the concerns outlined in the texts accompanying these. The former, despite Dunn’s stated antipathy to ‘fakery’ and idealized projections of nature, also sometimes focus on bucolic communities, and remove traffic noises, for example (2006: 131-135).

Yet Dunn describes his own approach to such recordings as ‘compositional’ (Dunn 2001: 8); and, even where such works might still sound like straight field recordings, these are produced out of, what Dunn understands to be, a mutual and participatory encounter with a subject. Within this context, the contradictions that Ingram finds in the field recordings, above, can be understood as an expression of what such recordings are able to elucidate and achieve.

Throughout his work, Dunn has proposed a series of alternative strategies in which recorded sounds are no longer framed within a ‘romantic’ discourse, which is arranged around the subjectivity of the composer/field recordist, and posed against an objective world. Within such a new paradigm, any ‘reality’ emerges through active participation; rather than being established beforehand [43] (Dunn 2001: 8-9).

Dunn relates this effect to a broader ‘emergent’ property, in which complex patternings and interactions between different instances, collectives and processes exceed any one (human or non-human) individual agency (Ingram 2006: 128-9). In this respect, environmental complexes of technologies, animals and subjectivities are no longer resolvable into only constituent parts or individual categories (e.g. the field recordist; the bird; the environment).

Dunn differentiates his works from those that, he understands, decontextualize sounds as part of a wider concern with ‘the acquisition of nature sounds [like] birdcalls’ (Dunn & Van Peer 1999: 64); regarding these as part of a wider aesthetic tradition derived from John Cage. His own interest lies, instead, in the wider ecological context and complexities of such recordings, which his own presence is a manifestly evident and inevitable part of (1999: 65).

Similar concerns are set out more prominently in a number of works that were conceived around a single or multiple species interaction [44]. ‘Mimus Polyglottos’ (in collaboration with Ric Cupples) (1976) produces a real-time interaction between mockingbirds and electronic sound stimuli in which the birds’ capacity for mimicry is explored and challenged; in this way, directly relating to FTB.

‘Mimus Polyglottos’ was developed initially experimentally, by using birdsong recordings, and then pure electronic sounds, to attract and produce interactions with local mockingbirds (Sound Art archive Website 2013). Individual tapes of sounds were prepared with a range of different effects - ‘pure Mockingbird; distorted Mockingbird; and pure electronic sounds’ - and played back to the birds. The interactions themselves were then recorded. Whilst the distorted version silenced the mockingbirds, the two others triggered, what Dunn

43 Cf. nomadic perception pp. 59-60.

44 See also ‘Simulation 1:Sonic Mirror’ (Dunn 1986) ; ‘Nexus 1’ (1973) and ‘Entrainments 1’ (1984) (Dunn 1996).

describes as, an 'immediate response [...] evidenced by the recursive interactions of the final recordings' (Dunn 1976).

Rather than using such works to manipulate, or produce, new sources of sound material, Dunn understands 'Mimus Polyglottus' as an attempt to 'generate a linguistic interaction' (Dunn 1996: 3), which evidences an inclusive and collaborative structure in which other forces and living systems participate (Dunn and Lampert 1989: 104). This moves beyond concepts of expanded musicality, or new sonic materials, to a conception of music as precisely that which remains close to other forms of species communication and has 'conserv[ed] just that way of interacting with our world' (Dunn & Van Peer 1999: 65) [45].

How this relates to FTB

These different accounts of birdsong and nature recording provide a discursive context within which to situate the recordings that were produced in FTB. Whilst the arguments they make most evidently relate to the blackbird recordings, they are also relevant to the background recordings and to the installation as a whole.

By attempting to reproduce isolated blackbird recordings, amongst further recordings and real-world sounds, FTB proposed to relate existing, 'canonical' forms of field recording extrinsically to these. In this respect, the blackbird recordings in FTB both restate existing purist nature tropes and, like the mockingbird recordings that Dunn produces, above, produce revealing interactions that move well beyond them.

The installation, in this way, tries to connect popular and clichéd instances of birdsong recording (and birdsong itself) to less 'striated', comfortable formulations of nature and technologies [46]. Unlike Warren Burt, for example,

45 Cf. D&G pp.220-221.

46 At the same time, further examples of sound works that both directly and indirectly feature bird interaction can be found. E.g. Walter Marchetti in 'La Caccia (Quartetto n. 2) (1965) 'open air version' records the sound of birds attracted by hunting lures; Christina Kubisch notes that birds sometimes imitated the electronic buzzers in outdoor installations (Kubisch 2002: 20).

who opposes Dunn’s works as a ‘radical, rigorous’ response to ecological concerns from new-age ‘nature Muzak’ that only reproduces existing, conservative paradigms (Dunn 1996: 4) [47]. The background recordings also evidence a similar liminality.

FTB also partly reflects López’s ‘smoother’ account of recorded sounds, without only limiting these to the activity and expression of the composer in relation to an expanded palette of sounds. By repeatedly attempting to produce generic forms of field recording, the installation tried to avoid more improvised, individual responses to the site. Because the installation also followed, what have been depicted here as, mimetic strategies within a site-specific context, the foreground and background recordings also had the potential to become conflated within this; in this way ‘undoing’ any purist, discrete effect.

47 See pp. 234-235.

4. Installation I

‘Blackbird II’ (2008)

Studio location

Both the original blackbird recording, ‘Blackbird II’ [48], which inspired the development of the installation, and the 2011 ‘For the Birds’ (FTB) recordings were produced in a similar, although not identical, edge of village location. ‘Blackbird II’ was recorded with a microphone pointing east towards the open countryside. The blackbird sang from a tree directly beneath an upstairs studio window, whilst stereo field recording playbacks were diffused from loudspeakers facing perpendicular to the window. The blackbird song was initially perceived as an intrusion within a reasonably quiet studio context.

Appearance of blackbird

The original blackbird recordings and the concept for the installation FTB first emerged during the monitoring and production of ambient background rerecordings during the Spring of 2008 [49]. At that time, the increasingly persistent and loud sound of a blackbird at the window (both open and closed) was experienced as an annoying and problematic interference.

The blackbird sang regularly and repeatedly from the same position and disrupted both the monitoring and production of the rerecordings which were becoming increasingly difficult to make. Its performance appeared to coincide with the playbacks which the bird was perhaps attracted by [50]. The birdsong started to appear on parts of the rerecordings that then had to be discarded.

48 CD ‘Blackbird II 05.06.08’ or DVD I: Track 108. See also Tracks 89, 109.

49 These were discarded at the time.

50 See discussion of lures and ‘playback’ in Constantine and The Sound Approach (TSA) 2006: 165-170..

The blackbird became noisier and more persistent as the season progressed; eventually making it difficult to continue with the work.

Production of ‘Blackbird II’

I began to produce field recordings, instead, of the blackbird from the studio with the microphones now pointed towards the window. The recordings were made with an increasing awareness of their potential to sound like classic, isolated subjects of bird recording. The aim, now, was to produce a recording of an, at least, finished section of the blackbird’s song [51].

The production of an isolated birdsong recording was much less straightforward than the bird’s previously predictable and reliable performance had implied. The blackbird, perhaps in response to my own change in behaviour in the studio, was initially quickly scared off in response to any sighting or movement of either the equipment or myself. In response to this, I started to anticipate its arrival and prepare the audio equipment in advance; hiding myself during recording. The bird again became habituated to the situation, and the microphone was sometimes able to be positioned outside the window, near the blackbird’s song post [52].

The weather also affected both the bird’s attendance and significantly added to the background noise of the field recordings. Wind noise both directly affected the microphone diaphragms, when these were outside the window, and when these were positioned inside, the microphones were not close enough to the birdsong to produce an exclusive recording. Further environmental and domestic noises were similarly frequently disruptive. These included noises from other birds, garden machinery, telephone calls, door slams, kitchen equipment, a central heating vent etc.

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51 The song of the male Common Blackbird (*Turdus Merula*) has been described as a complex, individualised repertoire in which the full song is subdivided into single songs separated by intervals of silence. Whilst complete songs are only occasionally repeated, certain elements and sequences of ‘motifs’ within these frequently reoccur in the same order (Hesler, Mundry & Dabelsteen 2011: 592).

52 ‘Song post’ describes a tree or other structure that an individual bird habitually sings from and frequently returns to.

CD 'Blackbird II' [53]

The CD 'Blackbird II' was the culmination of the series of recordings, above, that had attempted to produce a generic bird recording. 'Blackbird II' was produced on a warm, still day and nearly achieves a reasonably isolated foreground birdsong recording. However, towards the end of the recording, the blackbird's song rises in frequency [54] as the bird mimics a distant motorbike [02:38]; and at the end, as the blackbird stops singing, a nearby pheasant calls out [3:00]. The recording in this way fails to meet the most rigorous standards of purist field recording; both by including anthropogenic noise and another close up species of bird.

Installation 'For the Birds' (2011)

Beyond the attempt to reproduce the 'Blackbird II' event, above, the complex of recordings in FTB also partly repeated the contingent and repetitive approach of the wider field recording practice. At the same time, these were located far more narrowly; both in terms of their immediate site-specificity, and in relation to the formal proposal of the installation to produce specific genres and methodologies of recording. The proposal [55] was detailed in full before the start of the 2011 version of FTB and it was intended to be experienced as a part of the finished work. The text also makes it feasible for the work to be reproduced independently elsewhere.

Unlike "Dense Boogie" (DB), FTB was made completely site-specifically, and any articulation of background and foreground recordings, for example, emerged over the duration of the installation from the contingencies of the site; instead of being more clearly defined at the beginning. None of the FTB recordings - the foreground blackbird recordings or the background ambient and *horspielstreifen* - existed at the start of the installation.

53 CD 'Blackbird II 05.06.08' .

54 See 'Lombard effect' (Brumm and Naguib 2009: 10).

55 See Appendix 3, p. 241.

Methodologies

FTB brings together the relatively indiscriminate contingency of field recording, above, with a number of already established recording methodologies that had emerged out of the wider practice. The most significant of these - rerecording; ambient and *horspielstreifen* background recordings - have already been introduced, in relation to the previous projects; and they were used coherently together, for the first time, in DB and FTB. The isolated birdsong recordings, which inspired FTB, as discussed above, were also developed as a distinct methodology before the 2011 installation [56].

By reproducing site-specific, neutral, or generic sounds, and by following mimetic strategies, each of these methodologies also reflected the wider practice's focus on minimal or redundant content [57]. At the same time, each of these methodologies was intended to produce intrinsically distinct and exclusive content. In respect of FTB, this included close-up, solitary birdsong recording; neutral and ignorable ambient background recordings; and durations of unchanging equipment hiss *(horspielstreifen)*.

Following purist practices, any obvious production noises were minimized; both in order to produce classic, 'realist' field recordings and, in respect of the blackbird recordings, because of their deterrent effect on any bird (Cummings 2001: 2). Within this context, the minimization of noise was not only understood in terms of an obscuring or falsification of production, but also as enabling further sounds beyond those of the field recordist.

It is obvious that any visitors to FTB would also have a potential to scare off a bird; as well as introducing, in purist terms, unwelcome noises into any recordings that were made as part of the installation. At the same time, by attempting to limit local anthropogenic noise within the installation, this also highlights the user's part in any sound production. The failure of any blackbird to arrive, or 'perform', at FTB, to an extent, depends on these human behaviours. However, for the reasons set out below, these issues were not critical to the version of FTB described here.

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56 DVD I: Tracks 63, 69, 75, 83, 89.

57 See pp. 128-129,134-136,181-182.

Although it had already been established in the wider practice that it was possible to produce field recordings which effectively realised the different methodologies above, during the 2011 installation, it was quite difficult to achieve these from either interior or exterior environments. Inside, intermittent loud interruptions, such as telephone calls, made it necessary to repeatedly make recordings. There were also a number of unforeseen technical issues. For example, the low buzz of interference [58] from an audio cable, too close to a computer, affected several background recordings which it was reproduced on. Outside, although there was very little rainfall, the site was often windy and this affected the quality of the birdsong recordings in particular that were recorded from the balcony. There was also more anthropogenic noise on the warm, still days that were also better for field recording (e.g. parties; agricultural work) [59].

Installation site

‘Blackbird IV’ [60], was recorded closer to the village than the original blackbird recordings were. The earlier recordings had informed the selection of the site, which was again reasonably close to a tree. The stereo loudspeakers in the main room of the FTB installation now directly faced the village and the main street to the south.

The 2011 version of FTB was developed in a private, domestic space, without public access [61]. The space was intended to reproduce a generic sound installation site which could then be potentially moved to further locations [62]. The site was chosen partly practically, because it was constantly available over an extended period, and close to the probable presence of a blackbird at critical diurnal and seasonal times. This made it possible to produce a sound installation that was gradually developed over a season in relation to an individual bird’s behaviour.

At the same time, the domestic setting of the installation also formalised the everyday playback of a foreground recording at home which FTB, like DB,

58 Known as a ‘ground loop’.
59 DVD I: [redacted] 96-100.
60 DVD I: Track 54.
61 See p. 271, figs. 18 and 19.
62 See p. 229-230.

partly focuses on. The siting of the installation also attempts to despecialize the idea of where a sound installation might take place. The site-specificity, in this way, is undermined, in terms of a unique and exceptional location or event, at the same time as the field recordings document, and become conflated with, the remarkable singularity of an individual blackbird song.

Recording and playback locations

FTB began with the repeated production of field recordings from specific equipment placements across the site [63]. These positions were functionally determined at the outset, and continued largely unchanged throughout the duration of FTB. Recording and playback locations were distributed across a main room with a balcony, and a corridor. These were divided into four recording locations and three diffusion areas. The window in the main room remained open for significant parts of the installation.

A total of eight loudspeakers were arranged into three groups; all positioned at head height. In the main room, a foreground stereo loudspeaker pair was placed against the opposite far wall from, and pointing towards, the open window. A background quad of loudspeakers [64] stood in the centre of the room in a square. In the corridor: a further loudspeaker pair was placed against a wall on the same plane, and facing in the same direction, as the main foreground speakers [65].

Stability

The selection of recording locations and equipment positions was prepared before the installation and not then significantly altered. Any subsequent adjustments of these was only made in order to produce more effective 'fine-tunings' of each sort of recording. For example, the position of the cardioid microphones was only fixed after discovering the location of the nearest song post which the bird consistently used. At the same time, the regular and repeated placement and use of these, was also designed as a practical method of habituating a blackbird to the production and diffusion of field recordings on

63 See pp. 271-272, figs. 18-21.

64 For a horizontal or planar ambisonic recording (Elen 2001:2).

65 See p. 271, fig. 19.

the site.

As well as producing a formal and visual stability throughout and during the installation, the stable positioning of audio equipment supported a conception of this as a static ‘placeholder’ for feeds of sound; rather than as more individual expressions, or improvised responses, to the contingent developments of the site. In this way the focus of production moved away from the physical, gestural actions of the field recordist, and any one original perspective, towards the further recorded and real-world productions of sound across and beyond the site.

Lure

Whilst it was unintentional, the way in which the original blackbird sounds had emerged in relation to the recorded sounds played back in the studio might be retrospectively understood in terms of a lure. In the same way, the FTB installation did not use an existing recording as a lure at the start, but rather relied on the contingent presence of a blackbird.

Although field recordists have, sometimes controversially (Constantine & TSA: 2006: 165-166) used recording playbacks to attract animals and birds - literally as mechanisms of ‘capture’ or control - FTB attempts to connect to this potential of recording in a different, less bleakly functional, way. Instead of ‘demanding’ a performance from the blackbird by persistently playing back foreground recordings, these were only played back intermittently around the time of the day when the bird visited the closest song post (mainly in the early evening).

‘No show’

The site-specific contingencies of the installation carried a range of potentials: from the non-appearance of the blackbird to the production of a classic bird recording, as described above. Although the blackbird singing close to its own recorded song was incredible to listen to and rewarded the somewhat painstaking and laborious development of the FTB installation, it was important

that a ‘no show’ was also a realistic possible outcome.

In the event of this, the distribution of the installation across interior and exterior spaces, and any background and foreground recordings that were able to be made, were intended to provide the main content. The foreground recordings, in this case, would be of more or less background ambient sounds which would still connect across the installation to the exterior; and the installation title ‘For the Birds’ would remain.

Influence of Maryanne Amacher

The distribution of FTB across a main room, a corridor, and through the window to an outside balcony space and outdoors, also partly reflected the influence of Amacher’s work; already discussed in relation to DB [66]. This described her alternative approach to both sound installation, and the individual playback of CD recordings, in which electronic sounds are physically and episodically distributed across different architectural spaces and times.

These produce, what Amacher depicts as, site-specific intensifications of affect, as sounds are interactively and reciprocally produced by listeners bodies; moving at both macro- and micro-levels in response to these. This intensive effect is most obviously drawn, within the context of FTB, by the triggering of the foreground birdsong recording which the real blackbird then sometimes interacted with and responded to.

Like in Amacher’s otoacoustic CD tracks, also, the effect is implicitly carried through into further locations and playbacks. ‘Blackbird II’ [67], the first of the two installation archive CD’s, for example, invites future interactions with other birds; whilst at the same time, through sounding generic, suggesting these are more widely available.

66 See pp.157-158.
67 CD ‘Blackbird II 05.06.08’ .

Installation set up: touchscreen and automation

FTB used a similar touchscreen interface to DB [68] which would allow the foreground recording to be triggered periodically by a user through the installation player application. The screen only had the foreground title and duration ('Blackbird IV 06.06.2011 2'49') visible on it, printed in the same 'Times New Roman' italic font as the main part of the application hidden behind the screen [69]. The greyed out text turned black when selected; reverting to grey at the end of the audio file. This also showed the remaining time of the audio file, so that any user would be aware of its duration.

