

**In Situ Listening:
Soundscape, Site and Transphonia**

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Abstract

This enquiry represents an exploration of environmental sound and artistic practice from the perspectives of in situ listening and transphonia. The initial term, in situ listening, has been coined by the author in order to constellate a group of intellectual trajectories and artists' practices that engage with recorded sound and share a common theme: that the listening context, the relationship between mediated sound and site, is an integral part of the engagement process. Heikki Uimonen (2005, p.63) defines transphonia as the, "mechanical, electroacoustical or digital recording, reproduction and relocating of sounds." The term applies to sound that is relocated from one location to another, or sound that is recorded at a site and then mixed with the sound of the prevailing environment. The experience of the latter, which is a key concern for this thesis, may be encountered during the field recording process when one 'listens back' to recordings while on site or during the presentation of site-specific sound art work.

Twelve sound installations, each based on field recordings, were produced in order to progress the investigation. Installations were created using a personally devised approach that was rigorous, informed, and iterative. Each installation explored a different environment. These installations, and their related environmental studies, form the core content of this enquiry.

In the first part of this thesis the installations are used to explore observations of transphonic audio content in relation to a number of subjective, surprising and intangible phenomena: disorientation, uncanny sensations or even the awareness of coincidence. These observations are supported and contextualised in relation to a wide range of historic and contemporary sources.

Works in the second part of the thesis are used to motivate a meditation on the relationship between soundscape, site and time, which was proposed by the initial phase of the research.

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Introduction

At a fundamental level this enquiry explores the relationship between the listener, environmental sound and place. It is about engagement and the experience of arriving somewhere new and unfamiliar and the processes by which this newness is assimilated and gradually becomes part of a more generalised, personal frame of reference. Moving forward from this primary experience I turn to consider the consequences of the phonographic act: the sensual, emotional and intellectual implications of separating sound from source through electro-acoustic processes. In order to focus this enquiry I adopt two primary perspectives:

- In situ listening: this is a term I have coined in order to bring together a group of intellectual trajectories, artists, practices and outputs that share a common theme: that the listening context, the relationship between mediated sound and site, is an integral part of the engagement process. My term should not be confused with listening in situ, a concept that John Drever (see 2007 and 2009) often references in relation to his contemplation of soundwalking practice.
- Transphonia: Heikki Uimonen (2005, p. 63) defines transphonia as the, “mechanical, electroacoustical or digital recording, reproduction and relocating of sounds.” The term applies to sound that is relocated from one location to another to augment or mask quotidian sound or sound that is recorded on site and then mixed with the sound of the actual environment. Transphonic sound is ubiquitous in the 21st century, it is an aspect of everyday life and may be encountered in an intense form when listening back to field recordings while still on location or during the presentation of site-specific sound art work. Both these situations are key concerns for this thesis. Please note I have deliberately chosen to use the term transphonia to refer to the process of separating sound from source rather than Murray Schafer’s term schizophonia (1969, p. 43). The former is contemporary, politically neutral and process oriented whereas the latter, modelled on the term schizophrenia, exists in relation to an underlying set of value judgements framed by the World Soundscape Project’s (WSP) anti noise pollution agenda of the 1970s and by Schafer’s personal assessment of soundscape ‘quality’ at the time. I debate the relative merits of these two terms more thoroughly in section 3.3 of this thesis.

I believe that this configuration of perspectives and themes represents an original trajectory that allows me to theorise a body of literature and practice in new ways. In the process, I believe I am able to claim a modest contribution to knowledge. Within the framework of a practice as research enquiry I have also conducted a significant amount of original research, in particular the development of a highly personalised approach to site-specific sound installation. This gives the enquiry its particular and distinctive character. This work is extensively documented in chapter 5 and 6 of this thesis. Again, I propose that this body of work be considered as part of my contribution to knowledge.

A further contribution to knowledge is made in relation to methodological development; the bespoke schema designed for my enquiry is situated in relation to an extensive review of methodologies from related disciplines. The development and use of participant questionnaires, comment sheets and informal interviews and the inclusion of material drawn from field notes and sound diaries is conducted in relation to a review of autoethnographic method. Making and reflecting on these resources has become my own coherent form of evidence regarding my contribution, and many extracts are incorporated into this thesis.

The methodology for this enquiry is also rigorously underpinned through reference to contemporary debates concerning the nature of practice based, practice led and practice as research enquiries. Many of the resources mobilised at this point, including those by writers such as Donald Schön, Robin Nelson, Carole Gray, Michael Polanyi, Linda Candy, Michael Biggs and Carolyn Ellis are drawn from the general epistemological canon of contemporary art and design research. These materials are not widely assimilated by soundscape researchers and composers, especially those functioning within the context of a university music department. Hence, I believe I am making a contribution to the overall field of enquiry.

Finally, with regard to contribution to knowledge, I would suggest that both my thesis and my empirical findings are placed in relation to the wider theoretical context such as the consideration of the uncanny proposed by Ernst Jentsch and Sigmund Freud, Carl Jung's concept of synchronicity, the Lacanian *extimité* and John Cage's consideration of memory, taste and assumption. In order to progress the research I draw widely on the literature of soundscape studies and acoustic communication, in particular the work of

Schafer and Barry Truax. At the same time, I endeavour to create a broad sense of contemporary contextualisation by exploring the work of authors including Steven Connor, Eric Clarke and Michael Bull. A greater body of literature, which draws on many sources, also underpins the research. Key theorists include Henri Bergson, Roland Barthes, Jean-Luc Nancy, Henri Lefebvre and Michel De Certeau. Hence, there is a contribution to the theoretical formation of both sound studies and sound art.

My consideration of the phonographic intervention is also informed by a pragmatic, practitioner-inspired approach that pays close attention to the hands-on traditions of field recordists such as Ludwig Koch, Steven Feld, Luc Ferrari, Bernie Krause and Chris Watson. A defining moment for the direction of this PhD, the conscious experience of monitoring and playback of field recordings while on location, is documented in the last part of this introduction in the section: Listening: a preamble.

This thesis documents the process whereby observations made during an initial phase of in situ listening and field recording came to form the basis of a series of twelve sound-art interventions. These site-specific installations, facilitated by the localised RF broadcast of a mediated soundscape and its reception in situ using wireless headphones, were all conducted within the environment where the primary sound materials were recorded. As well as the direct relationship created between the work and the environment as a result of its source material, the programming of silent passages was a deliberate compositional element designed to blur the line between the prevailing sound environment and its mediation. Two different types of sound were initially used for the installation: linear, fixed media soundscape compositions based on field recordings and the output from a Max/MSP patch designed to recombine individual recordings of soundscape elements into a constantly evolving soundscape montage. Both approaches were used in parallel for the first two installations. Once I had assessed the differences in participant response to these mediations, I concentrated on using the Max-based output, as I personally found this more sonically intriguing.

During the course of my enquiry I also produced work for two gallery installations. The first show presented material from previous installations in a specially built listening room (stereo diffusion) designed to recreate a sense of acoustic connection: by placing the soundscape's source beyond a false window, so as to emulate the everyday

experience of sound from outside bleeding into a domestic interior. The second show extended the work into the purely acousmatic situation with the presentation of 8-channel and spatialised stereo compositions. While their execution came to inform my overall process, they were essentially conducted as self-contained sub-projects. Hence, the documentation can be found in Appendix A, rather than in the main body of the thesis. The chronology on page 12 details and itemises the full programme of work.

I believe this research is important and has great contemporary relevance because it creates a focus on listening and the environment and because the phonographic and installation experiences prefigure, predict and critique aspects of more generalised mobile listening practices. Such practices, which Truax (1984/2001, p. 134) and Bull (see 2000 & 2007) first identify in relation to Walkman and iPod culture, have now become ubiquitous. As Street (2010, email) notes, this process of mediatisation is ongoing and the increased use of portable DVD players, mobile internet devices and podcast formats is contributing a whole new realm of non-diegetic, non-music sound content to the experience of mobility. My research therefore represents a contribution to the literature on sound and environment, mobility and mediatisation.

My way into the intellectual territory presented in this thesis is knowingly subjective; I believe this to be a key element of any enquiry that claims to be truly practice led. As a result, the exposition is driven by my expectations, experiences and perceptions and the readings and insights that arise out of making and delivering work. At the same time, I believe I have actively engaged with the perspectives of something in excess of 300 people as a consequence of exhibiting the work in public and personally facilitating and invigilating each installation. When it comes to sound installation, my process is also knowingly electroacoustic in the way that it deals with the gathering, processing and delivery of sound materials.

This enquiry is very much grounded in the present so it is an investigation of contemporary phenomena and millieux. While I am interested in how the influence of the past manifests itself in the present, I am not especially concerned with what might be termed an archaeology of sound. I am not seeking to identify an ideal or prototype soundscape or uncover any form of underlying quintessence or authenticity. Nor am I seeking to proactively intervene in the soundscape through a form of acoustic design (see

Truax 2001, pp. 109-177) as this would signify an adherence to a set of predetermined value judgements. My concern is to document and explore quotidian sounds, environments, mediations and everyday relationships between sound, people and place. To this end, I explore audible and observable phenomena through the medium of artistic practice.