The touchscreen interface was intended to highlight the active participation of any user in the FTB installation, as well as to subtly relate and conform to other experiences of individual recording playback elsewhere. It also reiterated the foreground status of 'Blackbird IV'. The interface was designed to be triggered only intermittently in order to avoid the continuous playback of loud or obtrusive recordings that might both disturb the other residents of the building [70] and unnecessarily provoke any bird.

Because the 2011 version of the FTB installation was significantly developed as a proposal in a private site, the foreground playbacks were in fact triggered remotely [71] using a timer. In this respect, the 2011 version of FTB represents an impossible, hyperreal environment which, through the use of automation, itself plays out purist tropes. As well as implying a pristine, untouched environment, reflected in the absence of any audience, this also produced the optimum conditions for encouraging a bird.

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68 See p. 273, fig. 24; DVD II: Max_files_IP_v2.2/v2.2.interactive_blackbird

69 See p. 273, figs 22-24.

70 Cf. Barrett 2005: 199.

71 Using Mac OS X 'Screen Sharing' feature that enables a computer's screen to be displayed on another computer in the same network. From Mac OS X v10.5 and later this also allows the programs on another computer to be accessed and operated (Apple Website 2013).

5. Installation II

Background and foreground

Although ‘For the Birds’ (FTB) was formally structured, like “Dense Boogie” (DB), around a background and foreground paradigm, this was not made so obvious in the later installation. In DB the foreground and background parts were stated on the touchscreen and wall texts, whereas in FTB only the foreground audio was referenced on the screen [72]. The low-level ambient recordings and *horspielstreifen*, and corridor rerecordings, which played intermittently or continuously in the background, were unmarked.

The largely functional structuring of FTB around background and foreground recordings was also, as in DB, enabled by the Max installation player [73]. The player provided both a technical and discursive clarity for the development and playback of an aggregate of sounds that might otherwise have been experienced as chaotic and difficult to organise (e.g. because many of the field recordings sounded similar).

At the same time, the different parts of FTB were intended to be developed distinctly: an isolated foreground bird recording, alongside background ambient and *horspielstreifen*. The blackbird recording, like the crickets recording in DB, was also meant to have a potential to be experienced, like many such recordings, as an individual, circumscribed playback. Although it was by no means intended that the recordings were perceived only in this way. Instead, FTB tried to reconcile the foreground and background recorded parts into the smooth space of the installation, which included real-world ambient and blackbird sounds.

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72 See p.273, fig. 24.

73 See p.275, fig. 26 and DVD II: For_the_Birds/Installation_Player_v2.2.

'Blackbird IV' [74]

The foreground blackbird recordings were produced from the window in the main installation room with a cardioid microphone pair [75] pointed towards, what was quickly established as, a blackbird song post close to the site. Depending on the weather, recordings were made from the balcony, or from just inside the window. The blackbird recordings were then diffused from the main stereo speaker pair [76].

After starting to produce and diffuse ambient field recordings from the site, a blackbird quickly arrived on the nearby tree [77]. Over the season, and the duration of the 2011 FTB installation, the blackbird repeated similar vocalisations (e.g. singing the same melody; responding in the same way to a delivery van); and regularly moved to specific song posts at similar times during the late afternoon and evening.

It has been observed that direct repetitions of complete songs occur only rarely in natural blackbird song, whereas certain motifs and sequences within these are usually sung by individual birds in the same fixed order (Hesler et al. 2011: 592, 594). In this respect the 'Blackbird IV' recordings, like the 'Blackbird II' recordings made previously, represent what I understand to be parts of, rather than, complete songs. In both cases, this was in order to achieve the most isolated bird recordings possible in such an environment.

Blackbirds produce variations in their song which also sometimes evidently mimic further individuals of the same and other species, as well as environmental and anthropogenic noises (Hall-Craggs 1984). This was most obviously (and ambiguously) demonstrated in FTB by the blackbird appearing to duet with the recording of itself [78]. Other field recordings recorded blackbirds responding to neighbouring and more distant blackbirds [79]; in what René van Peer has described as adaptive 'weaving patterns' of imitation, 'call and response' (1994: 3).

74 DVD I: Track 54.
75 X/Y configuration.
76 See p. 271, fig. 19; p. 272, fig. 21.
77 See p.276, fig. 27.
78 DVD I: Tracks 110, 121-124.
79 DVD I: Tracks 84, 89.

Leaving aside the further environmental contingencies, which were not inconsiderable, in terms of the blackbird’s own behaviour, it was relatively straightforward to produce recordings of birdsong. It was possible to predict the timing and almost precise location - to a number of branches [80] - of the bird; making my own practice more proficient. At the same time, the blackbird became less easily scared off, as the bird became accustomed to seeing and hearing the field recording activity and technologies (the microphone and the loudspeaker playbacks).

‘For the Birds’ CD

Alongside ‘Blackbird II’, a further CD, ‘For the Birds’ [81], was produced as an archival document of FTB. Both CDs were also intended to problematise the installation as a unique and site-specific event [82]; both by evidencing other and implying future productions of sound.

Although both ‘Blackbird II’ and ‘Blackbird IV’, to an extent, realise purist modes of recording, it was not possible to produce the final archival recordings of FTB in the same way [83]. Whilst these were also partly rerecordings (of the blackbird singing to its own recorded song) they distinctly failed to achieve the quality of reproduction evidenced in the rerecordings of ‘Blackbird II’ [84], for example. ‘For the Birds’, however, remains a compelling ‘lo-fi’ documentation of the event.

Background recordings

During the installation, an ambient surround sound recording [85] was simultaneously diffused with a blackbird recording (ultimately ‘Blackbird IV’ [86]

80 See p.276, fig. 27.
81 CD ‘For the Birds 25.06.11’ or DVD I: Track 110.
82 Cf. Amacher ‘s otoacoustic CDs pp.157-158, 160.
83 Partly because the aim to produce a dynamic balance between the real-world and recorded bird took precedence. I would hope to resolve this in a future version of the installation.
84 DVD I: Tracks 111, 112.
85 DVD I: Track 113.
86 DVD I: Track 54.

[87]) in the main room, together with a rerecording [88] of both in the corridor. The ‘foreground’ ambient recording was made using an ambisonic microphone positioned in the centre of the loudspeaker quad in the main room, with the windows open.

As the foreground blackbird and ambient recordings and rerecording ended, they were replaced with background recordings of stereo *horspielstreifen* [89] and a further ambisonic ambient recording in the main room [90] and, again, with a rerecording of both in the corridor [91]. These recordings were each made with the installation window closed and therefore were more low level, uneventful and neutral.

As in DB, the background recordings were crossfaded in and out between the instances of foreground recording; and were otherwise produced and played back continuously throughout the installation. Because ambient and *horspielstreifen* recordings have been substantially introduced in relation to DB [92], this chapter focuses on their site-specific, surround sound production and playback.

The background recordings in FTB had a similar potential as those in DB to be unheard or ignored. However, the much quieter rural location of the FTB installation, together with the number of loudspeakers, also allowed low level sounds, such as technological noises and nearly silent field recordings, to be more clearly heard.

Although the background recording playback was not otherwise marked within the installation, the loudspeaker quad and stereo loudspeakers in the corridor were both more visually striking and closely accessible. Multiple loudspeakers at head height also produced a more substantial level of background sound (than a stereo pair). This noise might still, however, be interpreted ambiguously as real-world or recorded equipment hiss (*horspielstreifen*).

87 Earlier versions: DVD I: Tracks 125-127.
88 DVD I: Tracks 114, 115.
89 DVD I: Track 116.
90 DVD I: Track 117.
91 DVD I: Track 115.
92 See pp. 128-137.

The same noise was also present, to a degree, in the foreground corridor rerecording [93] that was produced and diffused (although in stereo only) using the same technologies. The effect was more even in FTB, than in DB, because the same model of Genelec loudspeaker [94] was used in every part of the work. The sounds of technological production were, therefore, consistent throughout the installation; subliminally realising a persistent material sameness, a sense of surface production, and an equivalence between different instances of recording [95]; at the same time as connecting to real-world equipment sounds.

The surround sound and site-specific playback of the ambient foreground and background recordings also made these difficult, or impossible, to hear as discrete sonic events [96]. Instead, like environmental musics, these were intended to blend in with further recorded and real-world sounds so that there would be no distinctive differences between them.

Rerecordings of the main room ambient, *horpielstreifen* and birdsong recordings, made from the adjacent corridor [97], further amplified this effect. Each of these used an ambisonic microphone in the same close triangular configuration with the loudspeakers. Decoded background and foreground rerecordings were then diffused in stereo in the corridor together with the recordings in the main room. So that, for example, as 'Blackbird IV' [98] was diffused in the main room, a synced rerecording of it played in the corridor [99].

Repetition

As previously discussed, the different sonic productions in FTB (background ambient and *horspielstreifen* recordings; real-world and recorded birdsong) emerged from a broader practice of intermittently and repeatedly making and playing back field recordings in the same, or similar, places over an extensive period of time.

93 DVD I: Track 114.
94 Genelec 1029a.
95 Cf. Adorno on *horspielstreifen* p. 134.
96 See p. 212.
97 DVD I: Tracks 114, 115.
98 DVD I: Track 54.
99 DVD I: Track 114.

The field recordings produced an awareness of the seasonal and diurnal repetitions and differences of sound that happen across environments; and that organisms, like humans and birds, for example, both display. The periodic habits of local, sometimes individual birds, including the original blackbird behaviour that inspired FTB, was already well documented within these [100].

The mutual conditioning, of the bird and field recordist, through regular and repeated actions, might further be understood to correspond to, what Julian Henriques describes as, the sometimes obsessive development of rhythmic routines and behaviours over circadian and monthly periods (Henriques 2010: 77). These repetitions produce reciprocal build ups and intensities of attachment and affect, that, at the same time as making us ‘creatures of habit’, create, what Henriques understands as, a vibrant awareness and connection between different sonic events and milieus.

FTB was informed by combinations of both extrinsic and intrinsic, gradual, intermittent, and more frequent repeats; from which individual recordings were then incrementally developed. These repetitions included: the intensive making, remaking, and updating of background and foreground recordings throughout the duration of the installation; the repeated playback of recordings; the repeating song of the real-world blackbird (both on its own and in relation to ‘Blackbird IV’); the production of CDs; the reproduction of the original blackbird event (‘Blackbird II)’; the reuse of existing forms of bird and environmental background recordings and examples of sound installation and bird interaction.

Mimetic strategies

The repetition of recording in FTB was used to both practice, and achieve, the purist aims of the installation, whilst at the same time moving beyond the narrowness and exclusivity of any final field recordings, or essential sonic events, which were able to be produced.

A similar effect was also achieved through the use of mimetic recording strategies, already discussed in relation to DB. These also produced near

100 See p. 179, n. 16.

repeats, or close similarities, between different instances of sound (generic forms of bird, ambient and horspielstreifen recordings; recordings and rerecordings; site-specific recorded and real-world sounds).

Continuing attempts to chronologically track and, as far as possible, remain mimetically close to, contingent real-world sounds, produced a tangible sense of the absurdity and impossibility of any final representation of these; as events constantly changed and moved on. During the installation, field recordings that had started off as discernably accurate reproductions drifted into becoming largely inadequate ones [101].

At the same time, this release from a unique, site-specific representation enabled field recordings to sound more distinct and so connect to ‘canonical’ forms of recording (eg. birdsong recordings; ‘lowercase’). In this respect, the actual blackbird, by ‘duetting’ with a previously made recording of itself, partially arrested or nearly resolved this transitory effect (between recordings and real-world sounds) through repeatedly returning to the song post with the same or a similar song.

Henriques’ account, above, makes it possible to reconcile the mimetic and purist strategies of the installation, produced mainly through repetition, with the intensive production of affect that, he writes, emerges from such repetitions (2010: 77). Instead of ‘capturing’ and commodifying the blackbird song, along with the ambient background recordings, the FTB installation and recordings remained sensitive and alert to the minute changes and differences between sonic instances [102]. The multiplicity and transience of these also highlighted and invited further productions of sounds (e.g. from a field recordist or real-world bird).

101 Cf. Keightley 1996:152.
102 Cf. ‘Double resonance’, p. 49.

6. Smooth Space

Surround sound in ‘For the Birds’

The background ambient and *horspielstreifen* recordings, in the main room, and all of the rerecordings were produced, and also sometimes diffused, ambisonically in FTB. The use of ambisonics in both final installations emerged from a longer term practice of rerecording, as well as from an interest in a directionless, surround sound experience of field recording.

Surround sound technologies - especially those which attempt a virtual, isotropic sound like ambisonics - have often been depicted as an extension and teleological progression of earlier audio mono and stereo formats (Auner 2000). Within these discourses, recordings, as such, are formulated in terms of realism and ‘capture’; and surround sound is understood as closely reproducing original sounds in all-over, 3D hi-definition to simulate an immersive, total environment (Malham 2001). This surrogate environment is then associated with a relative, albeit limited, degree of haptic freedom within it.

In ambisonic recordings the effects of control and simulation continue into post-production. Recordings produced in ambisonic B-format (e.g. using a Soundfield microphone) remain flexibly open to spatial adjustment and decoding [103]. The direction and placement of the microphone can be virtually changed, from its original configuration, at any time after the point of recording using a software application [104]; and a B-format recording can either be decoded ambisonically (to a series of different loudspeaker arrays) or to another format,

103 Both versions of the Installation Player used the open source Max ambidec object from the ambilib collection; developed by David Malham and ported to Max by Matt Paradis (University of York Website 2013).

104 E.g. Ambisonic Studio B2X Plugin Suite for Max OSX (Courville 2007-2012) that was used here.

such as stereo.

In FTB, instead of using surround sound to produce a sense of virtual enclosure or stability (e.g. Tate Website 2013), it was used site-specifically to produce a tangible lack of differentiation between different recordings and between recorded and real-world sounds. In this way, the remarkable effects of simulation produced by such recording technologies was acknowledged, without then only depicting this in terms of a more thorough and advanced form of representation and capture.

Ambisonics were not used to subordinate, or subsume, recordings and real-world sounds into the installation as a whole, but rather to produce a mutuality and reciprocity between different instances of sound; and, what has been described in this thesis as, a smooth space.

This approach to ambisonics is elucidated in Andrew Murphie’s account of virtual reality technologies (VR) in the essay ‘Putting the virtual back into VR’ (2002). Within this, Murphie argues that the effect of total reproduction in VR technologies, however remarkable, is ‘absolutely secondary to considerations of the smooth and striated in the formations of virtual space’ (Murphie 2002: 205). He connects the mimetic (molecular and molar [105]) capacity of immersive VR, instead, to smooth space; in a different formulation of virtual reality which might also be applied to surround sound:

> ‘ . . . micro and macroperceptions can be reconfigured . . . in conceiving of virtual worlds not as enhanced representations in this way but as “smooth spaces”’. In this model . . . it is the haptic, the use of the whole body which becomes the more important, and more nomadic, means of negotiating the space.’ (2002: 204)

‘Smooth’ and ‘striated’ space

The concept of ‘smooth space’, developed by Deleuze and Guattari (D&G) in ‘A Thousand Plateaus’ (1988), has already been introduced in the first chapter,

105 D&G use this dyad of terms, in respect of perception, to distinguish the affective registering of infinitesimally small perceptions from those that are massed together or totalised in macro processes (Parr 2005: 171, 173).

‘Sonicinteractions’ [106]. It was linked there to Marshall Mcluhan’s concept of acoustic space and the tactile and haptic modes of reception that emerge together with both acoustic and smooth spaces.

The main features of acoustic space have already been outlined in SI, and I want to return now to further accounts of smooth space. Although it is relevant to both of the final sound installations, smooth space will be considered here significantly in relation to ‘For the Birds’ (FTB).

D&G situate ‘smooth space’ at the other end of a dialectical continuum, and in a constantly changing mixture, with ‘striated space’ (1988: 474). Both concepts are developed in Chapters 12 (‘1227: The treatise on nomadology - the war machine’) and 14 (1440: The smooth and the striated’) of ‘A Thousand Plateaus’. The distinctions between the two are introduced as follows:

> ‘ . . . the difference between a smooth (vectorial, projective or topological) space and a striated (metric) space: in the first case “space is occupied without being counted” and in the second case “space is counted in order to be occupied.” ’ (1988: 361-362)

Smooth spaces

Smooth spaces are related by D&G to amorphous ‘patchworks’ of discrete parts that are like ‘shred[s] of Euclidean space’ (1988: 485). Connections that are then made between these are contrasted to those produced by striated space. They are rhythmic, rather than metric; immediate, local, and tactile, rather than detached and assessed from a unique direction or distance; and continuously variable and heterogeneous, rather than static and homogeneous. D&G write:

> ‘Smooth space is precisely the space of the smallest deviation: therefore it has no homogeneity, except between infinitely proximate points, and the linking of proximities is effected independently of any determined path. It is a space of contact, of small tactile or manual actions of contact, rather than a visual space like Euclid’s striated space. Smooth space is a field without conduits or channels. A field, a heterogeneous smooth space, is wedded to a very particular type of multiplicity: nonmetric, acentered, rhizomatic multiplicities that

106 See pp. 58-60.

> occupy space without “counting” it and can “be explored only by legwork.” They do not meet the visual condition of being observable from a point in space external to them; an example of this is the system of sounds, or even of colors, as opposed to Euclidean space. ‘ (1988: 371)

D&G borrow the terms ‘smooth’ and ‘striated’ from the composer Pierre Boulez’s compositional vocabulary, who also conceptualised the two together in a reciprocal, interactive relation (1988: 477). Boulez used the terms to distinguish between the standardized and notated durations and tempos within music to those produced through improvisation, for example. Whereas striated time creates partitions within, and constancy throughout, a stable and limited structure, in smooth time unmeasurable, irregular, varying and uncontrollable partitionings are continuously immanently produced and accessed (Campbell 2010: 234-235).

‘ . . . the smoothest of smooth spaces’

In the translator’s foreword to ‘A Thousand Plateaus’, Brian Massumi writes that the nomadic mode of perception common to smooth space finds expression in many creative arts. Following D&G, Massumi notes that on a formal level, music, together with mathematics, is able to create ‘the smoothest of smooth spaces’ (1988: xiii).

The implications of this are later set out by D&G in Chapter 11: ‘1837: Of the Refrain’ where, citing John Cage’s work, they caution against any excessive or exclusive use of smooth space; arguing that a ‘plane of consistency’ can also be overdone (1988: 344). Such a space sometimes produces, what D&G understand to be, a chaotic, statistical scrambling which ends up either merely reproducing ‘sound effects’, or reterritoralising sounds too completely on existing sources of noise:

> ‘The claim that one is opening music to all events, all irruptions but one ends up reproducing a scrambling that prevents any event from happening. All one has left is a resonance chamber well on the way to forming a black hole. A material that is too rich remains too “territoralized: on noise sources, on the nature of the objects.’ (1988: 344)

This depicts smooth space in terms of a chaos of echoic reproductions which only repeat, or are reduced back to, existing forms rather than being able to produce genuinely new connections or events. D&G argue, instead, that the material must be deterritoralized enough in order to achieve a state of sonic molecularisation which then 'open[s] onto something cosmic' (1988: 344). At the same time, this relies on, what they understand to be, a degree of restraint and 'sobriety' in relation to a creatively limited selection of material. Otherwise what is achieved, through including too much, is what D&G describe as a 'vagueness beyond recognition' (1988: 551 n.55).

'For the Birds' and 'Smooth Space'

Although FTB played back a simultaneous complex of (partly random) recordings from whatever site-specific noises were happening, these were repeatedly recorded and updated during the installation in order to reproduce 'canonical' forms or genres of field recording [107].

FTB tried, in this respect, to avoid what D&G describe above by using mimetic strategies to produce a proliferation of recordings and a smooth space which, at the same time, 'dissolved' into and were 'resolved' upon (Marks 2002: 12) these purist and categorical forms of recording. At the same time, an engagement with sonorous material itself 'de-frames' such canons (Murphy & Smith 2001: 4), which now become related, instead, to outside 'forces' [108].

The installation, in this way, attempted to produce a smooth space without it then becoming: either an aestheticised 'chaos' of sound productions; a work which was reducible to a mere function of probability; or alternatively one which performed only echoic repetitions of different sources of sound; whether these were real-world sounds or existing recordings and genres of recording. The title of the installation, 'For the Birds', after John Cage, also alluded to this [109].

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107 Also 'background' and 'foreground' categories of sounds.

108 Timothy S. Murphy and Daniel W. Smith describe canons of music as organised in terms of striated and spatial-temporal structures of architecture and enclosure that are 'de-framed' through an engagement with sonorous material itself. (Murphy & Smith 2001: 4).

109 John Cage explains the title "For the Birds' in the introduction to the same book : 'I am for the birds, not for the cages in which people sometimes place them ' (Cage 1981:11).

7. Conclusion

‘For the Birds’ attempted to remain open to environmental contingencies whilst carefully stipulating the different parts of the installation at the outset. This provided a structure which produced precise articulations of recording at the same time as relating these to real-world site-specific sounds.

Whilst reasonably purist instances of recording were produced in the installation space, the noises that were excluded from these - wind, other technological and anthropogenic noises, other birds and so on - could be simultaneously heard. This was most strikingly evident in the blackbird singing against its own recorded song.

Their placement and repetition enabled the FTB recordings to be conceived of as transitory realisations drawn immanently from the site rather than more definitively. In this respect, purist field recordings are restated within the installation as an (albeit elusive) potential, rather than only a falsehood.

Like in the further accounts of bird recording above, although the work of FTB was quite considerable, this effort itself was not intended to be obvious, either in the recordings themselves or within the installation. However, this work was not then only proposed to be inversely registered in terms of an even more masterful absence and ‘sleight of hand’ (Bolter & Grusin 1995: 25).

Instead, the ways in which the installation recordings related to further extrinsic sonic events became their predominant and most compelling effect. These also challenged normalized hierarchies of sound by inviting critical comparisons of real-world and recorded sounds together (e.g. which were then potentially indistinguishable or, in the case of the blackbird recordings, produced interactions).

This extrinsic concern makes the FTB recordings seem distinct from Francisco López’s above. Yet because of the conflations of recorded and real-world sounds in the installation, the installation could also be understood as following through the proposal that López makes above in respect of natural and technological sounds, by siting this lack of differentiation at the point of diffusion as well. At the same time, this indistinction draws attention away from the original circumstances of any field recording, which seem more or less irrelevant, towards more environmental, tactile experiences of these, ‘on the ground’.

As in López’s account, pre-existing categorical delineations between different sounds also become unimportant. But the blend of site-specific sounds and recordings in FTB do not invite the absolute production or reception of sounds in the same way. Instead of reflecting more intense, exclusive subjectivities, these produce a drifting reception across recordings and real-world. Whereas López defines music at precisely this point of maximum subjectivity, FTB understands it, following Dunn and D&G, in terms of an opening up to, and interaction with, other ‘cosmic’ events.

As well as highlighting non-human productions of sounds, FTB also revealed effects of mediated sounds and technologies on these further organisms. This was partly expressed through the blackbird’s direct response to a sound recording which then brought attention to and implicated the environmental, ‘polluting’ effect of any mediated sound. The bird’s ability to sing along with and conform to an earlier song, similarly, challenged human-centred conceptions of music and technological reproduction.

The real-world blackbird, by adapting to and repeating the recording, also uncannily disrupted a conception of recordings as stable representations, or as only monologous, circumscribed forms [110]. At the same time, the blackbird’s repeated interaction demonstrably undermined any conception of field recording as predicated on only specialised or ‘peopled’ decisions (Van Peer; Dauby; López). Its site-specific duetting also resisted the installation recordings being only commodified further in terms of superior forms of capture; whether as hyperreal simulations or lures.

110 ‘The performance sounds like its own phonograph record’ (Hamilton 2003: 348).

Like other smooth spaces, FTB was constructed out of immediate symptoms and events in relation to local goals and points that were themselves transitory and variable. This also connects to Dunn’s account of composition, which he describes in terms of a complex reciprocity that emerges immanently during the production of field recordings. This approach might also be understood as a pragmatic response to field recording which, as stressed above, is subject to many environmental and other interferences.

FTB also avoided reinscribing any individual source of sound or agency (whether blackbird, field recordist, listener, or earlier recording) as the only, or dominant, part of its production. The installation realised, instead, an ongoing production of a multiplicity of sound productions. These sonic productions were not predicated on any one activity or position of production or reception, but rather they emerged from and joined into an already happening flux of sounds; but without then channelling these into permanent monologues of sound; or choking these off, in, what Michael Taussig describes as, the ‘“banking” mode of perception’ (1993: 99).

Canonical field recording and sound installation

The background and foreground recordings in FTB were intended to be experienced both blended together into the site-specific environment and more distinctively as repeated or ‘canonical’ forms. ‘Blackbird IV’, for example, relates to further recordings of isolated birds. The background recordings might similarly be connected to ‘lowercase’ genres of field recording; as well as to particular listening modes. (The structuring of FTB also reflects existing examples of sound installation and bird interaction).

Like the pervasive *horspielstreifen* recordings that Adorno relates to a subliminal awareness of production, generic recordings like birdsong can also be subtly consciously experienced as produced objects. Part of what an incessant proliferation of such recordings does, according to Jacques Rancière, is to situate and animate such recordings as ‘images’, rather than as copies. Within this, an infinite repository of existing, commonly shared sounds (and other

media) are evidently available to be repeatedly recombined and reprocessed (Rancière 2002: 128). At the same time, their ‘equalisation’ and repetition also produces, what Rancière understands as, a lack of distinction that can be expressed, following D&G, in molecular terms (2002: 128).

Molecular

D&G relate the ‘proper’ content of music to its capacity to exceed ‘molar’, categorical or representational thresholds, writing that music tends to:

> ‘ . . . become progressively more molecular in a kind of cosmic lapping through which the inaudible makes itself heard and the imperceptible appears as such: no longer the songbird, but the sound molecule’ (D&G 1988: 248)

This lapping is described by Marianne Kielian-Gilbert, writing on D&G’s account of birdsong and the refrain, as a transformation from the limits of repetition and recognition to affective, tactile encounters in which the real-world bird, through its song:

> ‘ . . . activates a morphing border between stylized and literal/”real”. The performative activation approaches the “real” or “literal” by creating an excess or surpassing of the “stylized” as “constructed.” (2010: 213)

FTB attempted to approach a similar effect, by situating recognizably ‘stylized’ birdsong (and background recordings), together with mimetic and environmental methodologies site-specifically. These became blended together or exceeded; for example, as the real-world blackbird picked out and reiterated its own recorded song.

D&G claim that through their continuous production and variation, birdsong and music (and I have included field recordings here [111]), are able to realise ‘infra-conceptual’, liminal relations. In this way, they become a part of, and

111 Following the examples D&G give of electronic music (e.g. 1988: 308).

work on the level, of molecular interaction rather than only representation [112].

Such sonic productions then reveal a multiplicity of other sonorous and non-sonorous forces and interactions – ‘animal, vegetable, mineral’– which, as Eric Prieto explains, ‘help[s] . . . us to understand how from the interstellar to the sub-atomic level, everything is in touch with everything else.’ (2005: 10).

112 ‘When we are concerned with understanding bird-song on the molecular level, what counts is not the bird or the song (i.e. the molar units which are thought of as indivisible) but bird molecules and sound molecules, which can be shown to function in ways that are independent from conceptual units like ‘bird’ or ‘song’. It is clear, for example, that the sound molecules which make up bird song interact in accordance with laws that exist on numerous planes, including (to name only a few of a potentially infinite number) the laws of acoustics and of natural selection, and the various neurological and physiological laws that govern the production and reception of sound.’ (Prieto 2005: 11). See also Bogue 2004: 98-99.

CONCLUSION

The final chapter discusses how the thesis influenced my own field recording practice and conceptions of recorded sound, while considering how the projects might have been approached differently. I also reflect on field recordings and their playback more widely. The effects of the projects' development, siting and research on my initial conceptions of sound installation and site-specificity are discussed, before describing how these changed. After considering the theoretical approach of the thesis, I discuss how the research on environmental musics provided different constructs of both mass playbacks and field recordings that start to address the original concerns of the thesis. The projects are finally related to forms of new age music that also suggest future directions for works.

Field recording

Changing methods of production

The practice might have benefited from a more focused theoretical appraisal of my approach to field recording production at an earlier stage, rather than introducing this only in terms of randomness and contingency, as I do at the start. Instead, I continued to use random techniques developed previously to produce numbers of field recordings. As well as sometimes evolving into individual projects, this also clarified certain methodologies and improved recording techniques.

As these became more fully developed, it seemed less necessary to continue with this approach. At the same time, it was logistically difficult to produce so many random recordings, as well as to focus on individual projects. Technical issues in respect of programming also absorbed a great deal of time. Despite my attempts to situate such field recordings in terms of feeds of sound, in

practice they required significantly more work than these imply. This both constrained their contingent production during the thesis, more than I would have liked, and allowed less time to explore their broader context (e.g. in terms of further practices).

Although elements of automation were kept, mainly during playback, the projects became gradually less reliant on automated field recording production for its own sake, as I explored less probabilistic approaches. This is reflected, in “Dense Boogie”, for example, in the selection of the foreground recording and the small number of field recordings finally diffused. In this way, rather than core methodologies, randomness and automation gradually became part of a range of techniques to produce and organise recordings and their playback.

Alternative constructions

A move away from automation also gave me the space to introduce a number of alternative constructs of field recording production across the dissertation. This became characterised, instead, in terms of mainly passive (idle or yielding), rhythmic or intensive interactions that emerged immanently in relation to environments. Although these different accounts were only briefly developed in relation to individual projects, they clarified and corroborated aspects of my own practice. The gradual development of different recording methodologies and projects from a range of influences also evidenced similar approaches.

Different characterisations of recording also proposed formulations of field recording that contrasted expert, perspectival accounts. In this respect, they emphasised the conditions of production as another vital aspect of field recording without then insisting on this being only monologous or representational and only drawn from a predetermined single ‘reality’. They also addressed the thesis’ concern with ‘feeds’ or masses of environmental sound that, rather than producing total simulations or enclosure, are fragmented by different modes of reception.

Other voices; multiple voices

Although the overproduction of field recordings was sometimes directly

relevant to a project, it became clear, over the course of the thesis, that it was not always necessary to explicitly or personally perform this. Their random production had initially been intended to avoid commodifying either real-world or recorded sounds during production or playback; and to detach them from any unique or sustained sonic perspective; as well as to model certain aspects of environmental recorded noise.

A continuing preoccupation with sonic productions beyond my own also gradually confirmed this. These both clarified my own approach to field recording, in relation to a range of further practices and voices, and marked a more fundamental shift in interest from any one individual or autonomous voice or site of production [1]. At the same time, these also expressed the emergence of my own work in relation to a persistent situation of anthropogenic environmental noise.

Mimetic and appropriative, rather than random, methodologies also produced credible alternative paradigms of field recording than those only predicated on unique posture or place. These provided approaches towards shared and multiple, rather than individual, practices to develop my own approach; that was already implied by the globally shared content (and methodologies) of many field recordings [2].

The later projects produced categorical and generic examples of field recording that were, at the same time, very personally or locally realised. However, rather than highlighting my individual production or any essential site-specifities, these became demonstrably insignificant or lost in the face of further simulacral, multiple and non-human environmental productions of sound. Audience responses also confirmed this.

Such field recordings, therefore, seemed most capable of anonymously promoting a range of natural and technological sounds, rather than only treating these autonomously or relating them to specific individuals or places [3].

1 Cf. arguments against single species' recording (pp.189-194).

2 See also D&G's concept of participatory 'minor' cultures in which no single figure dominates; defined in relation to music as: 'the extent to which [music] moves beyond the positions of individual subjects or persons towards collective utterance or enunciation.' (Parr 2005: 170).

3 See also Wollscheid 1999: 7.

(I tested this in attempts to produce purist and generic recordings). In this respect, as well as simulacral images, field recordings acted like 'citations of reality' [4]; that also implied equivalences between different productions of mediated and real-world sounds, like the mimetic strategies described below.

However, the apparent absence of the field recordist from such recordings did not then make objective documentations of 'reality', as purist practices claim. Instead, I observed the variability and undecideability of such effects: my own and further anthropogenic noises both encouraged and discouraged other non-human sounds and vice versa; these could not be finally pulled apart or stopped during reception. In this respect, I understood such field recordings to be more like the complex products of interactions or acousmatic 'broad band' approaches to sound, that David Dunn and Francisco López describe, but that then always continue to be produced in relation to real-world playback environments.

Playback

As the field recording content became increasingly mimetic and generic, its focus also moved more decisively towards its vitally changeable, variable potential during playback. In this way, the thesis recordings performed, what I understand to be, the capacity of any field recording to encourage a checking, haptic reception across both recording and real-world, that describes, at the very least, the beginning of, 'joining in' and participation. Rather than the only abstract, autonomous effect that Joanna Demers (2009:40), for example, describes after long durations of uneventful field recording, this tangibly relates field recordings to both site-specific and further real-world and recorded environmental sounds.

Projects

Although, in the introduction, I specifically relate my work to field recording practices rather than to sound art, one of the main aims, outlined there, was to situate numbers of field recordings together in a sound installation. In retrospect, this contradiction immediately set out the spatial problematics of

4 See pp.104; 155, n.108;

the thesis. As described at the start, I had imagined such a work in largely visual terms: as some sort of, albeit large, a priori, extensive site-specific enclosure where field recordings might be straightforwardly produced and played back. At the same time, through experiences of producing and listening to field recordings, I was also concerned not to limit, what I understood to be, their ongoing productive potential by restricting these to any one immersive form, theme or monologue of representation.

First projects

The two earlier projects, to an extent, anticipated the final installation works while continuing to significantly use the random methodologies previously developed. The latter also informed a shared parametric approach to field recording, also influenced by programming techniques, that treated different sound productions, receptions and sites discretely (whether this was related to a project as a whole or to individual recordings).

Contrary to both disciplinary and control accounts of recorded sounds, these produced appropriations and conflations of sounds, rather than distinctive categories, that, the research and practice together implied, remained immanently open and productive. This influenced a less evidently numerical and performance related approach towards productivity in the later works; that also contradicted more demanding, totalising accounts of control.

Although a range of different approaches has been important, in hindsight it might have been beneficial to introduce the earlier thesis projects more briefly, in order to mainly focus on the final two works in the dissertation. While the first projects highlighted distinctive aspects of my work, to a certain extent similar methodologies and issues might also have been addressed in relation to the later projects. Apart from the fact that “Dense Boogie” and ‘For the Birds’ were the most challenging projects to produce, their complex development brought up a range of practical and theoretical issues that would have benefited from a closer appraisal (e.g. the role of programming in my work). On the other hand, a more critical and methodological, rather than informal, approach towards a larger number of projects would have tested the relevance of their siting and timing more widely.