In chapter 1 of this thesis I look in detail at the various methodologies employed by disciplines that I identify as actively engaging with sound, environment and my chosen themes: soundscape studies, acoustic communication, acoustic ecology, ethnography, communication studies, landscape architecture, acoustics and art and design. I also focus in detail on contemporary sound art methodologies. Reviewing these approaches enables me to propose an appropriate mixed methodology for my enquiry. I subsequently identify and discuss a group of relevant methods. Having contextualised my enquiry in relation to various disciplines, chapter 2 extends this contextualisation further by locating my work in relation to the practices and works of other artists.

Chapter 3 focuses on the initial phase of the research when listening was the foreground activity. After documenting my various field trips and other initiatives, the second half of the chapter settles to exploring relevant considerations: a clear definition of my field as it relates to both the intellectual and phonographic traditions, and the problematics created by the use of schizophonia as the underlying intellectual position from which to address the separation of sound from source.

Chapter 4 documents the development of my site investigation strategy and the primary model of sound installation that I employed throughout the research. The chapter includes material on: the recording, processing, editing and classification of environmental sounds; the development of a Max/MSP patch to recombine individual sounds, sonic events and ambiences into a mediated form, and decisions concerning the delivery system. Information concerning the fixed media compositions that were used during the initial phase of the research is also included.

While the basic process of site investigation and installation delivery remained the same throughout my programme, the focus shifted at approximately the halfway point. My initial concerns, documented in chapter 5, were the development and delivery of the

work, my own response to making it, participant responses to the installations and my engagement with their experiences. The process was designed to interrogate further my personal experiences of in situ listening and propose new areas for investigation. As a result, emotion and affect (valance, arousal and motivation) played a significant role in the development process and the consideration of audience responses. This is reflected in the second half of the chapter where issues concerning meaning, mood, repetition, rhythm, disorientation, uncanny sensations and coincidence are explored. A considerable portion of this chapter has already been published under the title, *Voices on the Wind: Compositional Approaches to the Identification and Interrogation of Meaning in the Soundscape*, in the peer-reviewed journal *Sound Effects* (Leadley, 2011); and as interview content in *The Poetry of Radio, The Colour of Sound* (Street, 2012).

As I felt a number of my initial questions had been answered in phase one of the research, it was possible for phase two to follow a looser, more experiential schema. In March 2011 I conducted the AudioLab 11.1 installation at West Bay in Dorset. This became the first where the focus was on a more philosophical, personal exploration of soundscape and listening. Chapter 6 documents these installations. Thematically, the chapter explores the relevant conceptualisations of place and space, site and landscape, time and installation practice. Much of the work in chapter 6 expands on issues I address in the paper, *Where is the Soundscape? Landscape and Site: Reconsidering Location* (2013), which is published in the *Proceeding of the University of Kent's Symposium on Acoustic Ecology*.

The conclusion to this thesis asserts and evidences the key areas where the enquiry makes a contribution to knowledge, champions the role of tacit knowledge in the development of practice and highlights the principle insights that have propelled the research forward. A number of speculative proposals for future research are outlined.