Final installations

Both final installations were initially conceived of as capable of producing a site-specific staging of a schizophonic recorded sound; that would blend background and foreground recordings and real-world sounds smoothly together. I anticipated a largely aesthetic effect: where distinct categories of sound would remain hearable as such, but now experienced ‘over there’, non-hierarchically mixed together.

Although this was perhaps partly achievable in the first project, because of its disciplinary setting, the final installation works produced far more evasive and discontinuous experiences of sounds. They also formed quite complex models of environmental recorded sound that were then able to be compared to the accounts of smooth spaces previously introduced.

As I worked on the projects, it became clear that what was produced was a much less stable realisation of either recordings or location, than originally anticipated. This was reflected across both the production and reception of the final installations.

Subjectivities

In this way, the projects practically tested the loss of subjectivity that acoustic ecology, for example, finds in relation to mass schizophonic and technological productions of sound. In terms of both final installations, an effacement of individual field recording production produced ‘patchy’ and outwards orientated receptions (towards further mediated sounds and other voices), rather than an only intrinsic focus or fatal withdrawal into simulation.

An unfocused, uncertain or reduced sense of subjectivity was also reflected during the projects’ development. Mimetic strategies made it difficult to confidently make or review individual field recordings, or to conclusively finish an installation. Markedly individual decisions were largely irrelevant or even detrimental to the production of mimetic recordings and appropriations. Although I worked on achieving accurate rerecordings, for example, existing solutions would have been welcome. Other people, and places, as the works

themselves continually suggest, would also be capable of producing similar works. At the same time, my own 'legwork' and repeated close assessments were crucial to their development.

Categorical distinctions

The projects also problematised categorical distinctions between sounds more generally. Experiences of producing field recordings, that were both contingently made and then unstable during reception, reflected schizophonic and simulacral depictions of recording as independent from any one form of representation. Non-hierarchical equivalences between natural and technological productions of sound, that simulacral depictions of recordings imply, were also directly tested and explored. Mimetic recording strategies produced field recordings that were certainly indistinguishable from real-world and further recorded sounds. At the same time, because there was no outside position from which to finally assess these, as discourses on smooth spaces describe, they also avoided being experienced in terms of total simulation [5].

Instead of only optimising an immersive totality, as certain environmental music discourses claim, the relationship between the foreground and background recordings in my work also facilitated an approach that focused, however minimally or obliquely, on the productivity of sound. These both audibly and referentially related many different sounds to further sonic productions (e.g. recording playbacks as such; generic examples; site-specific and further environmental noises of production).

More than one format

At the start of the projects, it was difficult to conceive of how to present field recordings in a more relational, less autonomous way without either resorting to long compilations of field recordings or to producing discretely site-specific sound installations. However, rather than any one physical location, the extrinsic parts of each installation (including recording methodologies, programming, proposals, titles, citations, artefacts, further environmental sounds) provided

5 In this respect, the thesis proposes a Deleuzean rather than Baudrillardian model of simulation: in which the world is made up of - rather than obscured or replaced by - simulacra; that are independently productive, rather than representational. (See Parr 2005: 250-251).

subtle, sometimes transient frameworks for the audio. These loosely supported the diffusion of field recordings and opened these out to further works, media and real-world events without producing any sense of final or total containment.

It has subsequently seemed less important to rely on any one form of presentation or physical context but instead to select or respond to these in a more experimental and methodological way, as a further immanent and productive aspect of any proposed work. To this end, I have become interested in more vague and unconventional settings; episodic, timed and distributed works (e.g. across different platforms).

Sites

Generic

It also became clear, over the course of the thesis, that I was more concerned with playback locations as functional or generic playback sites, rather than in any exclusive or essential site-specificities [6]. Even where site-specificity seemed crucial to a project, this became in some way despecialised or promoted as more widely available during development (e.g. in terms of further disciplinary architectures; by repeating aspects of installations or sites; by linking these to domestic experiences of listening and sound production).

The use of random, appropriative and mimetic recording methodologies and generic field recording content also each implied the production of spaces that were both locally particular and transferable to anywhere. In this way, they also evidenced the paradoxes of stillness and movement, singularity and collectivity described in haptic and nomadic approaches to reception across the thesis.

This conception of sound installation is further clarified by Will Schrimshaw (2012) who links generic spaces to new conceptualisations of site-specifiity [7] in relation to certain phonographic practices [8]. Within these, he argues, field

6 Cf. definitions of sound installations as untransferable, or distinct from other experiences of recordings. E.g. Minard 1996: 13; Schaefer 2001: 71.

7 After Kwon 2004.

8 Including Francisco López's.

recordings no longer only represent or affirm stable, original or unique locations but rather are able to realise these sites as mobile and transient themselves.

Schrimshaw describes the way in which field recordings that focus on ubiquitous and generic sounds ceaselessly draw sounds liminally and schizophonically from 'the spaces between the specific, generic and general' to create new spatialities [9]. He further understands the persistent lo-fi environment produced by background anthropogenic noise, partly as I also attempt to do [10], as precisely providing a means with which to move away from any focus on discrete sonic identification and categorisation [11].

Placelessness

This also realises, what I understand to be, the vital placelessness and transitoriness of field recordings; without then depicting this as a deficiency in respect of sound art, for example. Different theorists have also problematized field recordings, as such, as being resistant to becoming fully part of sound art, through their inherent mobility and lack of actual site-specificity (Demers 2009: 43) [12]. At the same time, Joanna Demers, for example, only confines these to representations of location or to abstract expressions of individuals (2009: 40; 2010: 168). Field recordings have been understood here, instead, as crucially eluding any such straightforward or autonomous definitions; whether in terms of an individual production (in respect of person or place); genre or category of sound; or single disciplinary context [13].

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9 Cf. ' . . . on one hand such [site-specific] works create test-cases in which the work as a catalyst interferes with the context and can, eventually, de-compose the contextual opacity. On the other hand the work itself is de-exemplified – not being exposed as one element of the class of ARTWORKS it may gain influence the fringe between the actual, the practical and the symbolic' (Wollscheid in LaBelle & Roden 1999: 9).

10 See pp. 63-66.

11 'The shift from objects to matter distances practices of nature recording based upon the audible representation of place, individual species or bodies from those aiming to uncover the generative capacity and ambiguous creativity of generalised sonic events'. (Schrimshaw 2012).

12 'transportable works can be sound art (particularly if we take self-description as a useful marker), if they are headphone pieces that 'guide' you around a town aurally . . .or maybe set up an environment, through site-specific sound recordings, other than the one you are in . . . even if only listening on headphones in the gallery. A CD of sound art that gets played at home seems less fully part of sound art – despite the growth of field recordings, ambiences, and recordings of installations. (Hegarty quoted in Demers 2009: 43).

13 See Cusack 2006.

Approach to theory

The theoretical methodologies of the dissertation somewhat reflected the practical development of the projects: a wide range of discourses were gradually associated together, that were either directly related to an individual project or more generally relevant to the persistent concerns of the thesis. The relevance of these was mainly implied through their critical proximity and context; rather than through any final resolution in relation to my own work. It would have been useful, therefore, to have either explicitly stated this at the start, or to have integrated the projects further.

This also meant that texts and further compositions were reproduced in the dissertation in such a way that they remained largely undisturbed by my own practice. To a certain extent, this evidenced a reluctance to misrepresent or obscure these, while also positioning or problematising them together with my own work; reflecting approaches towards both tactile connectivity and audio appropriation across the projects. This perhaps produced an undue emphasis on certain works and philosophical and critical texts that was disproportionate to the thesis as a whole. On the other hand, these also traced a critical background of alternative constructions of mass mediated sound and reception that has not previously been significantly related to field recording.

Much of the research, therefore, was used to reflect on my own work and to both focus this and situate it more widely, rather than to directly analyse parts of the practice or final projects. At the same time, this provided both theoretical and practical constructs for the projects that either directly suggested, encouraged or progressed further practice and theory. Specific discourses frequently influenced or inspired final selections of audio and other project details. They were also sometimes directly cited within projects - in “Dense Boogie”, most obviously; pointing to a certain reciprocity. In this respect, theoretical research both affected individual projects and the course of the thesis.

Deleuze and Guattari

The work of Deleuze and Guattari, especially, provided key constructs that supported, enriched and significantly progressed my own thinking in relation

to both field recording and environmental noise. Its insistence on the multiple and local potential of haptic, smooth, sonic spaces - by whomever and whatever, and however small - was crucially influential; without, at the same time, ignoring the disturbing prospect of coercive and total implementations of these.

Descriptions of smooth spaces in terms of sounds, such as wind, birds and insects, as well as resonating effortlessly with my own and other field recording practices, emphasised such sonic productions as common and shared amongst humans, organisms and things. At the same time, an insistence on the singularity and capacity of these to produce connections - outside of only categorical representations - across recordings and real-world sounds and events was inspiring.

Articulations of multiple, ‘minor’ productions of sound and alternative formulations of composition and reception approached and informed my own experiences of field recording; while also suggesting the potential of mass recording playbacks and environmental musics, against dominant paradigms of either. A siting of sonic production apart from either classical forms of representation or probabilistic chaoses was also critical in negotiating this difficult aspect of my work. This further suggested the complexities and ‘manoeuvring’ required to produce sound works that avoid being immediately co-opted or absorbed into prevailing models; that each of thesis projects, in different ways, attempts.

Research on environmental musics

The research on environmental musics generated useful methodologies that directly influenced aspects of my own work, especially in the last two projects. Their focus on neutral content, appropriation and background and foreground playback was decisive in developing my own approach; enabling me to realise my own field recordings both more formally and extensively.

Discourses drawn from and around environmental musics produced a range of constructs that helped me to locate field recordings in simulacral terms of playback; at the same time as understanding such recordings as capable of

connecting to further individuals, organisms and environments. An emphasis on particular constructions of space and subjectivity, particularly in negative criticisms of environmental musics, also encouraged me to explore alternative paradigms in order to counter these.

Within these, characterisations of mass recording playbacks as a continuation of functional environmental musics provided a crucial perspective from which to approach the former. Other constructions of global environmental musics and noise, in terms of distinctive forms of reception and spatiality, were supported by field recording methodologies that focused on the materialities of environmental recording playbacks.

To an extent, the projects themselves also reflected the alternative conceptions of space and subjectivity explored throughout the thesis. In Sonicinteractions, any distinctions between audiences, composers and sites were already compromised by environmental depictions of recording and haptic receptions. Subsequent projects expanded on these, as well as introducing selected constructions of space and agency drawn from individual field recordists' and composers' works, and from environmental musics.

Rather than resolving or distilling these, the projects were developed and intended to be (as discussed above, not necessarily entirely comfortably or evidently) situated in relation and response to such further works, rather than only autonomously. For example, the foreground audio in "Dense Boogie" was related to a range of purist, acousmatic, mimetic, appropriative and generic sound practices; that were then either highlighted or obliquely suggested in the audio, or extrasonically.

Mass playbacks

There was also a persistent concern, across the thesis, to implicate field recordings, both directly and indirectly, to shared experiences of other sonic productions 'at home'. Alternative conceptions of sound composition were introduced that either linked this to everyday, haptic receptions, or understood it in terms of random, passive or domestic approaches, that typically involved the playback of recordings.

Discourses that related everyday recording playbacks to composition, rather than reception, also produced more positive formulations of individual and mass domestic playback. Alongside these, examples of field recording and composition production that were themselves despecialised in some way, as described above, provided a range of alternatives to representational approaches.

Mimetic strategies also corroborated these; both procedurally and by decategorising sounds more fundamentally. These expanded on the different conflations (e.g. between composer and listener; home and work) that were introduced in relation to environmental recordings at the start; and reflected in the development of the projects themselves. Mimetic recordings produced across the thesis encouraged distracted, haptic receptions that, at the same time, made tangible contacts between different categories of things; that were then individually difficult to discern. These were more like habitual, mundane experiences of environmental sounds that, at the same time, realised vital, viable alternatives to exclusive, visual models of reception.

New Age

Towards the end of the thesis, certain critical discourses on New Age musics seemed to provide a more convincing model for my own interests and practice than other accounts of environmental music; given their positive focus on vague, neutral and generic content and particular tropes; as well as suggesting new directions for my work.

Echoes and reverberations, the sound of crickets, a blackbird singing with a recording: each invite comparisons to broadly 'new age' trends in environmental musics [14]. These often (tritely) reference 'ancient' spaces, such as caves for example, and use nature recordings, frequently together with instrumental sounds, to produce relaxation and meditation tracks (Zrzavy 1990; Hall 1994: 15; LeGuin 1994: 5; Hibbett 2010: 290). Although David Dunn, for example, has understood new age nature recordings in terms of 'uneasy', 'unsuccessful' attempts at the commodification of nature or listening (Blackburn & Dunn 2004:

14 See Birosik 1989; Werkhoven 1998, for examples.

c.15:10) [15] [16], I don't want to make this distinction here.

Whilst a significant part of their content is distinct, new age musics have also been characterised by their use of environmental sounds (Zrzavy 1990: 37; Hibbett 2010: 285, 291); and certain discourses around these suggest approaches that also seem relevant to the field recordings produced here [17]. Dennis Hall, for example, describes new age as typically:

> ' . . . marked by minute variations and an abundance of repeats. This music is all middle; it starts and stops, it is turned on and off, but one does not get a distinct sense of beginnings and endings.' (1994: 14)

Hall focuses on new age's marginal, 'constantly shifting', appropriative, liminal effects and its ability to confuse distinctions and blur boundaries (1994: 14) [18] [19]. As well as to produce particular spaces that are at once popular and resist being further organised or 'acquiring associations'; in terms of an individual producer, for example (1994:15; also Zrzravy 1990: 35; Hibbett 2010: 288). New age music soundscapes, Hall argues, function vitally; both as refuges that are set apart from the world, and as places which - by 'promot[ing] transformations from one condition to another' (1994:19) – habituate listeners to the postmodern situation [20].

The way in which generic, vague or neutral content can inform such effects is elaborated by Elisabeth LeGuin in an essay on background and new age environmental musics. LeGuin describes their lack of focus, blandness and neutrality as the means by which distracted, 'magpie' listeners, at home, can ultimately recover and develop important (non-directed, unspecified, 'unmarked') personal spaces (LeGuin 1994: 6-7). Such undemanding musics

15 Also Dunn 1999-3: 27-28.

16 Also Montgomery 2009-2: 149, 157. Cf. Morton 2007: 112.

17 Also: 'The sounds and sensations produced by classic ambient often inspire an entire world view, a greater awareness of one's surroundings (and the natural environment--inherently part of ambient's aesthetic), and a heightened curiosity about the minutiae of everyday living.' (Hyperreal 2001).

18 After the anthropologist Victor W. Turner.

19 Both in terms of its content and typical playback times e.g. in the evening and weekends: times that imply transitions from urban to rural, public to private etc. (Hall 1994: 18-20).

20 Cf. Walter Benjamin p. 55-56.

provide, what LeGuin understands to be, an affective release from 'the necessity of having to focus, make connections, and interact' (LeGuin 1994: 6).

Such characterisations of environmental musics also resonate with an extended assessment of ambient, by the group Ultrared, as retaining something of 'avant-garde' resistant practices, whilst side-stepping resistance as such by 'playing dead' within a 'mass culture industry' (Ultrared 1997-2: 5; cf. Suchin 2005). This potential, they continue, is produced in part by ambient's production of alternate spaces; made palpably evident in its use of field recordings that make, what Ultrared describe in terms of, local, vital connections to the everyday [21].

These concluding images of environmental musics reiterate and expand what I have understood in the thesis: that field recordings are able to produce involving new spatialities out of shared and mundanely available sounds; that can then promote attentiveness to, and participation in, the minute particularities and possibilities of production; rather than closing these off. They also suggest how neutral, repetitive or redundant works might, at the same time as obscurely raising such potentials, release any necessary obligation towards conforming to such works themselves.

The spatial constriction and environmental degradation related, at the start, to mass environmental musics and playbacks, and the concern that field recording might only be contributing towards this, was also, at least partly, gradually resolved in terms of multiple and mutual productions and potentialities of technological and natural, human and non-human sounds that remain receptive and susceptible to one another. In this respect, 'For the Birds' signalled a significant new direction for my work. Such works also make it seem, at the very least, uncomfortable and untimely to use field recordings - that until recently have largely resisted being arranged around individual voices or perspectives [22] - to only 'mark off' everyday noises or locations, by signing these or treating them as a resource.

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21 'You've been orbed if you're sitting in a room and you get up to look out the window and you suddenly realize that it was coming from the record'. (Alex Paterson of The Orb, in Ultrared 1997-2: 5).

22 See Cusack 2006

Future Projects

Since finishing the thesis projects, I have started to research a number of areas that were only introduced or touched upon in them. For example, the connections made between cave sounds and recordings, in the earlier part of the dissertation, also brought up accounts of field recording in terms of a return to archaic modes of reception that would be interesting to explore [23].

These further suggested a shared recorded and real-world 'mineral' materiality that has also partly inspired my growing interest in technologies such as contact microphones, hydrophones, ultrasound transducers and sensors. Field recordings using such technologies are becoming more straightforward and viable to produce; both in terms of equipment cost and shared knowledge of recording processes. An increasing number of ultrasound recordings of plants and organisms, for example, have recently been released [24]. I would like to respond to such works both practically, by producing recordings of my own, at the same time as relating these more overtly to new age tropes and popular modes of reception.

This would build on the thesis' concerns with unhearable, 'everywhere and nowhere' recorded and real-world sounds, and non-human productions of sound. Such technologies move everyday field recording towards actual and tangible smooth, molecular practices; as well as explicitly performing its immanently productive and 'space-making' potential for anyone to hear. This seems interesting.

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23 David Dunn, for example, relates soundscape recordings and audio technologies to a return to, and recovery of, archaic modes of real-world reception (e.g. Dunn & Lampert 1989; Dunn 2001-2: 7; Blackburn & Dunn 2004). These further produce, what Dunn understands, in relation to works such as 'Mimus Polyglottus', as strategies of conservation of, and adaptation to, earlier and other modes of perception (1989: 104). For example by 'elevating human hearing to the sensitivity of other organisms' (Blackburn & Dunn 2004: c. 19:40). In this respect, technologies are understood as facilitating a necessary and meaningful, rather than only an aesthetic or virtual, return to 'environmental hearing' that is based on urgent need (Dunn & Blackburn 2004: c.11:10); and that is relevant to human environmental survival (Dunn 2001-2: 7).

24 Examples include works by David Dunn; Lee Patterson; Michael Prime.

Soft Machine[1] *Notes on Max/msp*

1. Introduction

The idea of producing a piece of work which frames any sound brought into relationship with it rather than creating a seperate, definitive, subsequent sound-object (although this might be a part of it). A soft machine[1] recorder/player interface (shell) where thoughts, sounds and machine are organised at once by a hybrid of programmer/composer/operator/listener[2] from the most basic mental/digital level.

And conceiving of this as an amplification of and "articulation of the natural " [3] (the uncertain, the unrepeatable, the continuous and so on) by means of the digital and the mechanical in the actions and experiences of a listener who distinguishes and frames sounds in her head or turns a recording on and off and regulates it against any ambient sounds.

Imagining an unsettled listening (to the point of annoyance or difficulty) where by straining after sounds or losing them or finding them too loud, where by attention or inattention, thought and (machine) sound is no longer experienced at perfect (machine) distance.

2. Max patches

Thinking of a Max program patch as the locus of a material and temporal bringing-together and convergence of machine, thought, sound and action. A mobile assemblage of modular and continuously modifiable objects which have been bought, found, cloned and made. And these producing in turn multiplicities of other objects, thoughts and assemblages.

And a patch, or an object in a patch, situated amongst, and projecting or being projected onto, other patches and objects across multiple locations and positions - on screens, in hard drives, on cdrs, in the air, in heads - all over the place, in all directions, any number of times and at any moment. These oscillating structures of programs, sounds, listening, thoughts (amongst other things) where every part can operate on every other part.

A conception of automation as being driven by thought which here, quite literally and concretely , effects sound (realised immediately as exterioralised objects, as happening) (and in loops, sound then affecting thought). And (after Aarseth) programmed automation as an advanced form of apostrophe (a figure of rhetoric in which an abstract or inanimate object is addressed as seperate and complete,without context) with the additional, remarkable effect that the object can respond in turn, really.

The idea of a machine where every part can be constructed on the same terms (in words and digits) as every other part. Where a hardware, for example, can be engaged in an equivalent way and to the same degree as a colour or a comment. The stability and invariability of a recorder or a microphone in relation to operators or sounds versus a virtual soft machine where the machine itself can be manipulated or disrupted at its most
basic level of definition: and ultimately configured to be as soft as the sounds themselves (as ephemeral, changeable, irrepeatable and so on): this sublime of hi-fidelity reflexivity and identity.

3 Effects

An extended idea of effects where any sound or listening can be conceived of as an effect, because every sound informs and operates upon every other sound, without any original,essential or true position from which it has to be sounded or heard. (Information brushing against information, after Cage).

The extreme relentless eveness of a recording, with its' constancy of position and distance in relation to its' object (even if you move the equipment or yourself around), an intentionality and the way in which this thins out and obliterates other happening sounds.

To articulate the recording effect against the reality effect: where ambient sounds fill into apparent spaces at the points at which a recorded sound dissappears (the skin of the recording) and recorded

sounds emerge again into the ambient: towards a more complete conception of listening (again after Cage, "*Music is continuous only listening is intermittent")* [4]

And to bring this into play by means of the amplitude effect where territories are accumulated out of volume as one sound emerges from or disappears into another, across both the recorded and the real. Random and uneven fluctuations of the peculiar perspectives of loudness and quietness where these derive from the machine itself rather than from any real distances or positioning and are played into any found in a recording. And these machined distances compelling the listener to adjust herself to and from a sound rather than, as in the recorded real, where the distance is inherent in the medium, a sound is only further controlled by the listener.

4 Words, Machines

Using thoughts and programming words to operate in turn on other thoughts and words by making recordings of people speaking, for example. Two shells conceived of as extrapolations to and from other thought and sound machines. Thinking of Burroughs' and Gysin's recordings [5] of cut-up monologues where language as an operative force (in its rigid, procedural linearity) is dismantled and recovered (literally by echo, distortion etc) to become material, textural and ambient.

Ruth Hawkins 2005

Notes:

[1] William Burroughs, The Soft Machine (1961)

[2] Glenn Gould, *"the ultimate composer-performer-critic-consumer hybrid."*
Strauss and the Electronic Future' 1964, The Glenn Gould Reader. Ed Tim Page. Faber & Faber 1988

[3] Hans Haacke, *Untitled Statement (1966)*
... make something, which experiences, reacts to its environment, changes, is nonstable ...
... make something indeterminate, which always looks different, the shape of which cannot be predicted precisely ...
... make something, which cannot "perform" without the assistance of its environment ...
... make something, which reacts to light and temperature changes, is subject to air currents and depends, in its functioning, on the forces of gravity ...
... make something, which the "spectator" handles, with which he plays and thus animates it ...
... make something, which lives in time and make the "spectator" experience time ...
... articulate something natural ...
http://www.msu.edu/course/ha/452/haacke.html
Hans Haacke, untitled statement, in Peter Selz, Directions in Kinetic Sculpture (Berkeley: Universityof California Press, 1966), 37

[4]John Cage quotes Thoreau: 'Notes: Lecture on the Weather' 1973-1978

[5] *"Calling partisans of all nation--Cut word lines--Shift linguals--Free doorways--Vibrate 'tourists'--Word falling--Photo falling--Breakthrough in Grey Room."*
William Burroughs, The Soft Machine (1961]

INSTALLATION “Dense Boogie” [1] 2011 (Stereo version).

1&2) Triggered by user. Playback ‘Evening Cicadas, Italy’ [2] on loudspeaker pair; Rerecord and playback with original [3].

3&4) Playback ambient recording and rerecording on loudspeaker pair when (1&2) above are not playing [3].

5) Rerecord installation from start.

6) Amplify and playback live sounds of installation on headphones outside main space.

AUDIO
Foreground recordings (1&2); background recordings (3&4); archival rerecording (5); live amplification (6).

TEXT [in ‘local’ font]
“…so you wouldn’t get the sense of these [gestures to a nearby loudspeaker] boxes.” [5]

OTHER
Blindfolds [6]

EQUIPMENT
OSX; Installationplayer v2.2 [4]; Sonicinteractions v2 [3]; 4 channel soundcard; 2 loudspeakers; headphones; stereo microphones; touchscreen.

[1,5] MARYANNE AMACHER 1999, 2004
[2] ‘Evening Cicadas, Italy’ 5’ SR070813_X RH07
[3] Sonicinteractions v2 OSX Max 5.1.5 RH11
[4] Installationplayer v2.2 OSX Max 5.1.5 RH11
[6] After FRANCISCO LOPEZ

RUTH HAWKINS 2011

INSTALLATION ‘For the Birds’ [1] 2008-2011

1) Record a blackbird in Spring or early Summer from a window.

2) Triggered by user. Playback on loudspeaker pair from same interior. Rerecord.

3&4) Produce ambient recordings of same interior with and without equipment hiss. Playback on square of 4 speakers. Rerecord.

5,6,7) Produce ambient recording of neighbouring interior. Rerecord blackbird (1) and ambient recordings (3&4) above and playback on loudspeaker pair from same.

8) Attempt to rerecord the installation with the ‘real’ blackbird singing to its recorded song.

RECORDINGS
Foreground recordings (1); background recordings (3,5); Foreground rerecordings (2,6); background rerecordings (4,7); archival rerecording (8).

EQUIPMENT
OSX; Installationplayer v2.2[2]; 8 channel soundcard; 8 loudspeakers; ambisonic microphone; touchscreen.

[1] JOHN CAGE 1981
[2] Installationplayer v2.2 OSX Max 5.1.5 RH11

RUTH HAWKINS 2011

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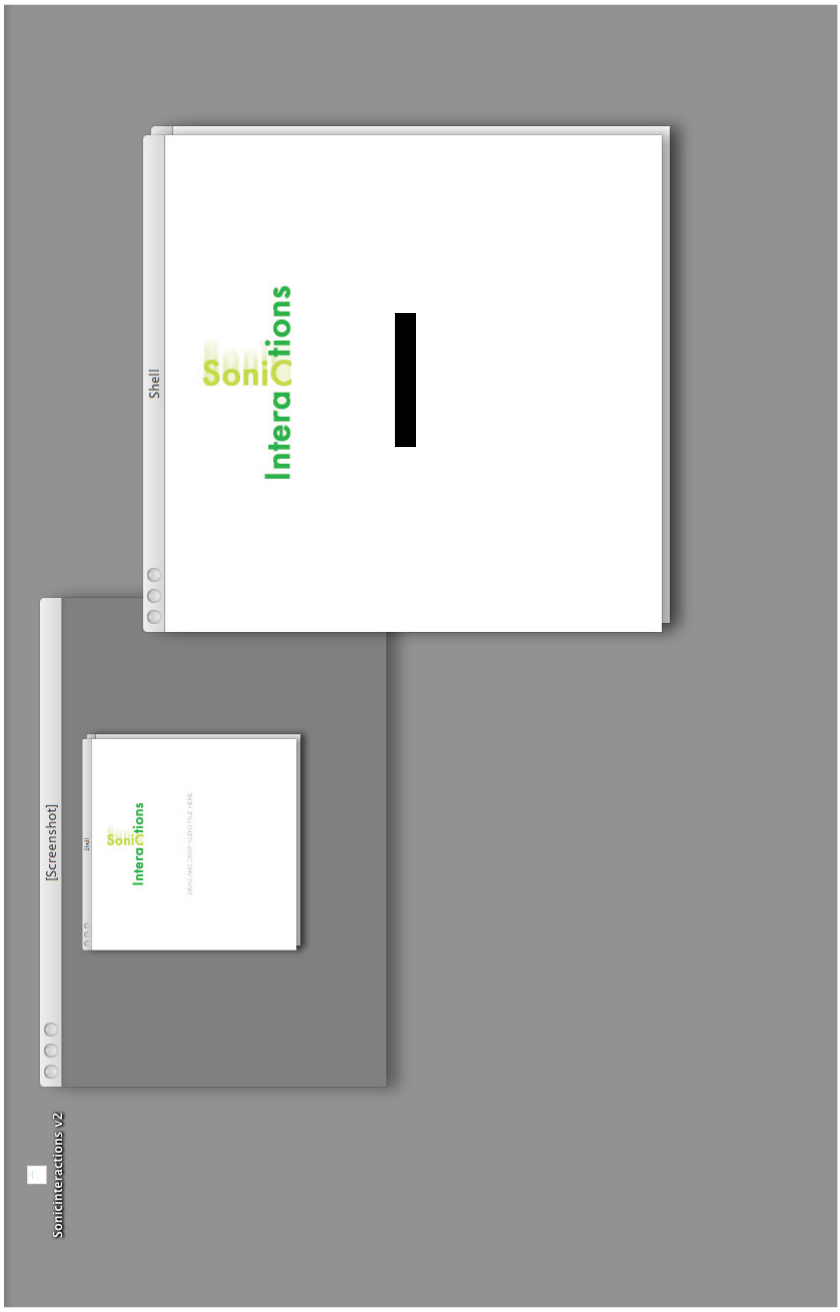


Fig..2. Sonicinteractions v2 (All windows).

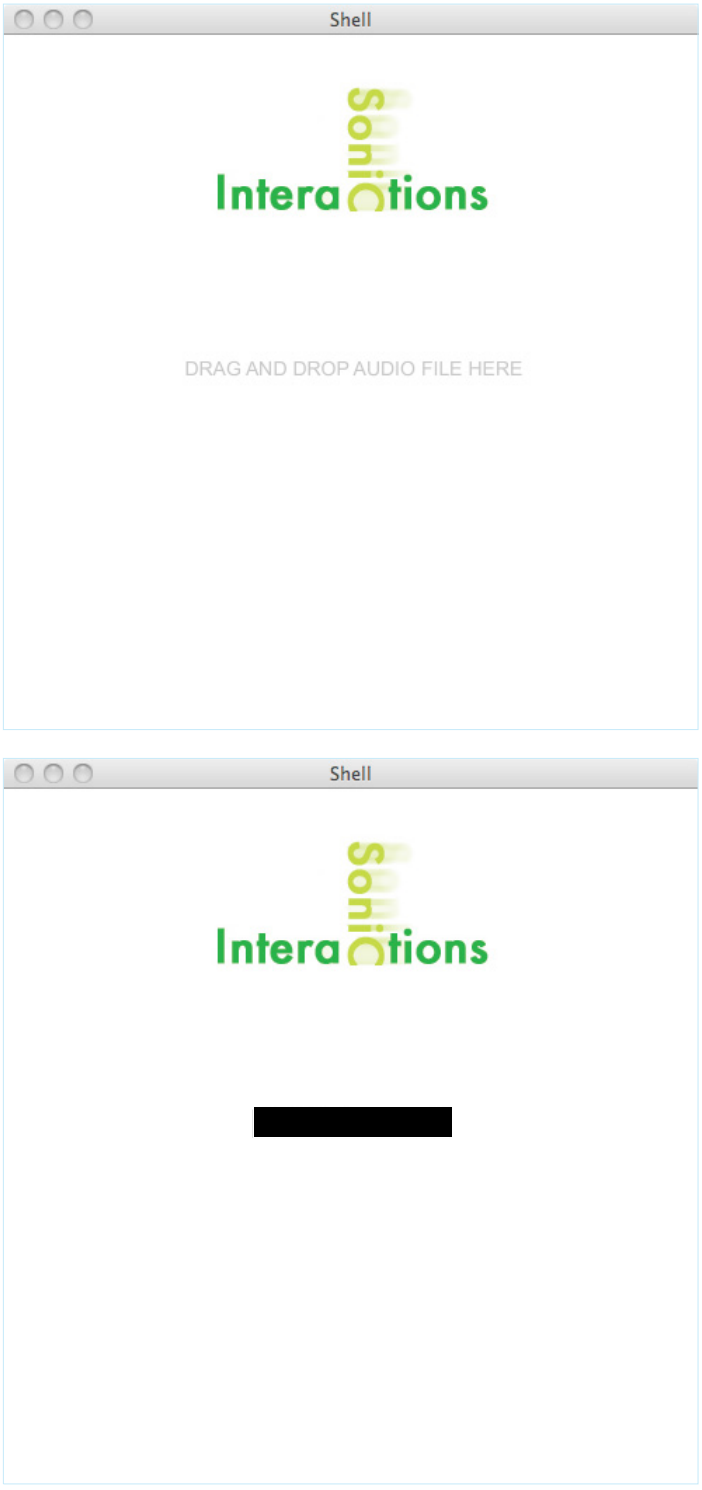


Fig. 3. Sonicinteractions v2 (‘Shell’ window OFF and ON).

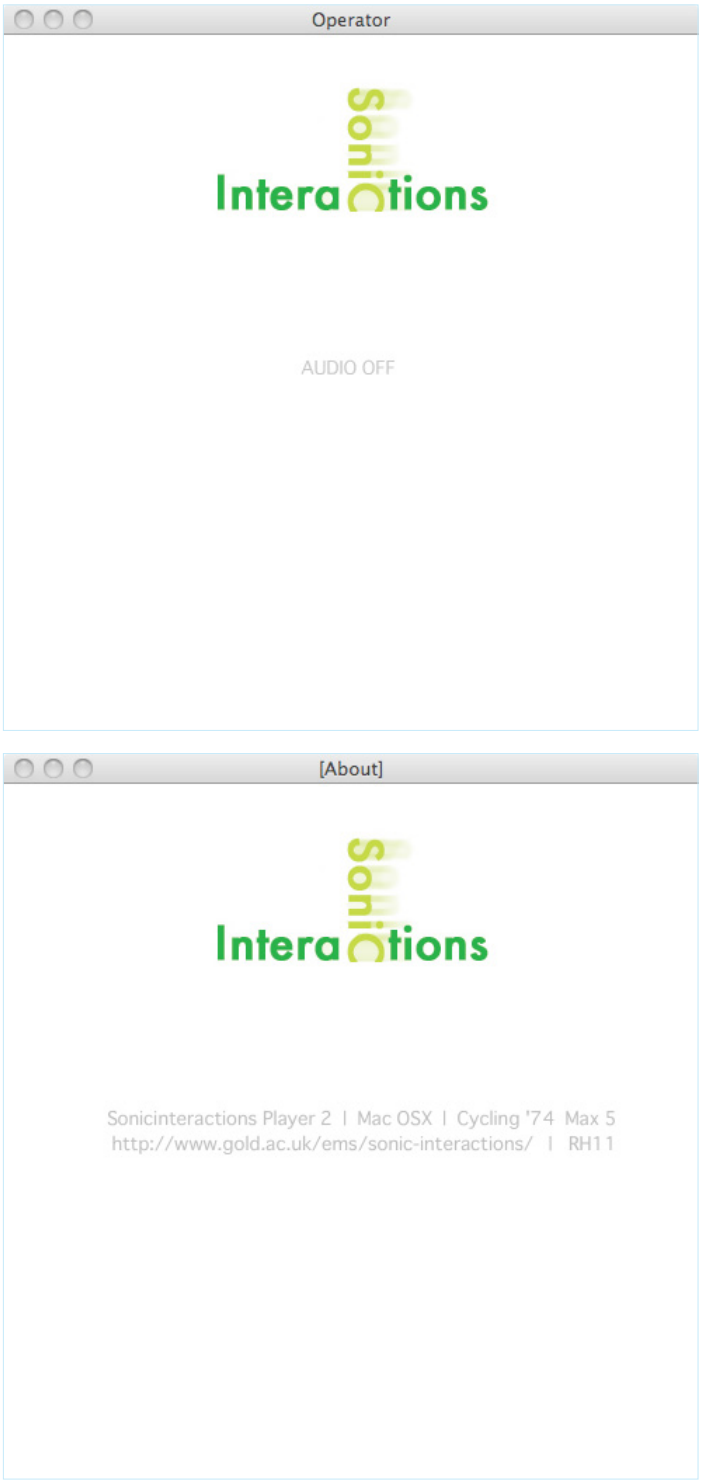


Fig. 4. Sonicinteractions v2 (‘Operator’ window OFF; ‘About’ window).

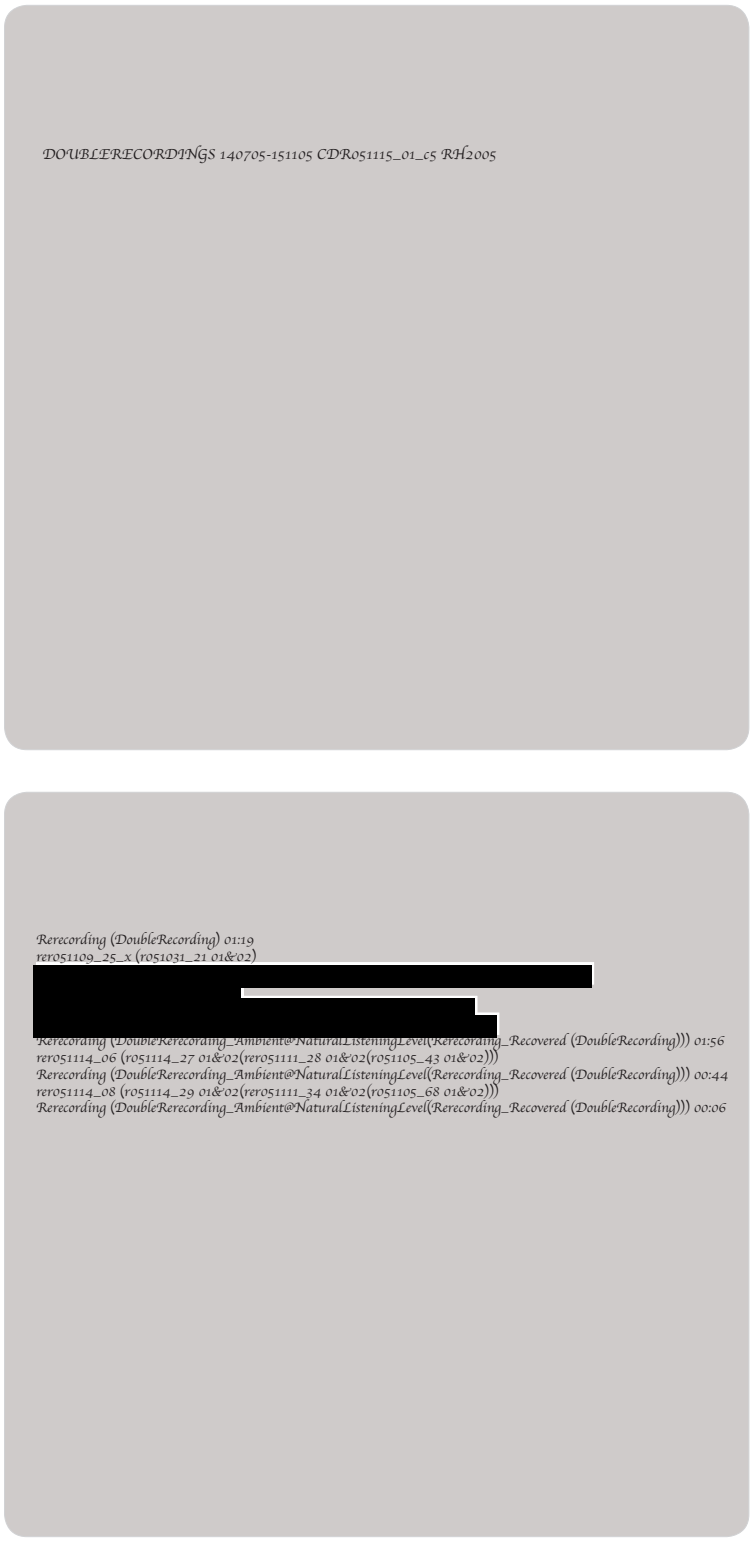


Fig. 5. CDR sleeve: ‘Doublerecordings 140705 - 151105’ 1 (CD051115_01 Clone 4).

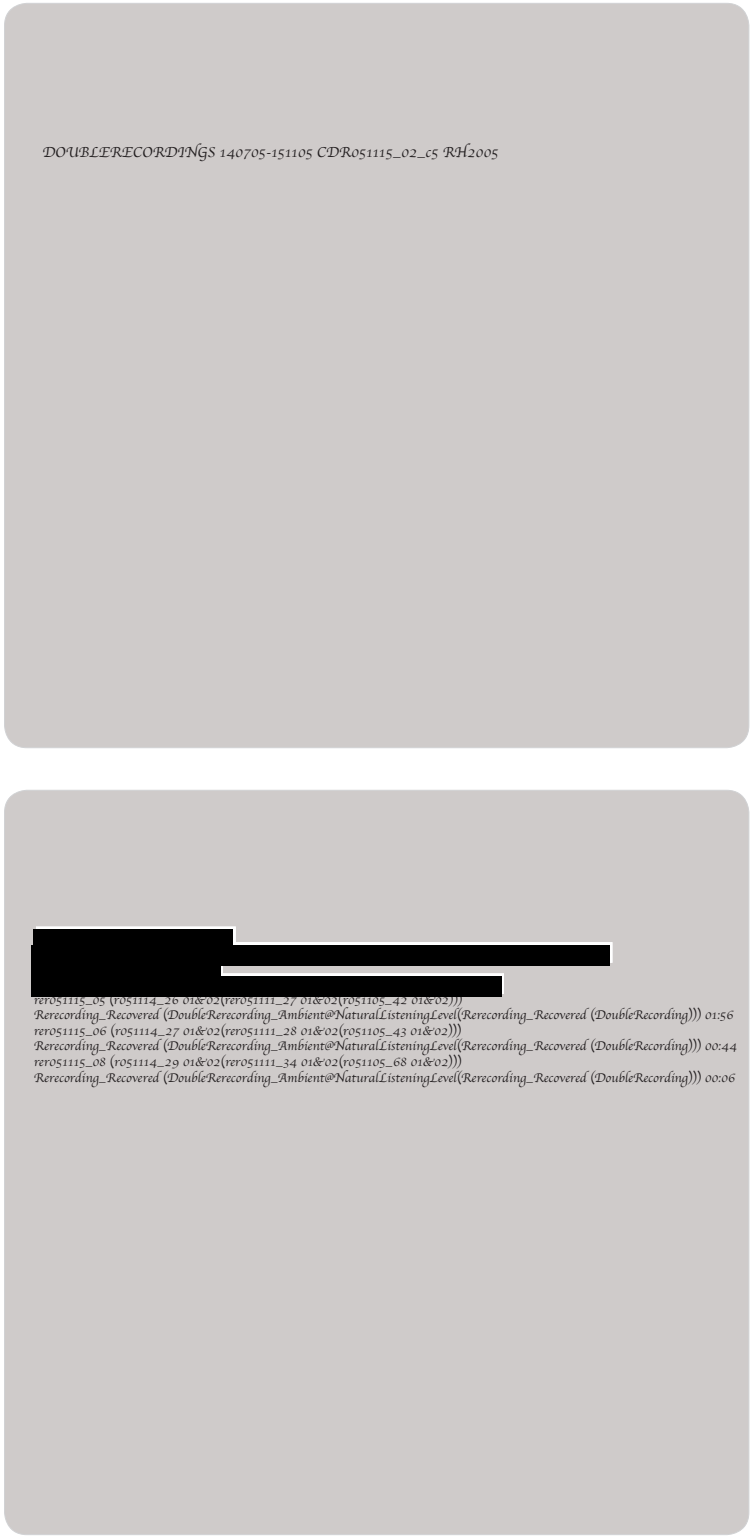


Fig. 6. CDR sleeve: ‘Doublerecordings 140705 - 151105’ 2 (CD051115_02 Clone 5).

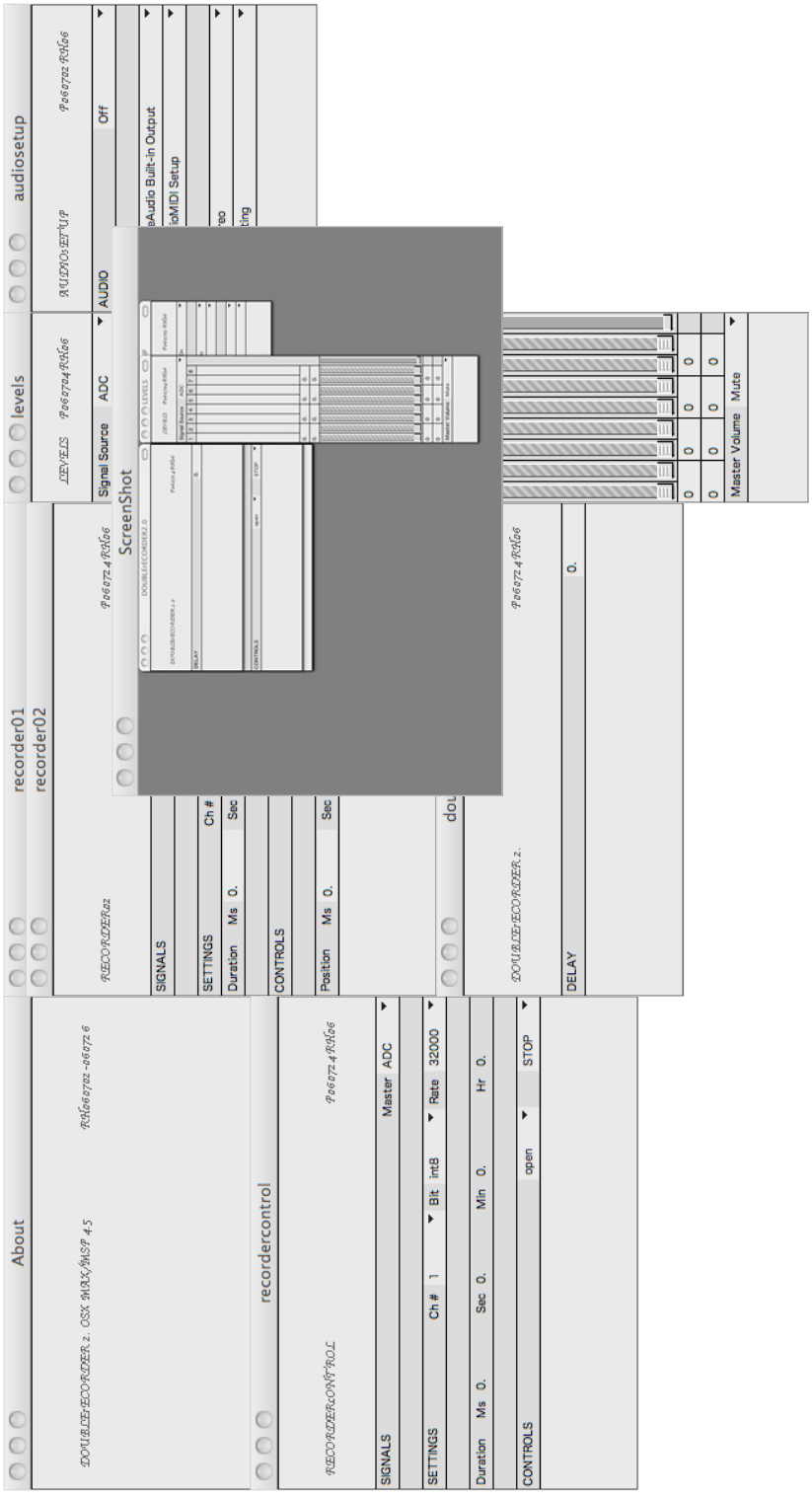


Fig. 7. Doublerecorder 2.0 (All windows).

Fig. 8. NAB building, Goldsmiths, University of London (© Goldsmiths, University of London).
Fig. 9. Installation view 1.

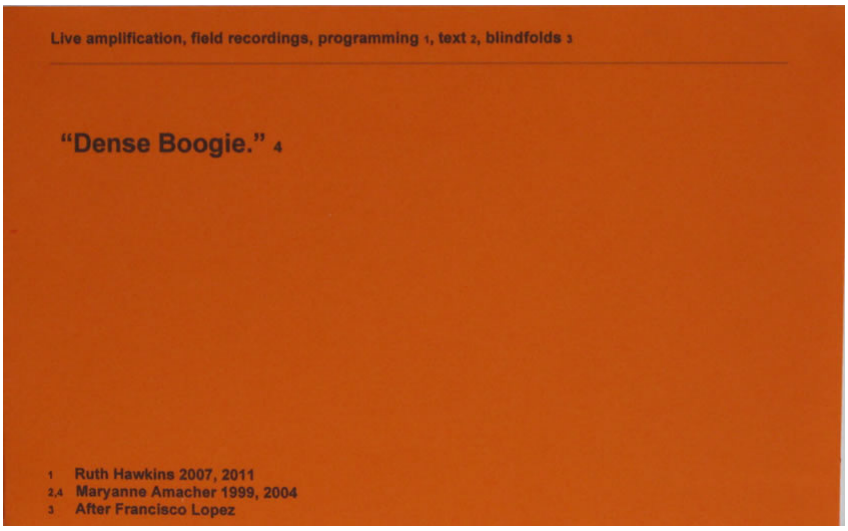


Fig. 10. Wall text (Title). Fig. 11. Installation view 2.

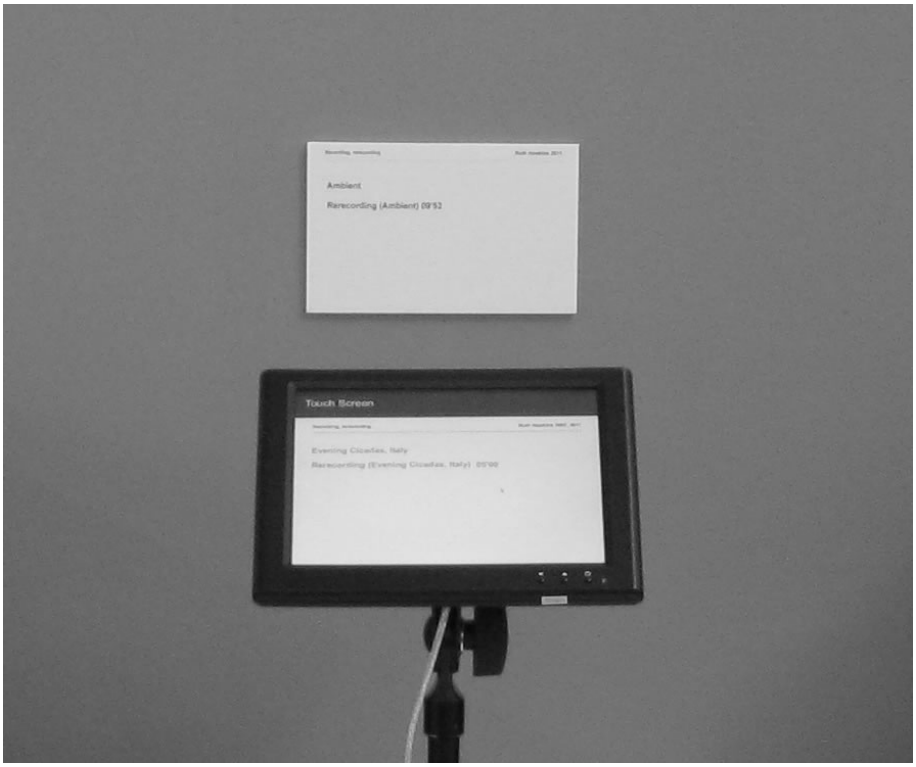


Fig. 12. Touchscreen and wall text (Background recordings). Fig. 13. Blindfolds.

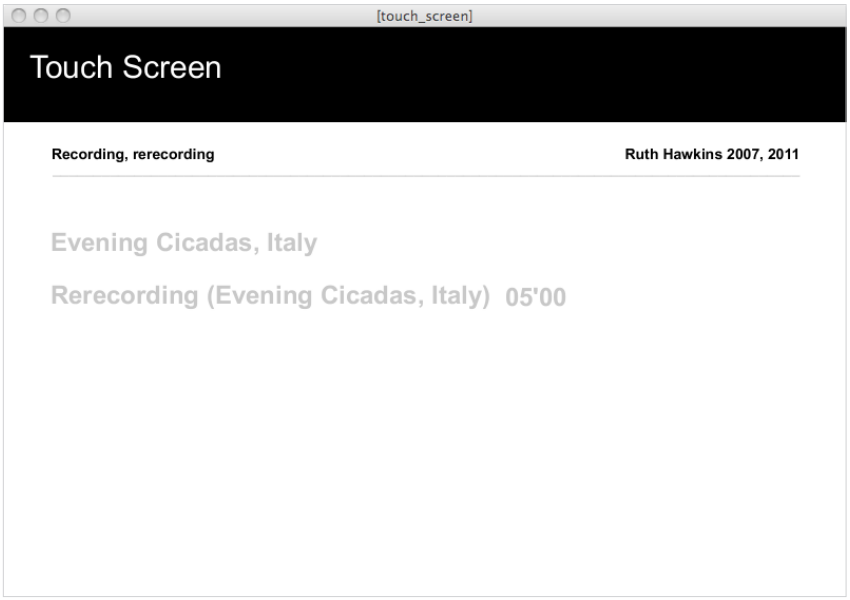


Fig. 14. Touchscreen (Screenshot). Fig. 15. Wall text (Background recordings).

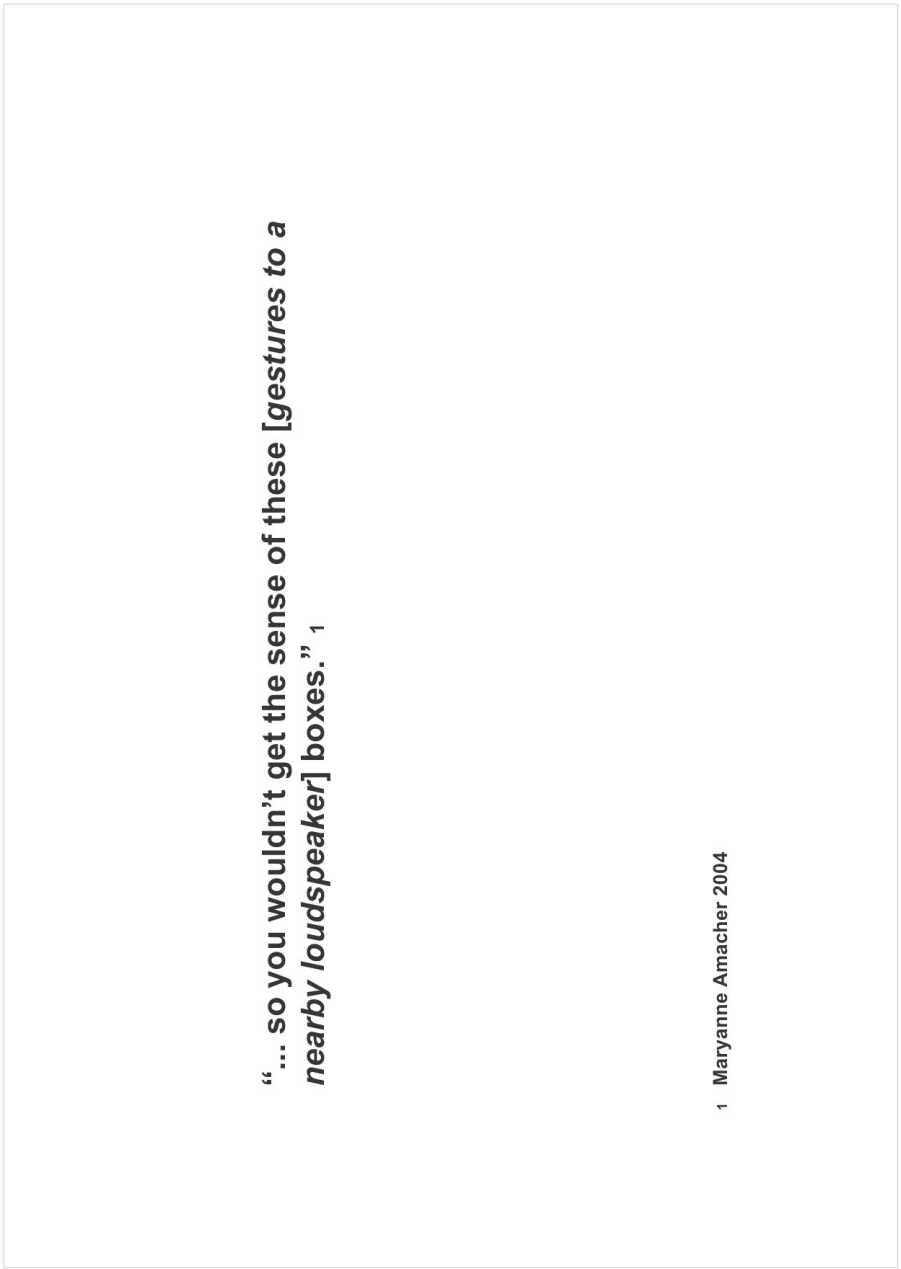
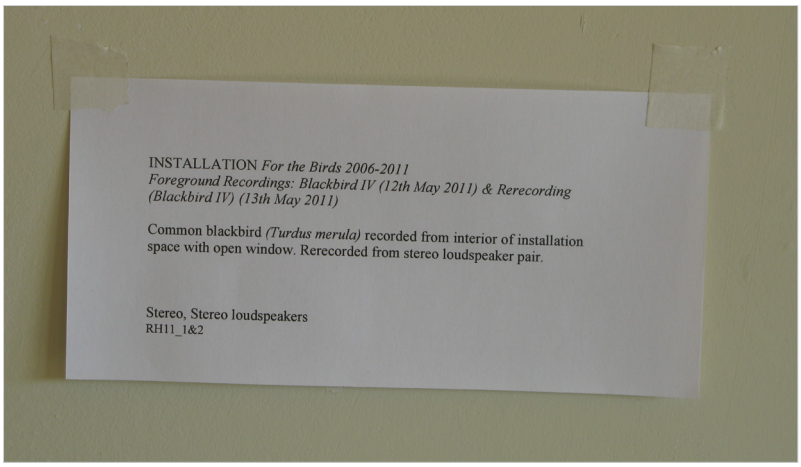


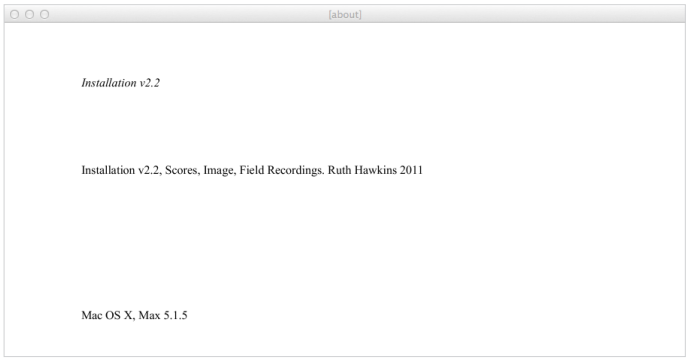
Fig. 16. Wall text (Maryanne Amacher quotation).

Fig. 17. Installation Player v2.2 (All windows with “Dense Boogie” 2011 and Sonicinteractions adaptation).

Fig.18. Installation view 1 (Main room window and balcony with 2 loudspeakers in quad array).
Fig.19. Installation view 2 (Stereo loudspeaker pair in corridor and main room).

Figs. 20 & 21. Installation view 3 & 4 (Main room loudspeakers: quad array and stereo pair).





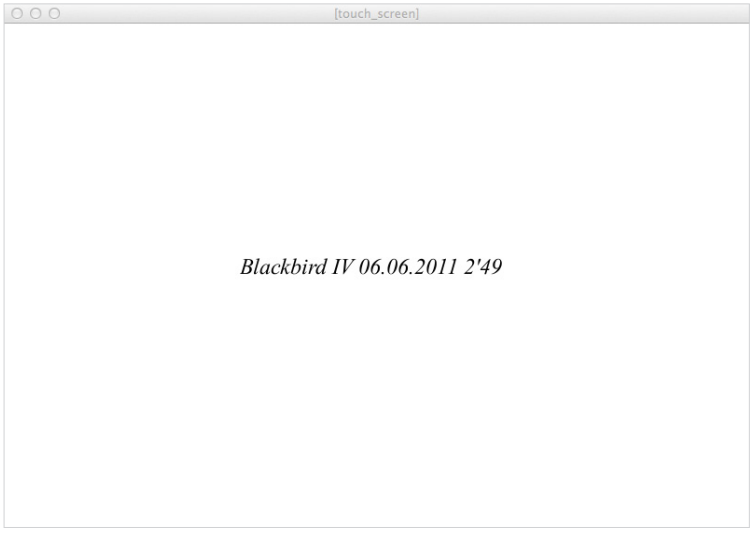


Fig. 22. Wall text (Study). Fig. 23. Installation Player v2.2 (‘about’ window). Fig. 24. Touchscreen ‘Blackbird IV’ (Screenshot).

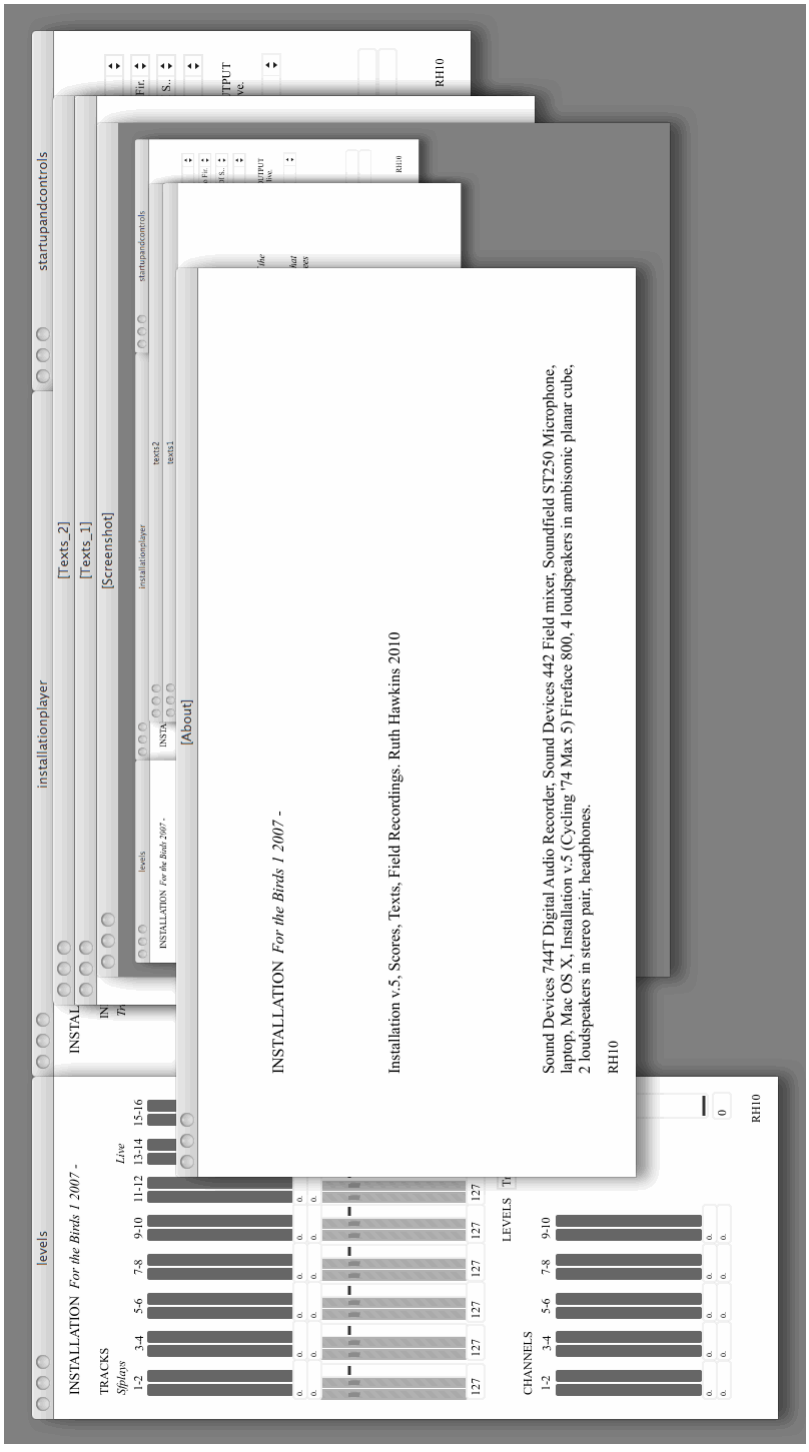


Fig. 25. Installation Player ‘For the Birds’ 2010 (All windows).

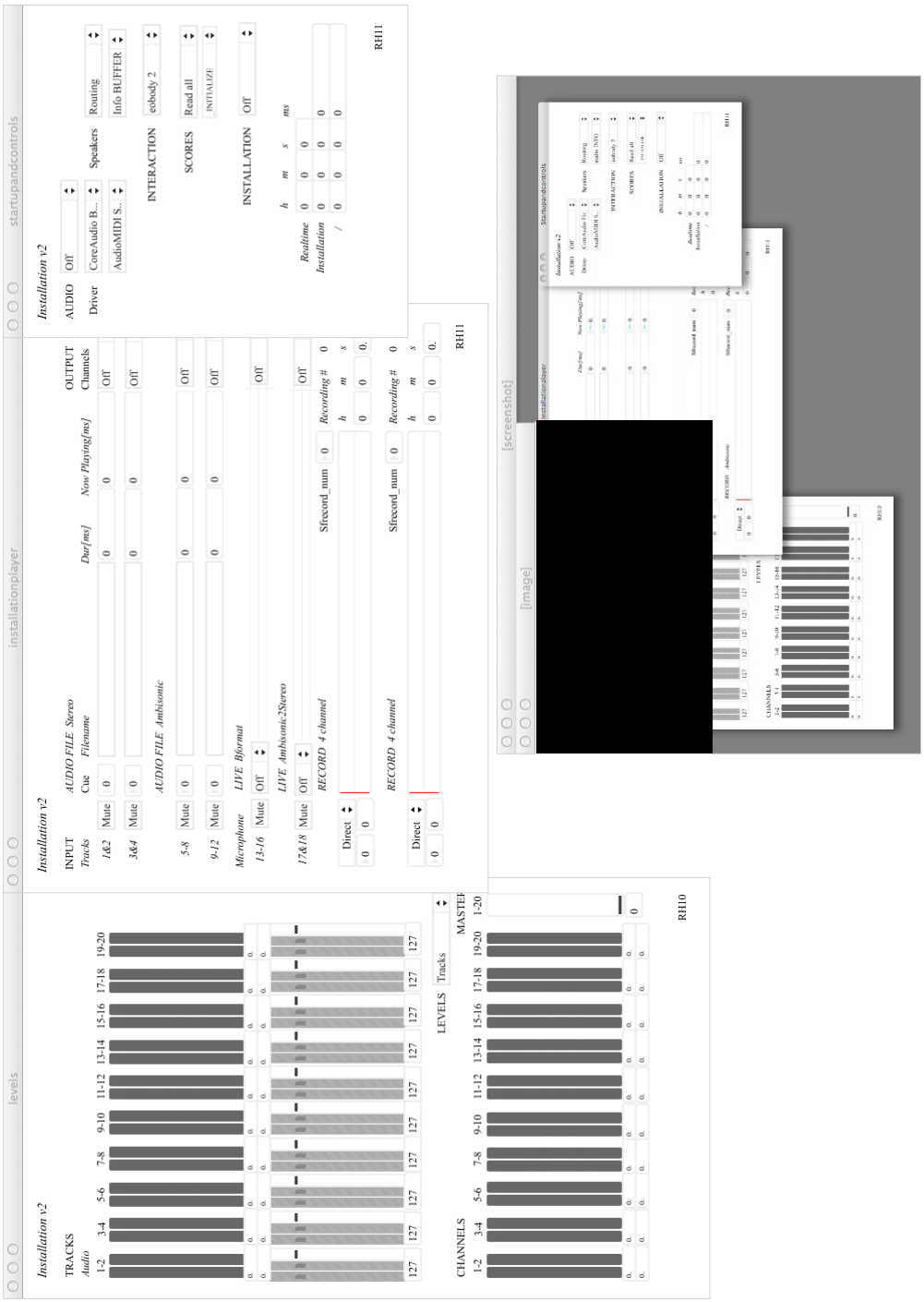


Fig. 26. Installation Player 2011 (All windows).

Fig. 27. ‘Blackbird IV’ 2011.

EQUIPMENT:

Recorders and mixers: Sony Dat Walkman; Sound Devices Mixpre; 442; 744T; MacBook Pro laptop; RME fireface 400/800.

Microphones: 1 stereo recording - binaural (*Soundman OKM)*; 2 stereo recording (*Schoeps CCM);* 2-1 ORTF; 2-2 A-B; 2-3 X/Y; 3 ambisonic B-format recording (*Soundfield ST250*) decoded to stereo; 4 unknown.

Please note:

The audio files were produced using a variety of equipment over a period of time. For this reason the levels have not been normalized and remain variable. Although much of the audio content is moderately or very low level, this is occasionally not the case. The user is therefore advised to adjust the recording levels at the start of playback to a putative ‘natural’ level.

DVDS and CDs:

DVD I - Selected audio from projects and individual field recordings. Track numbers marked below.

DVD II – Other audio files in locations specified below.

2 8cm CDs:

Blackbird II 05.06.08 RH08&11 (edgeless 01) 3:16
For the Birds 25.06.11 RH08-11 (edgeless 02) 15:33

Track		Time
	Goldsmiths EMS [1]	
6	041029	00:27
[redacted]	[redacted]	[redacted]
	Dawn chorus [3]	
102	061116_02_X	01:43
	Recording of cube of speakers (on, no signal) @ 15:48 [3]	
50	070219_01	02:20
	Recordings lying down under cherry tree on sunny day [1]	
105	070415_01	02:06
106	070415_02	01:46
107	070415_03	01:25
	Rerecording with ambient tails of stereo rerecording of ambisonic recording [3]	
	070613_02	02:20
	AMBIENT [3]	
	ambient recordings from studio window	
	070619_01	05:16
	070621_01	05:23
	RERECORDING [3]	
	Rerecording of ambient recording (see r070619_01 above)	
	070622_01	05:16
	Rerecording of ambient recording (see r070621_01 above) with ambient tail	
	070622_06-07	13:13
	Bird at studio window (edgeless 112) [2-1]	
101	070719_01	05:45
	Cockerel, wind. Rocca di Pierle, Italy [2-2]	
27	070811_01_01	01:16
	Child clapping in church [1]	
31	070818_01_01	00:44
	Church. Spello, Italy [1]	
28	070818_02_02	00:58
	Children, owl, dog. Suffolk [3]	
103	071113_01	05:11
	6 AMBIENT RECORDINGS 10.04.08 [1]	
55	080410_02	02:02

Track		Time
63	080410_03	01:15
64	080410_04	02:10
65	080410_05	00:38
66	080410_07	01:14
67	080410_08	01:07
	6 AMBIENT RECORDINGS 2.05.08 [3]	
68	080502_01	04:35
69	080502_02	02:02
70	080502_03	02:43
71	080502_04	03:01
72	080502_06	03:27
73	080502_07	03:30
	7 AMBIENT RECORDINGS 3.05.08 [3]	
74	080503_01	05”07
75	080503_02	02:07
56	080503_03	02:25
76	080503_04	00:53
77	080503_05	00:43
78	080503_06	05:05
57	080503_07	03:30
	7 AMBIENT RECORDINGS 5.05.08 [3]	
79	080505_01	01:48
80	080505_02	01:03
81	080505_03	02:04
82	080505_04	00:48
83	080505_05	13:11
84	080505_06	01:37
85	080505_07	03:46
	7 AMBIENT RECORDINGS 8.05.08 [3]	
86	080508_02	13:48
87	080508_04	01:18
88	080508_05	09:48
(89)	(080508_07 – see ‘Blackbird 1’ below)	(11:35)
90	080508_08	01:43
91	080508_09	03:44
92	080508_10	04:08
	3 AMBIENT RECORDINGS 9.05.08 [3]	
93	080509_01	03:07

Track		Time
58	080509_02	06:24
[redacted]	[redacted]	[redacted]
	2 interiors [2]	
61	080520_T01_X	00:47
59	080520_T05_X	07:13
	3 AMBIENT RECORDINGS 25.5.08 [2]	
94	080529_T01	02:03
62	080529_T04	01:35
95	080529_T05	01:26
	Wind [2]	
	080514_T03	05:12
	edgeless 143 [2-1]	
104	090928_01	04:08
	Ambient recordings from window [2-3]	
96	110422_T02	01:26
97	110422_T03_X	07:02
98	110422_T05	05:21
99	110422_T09	08:01
100	110422_T11	01:48
30	110614_T02_X	05:19
[redacted]	[redacted]	[redacted]

DVD II: Other_field_recordings

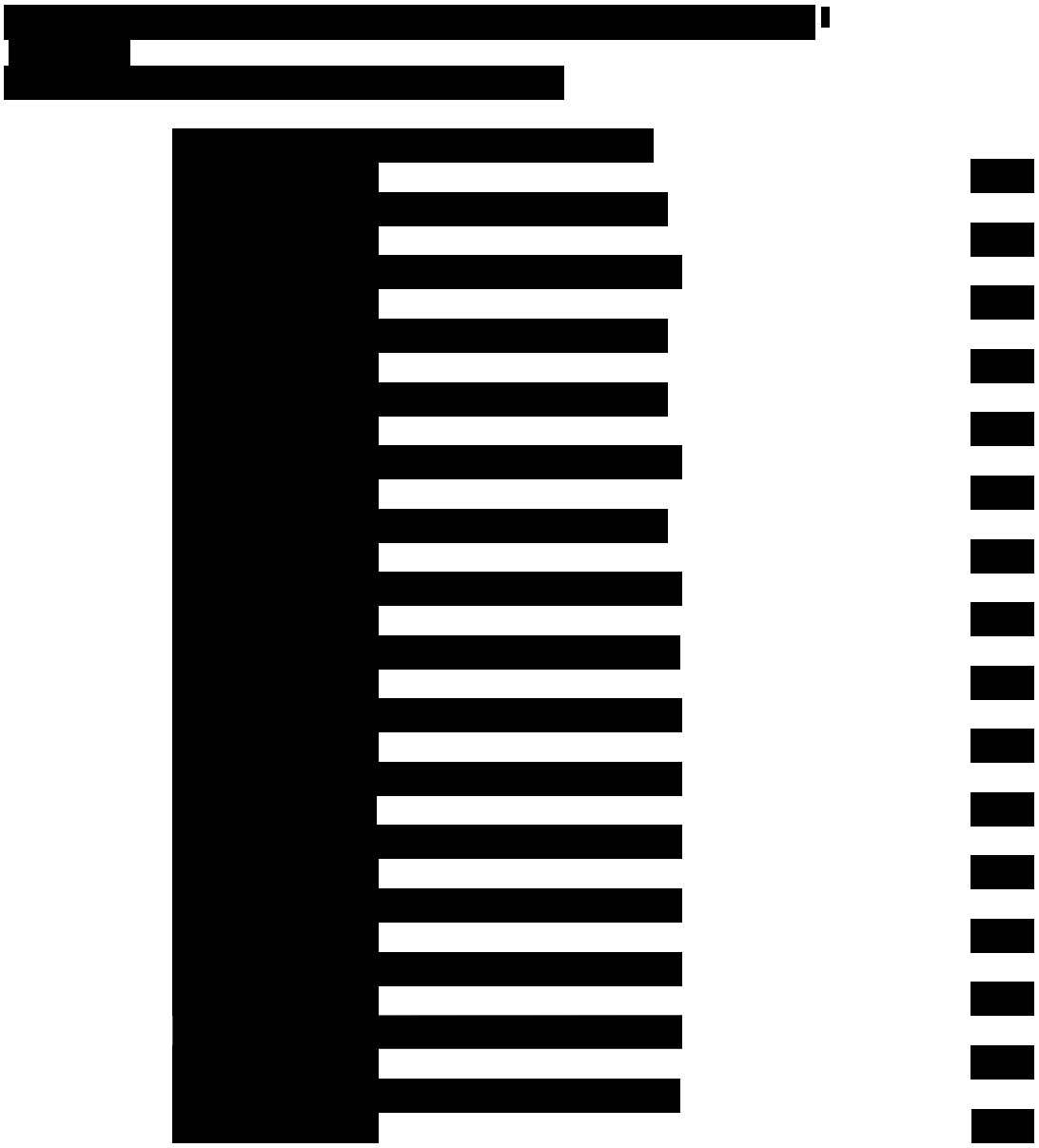
Track		Time
Sonic Interactions Conference recordings [2-2]		
	Lawrence Casserley Presentation (full)	58:14
5	*Lawrence Casserley Presentation (extract)*	01:00
	Other participants	
	Alejandro Viñao_(extract)	05:00
	Aki Pasoulas (extract)	05:00
	Chris Halliwell (extract)	05:00
	Simon Zagourski-Thomas (extract)	05:00
	Li Chuang Chong (extract)	05:00
	Lukas Pearce (extract)	05:00
	Dominic Murcott (extract)	05:00
	Oliver Bown (extract)	05:00
	Sebastian Lexer (extract)	05:00
	DVD II: Sonicinteractions/Audio_conference/	
Sonicinteractions Other		
	[redacted]	[redacted]
	Sonicinteractions and ambient recording, London [1]	
	050421	00:19
	SONICINTERACTIONS-DOUBLERECORDINGS [2]	
	DoubleRecording (see 060801_01_01&02 below)	
	051027_03	01:41
	DoubleRecording (see 060801_01_01&02 below)	
	061003_01	00:29
	DVD II: Sonicinteractions/Audio_other	
'Interlace 021004 cl13 44 16' [2]		
	01/19	00:00
1	02/19	00:44
	03/19	00:47
	04/19	00:03
	05/19	00:00
	06/19	00:01
	07/19	02:54

Track		Time
	08/19	00:00
	09/19	00:00
2	10/19	00:09
3	11/19	00:11
	12/19	00:00
	13/19	02:04
	14/19	00:09
	15/19	00:00
4	16/19	00:16
	17/19	00:00
	18/19	01:15
	19/19	03:08

DVD II: Sonicinteractions/Audio_other/Interlace/

Track		Time
'Doublerecordings 140705-151105' [2] **CD051115_01**		
7	*Rerecording (DoubleRecording)* rer050714(r050705_05 01&02)	01:19
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
10	*Rerecording(DoubleRerecording_Ambient@NaturalListeningLevel (Rerecording_ Recovered (DoubleRecording)))* rer051114_05 (r051114_26 01&02(rer051111_27 01&02 (r051105_42 01&02)))	01:56
11	*Rerecording(DoubleRerecording_Ambient@NaturalListeningLevel (Rerecording_ Recovered (DoubleRecording)))* rer051114_06 (r051114_27 01&02(rer051111_28 01&02(r051105_43 01&02)))	00:44
12	*Rerecording(DoubleRerecording_Ambient@NaturalListeningLevel (Rerecording_ Recovered (DoubleRecording)))* rer051114_08 (r051114_29 01&02(rer051111_34 01&02(r051105_68 01&02)))	00:06
'Doublerecordings 140705-151105' [2] **CD051115_02**		
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
15	*Rerecording_Recovered (DoubleRerecording_Ambient@ NaturalListeningLevel (Rerecording_Recovered (DoubleRecording)))* rer051115_05 (r051114_26 01&02(rer051111_27 01&02(r051105_42 01&02)))	01:56

Track		Time
	Rerecording_Recovered (DoubleRerecording_Ambient@ NaturalListeningLevel (Rerecording_Recovered (DoubleRecording)))	
16	rer051115_06 (r051114_27 01&02(rer051111_28 01&02(r051105_43 01&02)))	00:44
	Rerecording_Recovered (DoubleRerecording_Ambient@ NaturalListeningLevel (Rerecording_Recovered (DoubleRecording)))	
17	rer051115_08 (r051114_29 01&02(rer051111_34 01&02(r051105_68 01&02)))	00:06



Track Time

[redacted]

‘**Doublerecordings 140705-120106’** [2]
CD060206

DoubleRecording
r060201_36_01&02_X 01:01

[redacted]

Rerecording (DoubleRecording)
rer050714 (r050629_14_01&02) 01:31

DVD II: Doublerecordings/CDR/CD060206

‘Doublerecordings 030706 & 040706’ [2]
CD060720

[redacted]

DoubleRecording (delay 236 ms) @ 12:34.36
29 060704_11_01&02 01:10
DoubleRecording (delay 208 ms) @ 12:42.28
18 060704_13_01&02 02:33

DVD II: Doublerecordings/Applications/Max

Other doublerecordings [2]

DoubleRecording (random delay) - night, pheasants, bangs
26 051105_03_01&02 02:18
DoubleRecording (delay 31 ms)
19 060704_12 01&02 01:17
DoubleRecording (delay 200ms) - room, fly
20 060725_04_01&02 01:00
DoubleRecording (delay 200 ms)
23 060725_08 01&02 01:00
DoubleRecording (delay 200 ms)
21 060731_02 01&02 00:30

Track		Time
	DoubleRecording (random delay) - wind, leaves, farm machine	
22	060801_01_01&02	00:30
	Rerecording_Recovered (DoubleRecording 060725_08 01&02 above)	
24	070120_02_X	00:59
	DoubleRecording-Recovered (variable delay 400-0 ms) - banging	
25	070203_02_400-0ms	01:47

Track		Time
“Dense Boogie” Installation recordings		
	‘Evening Cicadas, Italy’ (extract from 070813_ below) [2-2]	
47	070813_35-40mins	05:00
	Rerecording (‘Evening Cicadas, Italy) [3]	
51	110503_02_07	04:59
	Ambient [3]	
48	110622_T07-T08	09:52
	Rerecording (ambient) [3]	
49	110625_02_03_X	09:52
“Dense Boogie” Archival recordings [2-3]		
	User playback	
120	110706_02_04	04:59
	Installation (extract)	
46	110706_01_05-06_X	12:44
	‘Measurement No. 1’. Lucia H. Chung 2011 (extract)	
119	110706_01_03_X_LHC.aif	03:27
‘Ambient, Horspielstreifen, Rerecordings’ Recording Complex 09.06.06 to 28.02.07 (X)		
	AMBIENT	
	Ambient exterior [3]	
37	060609_03	03:18
	RERECORDING [2]	
	Rerecording of ambient exterior (extract) (see 060609_03 above)	
38	070215_07_X	01:18
	ambient tails and fades	
39	070215_08_02_X	02:20
	HORSPIELSTREIFEN [2]	
	Cube of speakers on, no signal; microphones in same position as 070215_08 above	
40	070218_01_X	02:20
41	r070218_01_X_fades	02:20
	RERECORDING - HORSPIELSTREIFEN [2]	
	Rerecording crossfaded to horspielstreifen (see (070215_08_01_X and 070218_01_X above)	
42	070215_08-070218_01	04:04

Track		Time
	AMBIENT [2]	
43	*Centre of room on windy day* 070228_01_X	02:20
	RERECORDING [2]	
44	*Rerecording of horspielstreifen (r070218_01_X above)* 070228_02	02:20
45	*Rerecording of r070218_01 above with 30s ambient tails* 070228_03	03:26

‘Ambient & Horspielstreifen (Blackbird II & Cicadas)’ [3]
Recording Complex 02.02.09 (X)

HORSPIELSTREIFEN	
Stereo speakers on 090202_T04	05:55
Stereo speakers on 090202_T04_xfadeIn	05:55
Stereo speakers on 090202_T08	04:57
Quad and stereo speakers on 090202_T10	06:03
Quad speakers on 090202_T11	06:04
AMBIENT	
090202_T05	05:06
090202_T05_xfadeOut	05:06
090202_T09	05:14
AMBIENT TO HORSPIELSTREIFEN	
090202_T05-T04	05:55
090202_T09 -T08	09:41
AMBIENT TO HORSPIELSTREIFEN TO HORSPIELSTREIFEN	
090202_T09 -T11-T10	16:22

DVD II: Dense Boogie/Recording_complex_090202

“Dense Boogie” Other

Crickets, Perugia, Italy [2-2] 070813	56:35

[redacted]

Track		Time
53	*Ambient recording of room afterwards; same position (extract)* [3] 070507_04_X	00:59

DVD II: Dense Boogie/Audio_other

Track		Time
‘For the Birds’ Installation CDs		
	‘Blackbird II 05.06.08’ [2-1]	03:16
	“For the Birds 25.06.11’ [3]	15:33
	See CDs	
‘For the Birds’ Installation recordings		
	FOREGROUND	
	Stereo (main room): ‘Blackbird IV’ [2-3]	
54	110606_T11_X	02:49
	Quad (main room); ambient [3]	
113	110430_01_02_X	02:49
	Other (corridor); rerecording [3]	
114	110613_02_07	02:48
	BACKGROUND	
	Stereo (main room); horspielstreifen [2-3]	
116	110613_T02_X	11:16
	Quad (main room); ambient [3]	
117	110416_T05-T06	15:00
	Other (corridor); rerecording [3]	
115	110505_02_02	14:59
‘For the Birds’ Archival recordings (Blackbird IV and recording) [3]		
	User playback rerecording	
121	110425_02_05	02:24
	Other rerecording	
122	110426_02_06	04:18
	User playback rerecording	
123	110430_02_03	02:18
	User playback rerecording	
124	110430_02_04	02:18
	CD ‘For the Birds 25.06.11’	
110	110625_01_02	15:33
‘Ambient, Horspielstreifen, Rerecordings’ [3] **Recording Complex 02.05.08 to 12.08.08 (X)**		
	AMBIENT *exterior*	
	080502_01	04:35

Track		Time
	080502_03	02:43
	080529_T01	02:03
	080529_T04	01:35
	RERECORDING	
	Rerecording of ‘Blackbird II’ (see CD ‘Blackbird II’)	
111	080804_T01	03:16
	Rerecording of ambient exterior (080502_03 above)	
	080804_T02	02:43
	Rerecording of ambient exterior (080529_T04 above)	
	080804_T03	01:35
	AMBIENT & HORSPIELSTREIFEN *of playback room after rerecordings above*	
	Window closed, speaker on	
	080804_T05	05:00
	Window open, speakers off	
	080804_T07	05:00
	Window open, speakers on	
	080804_T08	05:00
	RERECORDING *with ambient tails*	
	Rerecording of ‘Blackbird I’ (extract) (see 080508_07 below)	
	080807_T01_X	04:00
	Rerecording of ‘Blackbird II’ (see CD or 080605_T02 below)	
112	080807_T02	07:10
	AMBIENT *of playback room after rerecordings above*	
	Window open, speakers off	
	080812_01	05:00
	RERECORDING *with ambient tails*	
	Rerecording of ambient exterior (080502_03 above)	
	080807_T05	06:38
	Rerecording of ambient exterior (extract) (080529_T04 above)	
	080807_T06	05:29
	Rerecording of horspielstreifen (extract) (080804_T08 above)	
	080807_T08_X(sr080804_T08.wav)	04:00
	AMBIENT	
	Window closed, speakers off	
	080812_03	05:12
	DVD II: For_the_Birds/Recording_complex_080502-080812	

Track		Time
‘For the Birds’ Installation: other blackbird recordings [2-3]		
	Blackbird I	
89	080508_07	11:35
	CD *‘Blackbird II 05.06.08’*	
108	080605_T02	03:16
	Blackbird III	
109	100525_T01	06:01
	Blackbird IV	
125	110422_T08	02:18
126	110510_T02_X	05:58
127	110610_T05_X	04:18