Programme of work June 2010 – November 2013

Location and Event	Date	Event Type	Method/Content
De Montfort University, Leicester Sound, Sight, Space and Play conference	June 2010	Site-specific installation at academic conference Urban campus	# Fixed media soundscape composition # Randomly structured soundscape (Max/MSP) (Both based on sounds recorded on and around the De Montfort campus)
Whitstable Biennale 2010	June 2010	Site-specific installation at public art event Beach and seafront	# Fixed media soundscape composition # Randomly structured soundscape (Max/MSP) (Both based on sounds recorded in Whitstable)
Bournemouth University, Talbot campus Sounding Out 5 conference	September 2010	Site-specific installation at academic conference Residential, self contained suburban campus	# Randomly structured soundscape (Max/MSP) based on Talbot campus sounds # Randomly structured soundscape (Max/MSP) based on sounds from Whitstable # Fixed media [CD] version of De Montfort installation sound
Wolverhampton University Space: the Real and the Abstract conference	July 2010	Installation at academic conference Foyer, gallery and exterior spaces, Art and Design Building – urban setting	# Randomly structured soundscape (Max/MSP) based on Whitstable sounds # Randomly structured soundscape (Max/MSP) based on sounds from Leicester
West Bay, Dorset AudioLab 11.1 Language of Place symposium	March 2011	Site-specific installation at sound symposium organised by regional arts organisation (Labculture Limited) Seafront and harbour	# Randomly structured soundscape (Max/MSP) based on West Bay sounds
Ceramic House, Brighton	May 2011	Site specific installation and performance at gallery 1930s terrace house and garden	# Randomly structured soundscape (Max/MSP) based on sounds collected in the gallery during Artists' Open Houses 2011
Goldsmiths, University of London SPR Phonography Colloquium	July 2011	Site-specific installation at academic conference College Green	# Randomly structured soundscape (Max/MSP) based on sounds recorded on and around College Green
Ionian University, Corfu World Forum for Acoustic Ecology 2011	October 2011	Site-specific installation at academic conference Garden of the Palaia Anaktora	# Randomly structured soundscape (Max/MSP) based on sounds recorded in and around Corfu Old Town
Kingcombe, Dorset AudioLab 12.1 Language of Place symposium	March 2012	Site-specific installation at sound symposium Kingcombe Centre	# Randomly structured soundscape (Max/MSP) based on sounds recorded around Kingcombe wildlife centre
Carter Presents, Bethnal Green Outside In as part of Sound Proof 5	July 2012	Gallery show Converted Victorian shop, urban location	# Purpose built installation space, programme of fixed media sound works based on Max/MSP outputs from Leicester, Bournemouth, West Bay, Goldsmiths and Kingcombe installations (stereo diffusion) # Series of shorter works featuring the verbal articulation of text scores and Max/MSP triggered audio
Whitstable Biennale 2012	September 2012	Site-specific installation at public art event Beach and seafront	# Randomly structured soundscape (Max/MSP) featuring sound recorded in Whitstable, including content generated using contact microphones and hydrophones
Goldsmiths, University of London UKISC Symposium	September 2012	Installation at academic conference College Green	# Re-presentation of sound installation generated for SPR Colloquium in July 2011
St James Hatchem Church, New Cross SHO-ZYG	September 2012	Installation Converted church	# Multi-channel composition based on sound recorded at West Bay (8-channel diffusion) # Spatialised fixed media stereo composition based on output from Whitstable Biennale 2012 installation (8-channel diffusion)
University of Kent, Medway Campus Symposium On Acoustic Ecology	November 2013	Site-specific installation Historic Dockyard setting	# Randomly structured soundscape (Max/MSP) based on sounds recorded on the Historic Dockyard campus, Chatham

Listening: a preamble

(14/03/2007. 1.30pm) *The air is cold and the grass under my feet long, damp and very green. It provides a certain resistance and adds a specific timbre to the familiar sound of my own footfall. It's only part of the effect; I have long been aware that heavy PVC Wellington boots make me walk in a particular way. The pace is slower, more consistent and more deliberate than my urban trot. Today, I am walking around Westbere Lakes and I am testing a new field recorder and the location is ideal. At the same time, I am hoping to gather some material for 8-channel composition. And then there is a simple desire to ramble over familiar territory where I realise I have never recorded before. In so doing, I hope to expand further my understanding of the experience of a place.*

Westbere Lakes occupies a 120-acre site in the Stour river valley four miles northeast of Canterbury. My parents moved to Westbere village when I was eleven and while the lakes today give the impression of a timeless natural environment, I can remember a post-industrial phase of decaying machinery and earthworks. The original marshes and meadows became a gravel works in the immediate post war years. When quarrying stopped in the early 1970s the operator, the Brett Group, returned the site to a 'natural' environment. It subsequently won a European Year of the Environment Award for the restoration in 1988. This wetland now features open water, reed beds, and grazing marshes and it has become important for breeding birds and wintering waterfowl.

Sonically, the site has an unusually pristine character. The sides of the valley are relatively steep and no roads pass through it. Unless the wind is in a particular direction no sound from the A28 Margate road reaches the valley floor. The Ashford to Ramsgate train line runs through the valley, but trains are infrequent. There is some aircraft noise but this has little impact as planes are flying at altitude. While public access is allowed, there are only two points of entry and neither is signposted. There is a small, unobtrusive sailing club with a membership of around 70 people, but the small dinghies and trimarans are an infrequent sight, and from the shore appear as completely silent guests. On a Wednesday afternoon in mid March at the beginning of the fishing close season I am unlikely to encounter so much as a single dog walker. And March is the month when the soundscape begins to take on the complexity of a

new season with the arrival of many migrant bird species. These factors, in combination with the size of the site, means there are ample opportunities for phonographic exploration.

Normally when I record in the field I monitor as I go using high quality closed back headphones and set the volume level as close as possible to an approximation of what is heard directly by the ear: environmental sound is what it is, louder is not better in my opinion. Used this way the microphone becomes a listening aid, and acoustic window through which to listen, not a hearing aid to amplify the detail, for fear one might somehow be missing something important. Listening to the world in this way draws me to record at ‘sweet spots’ in exactly the same way that manoeuvring a microphone in front of an instrument amplifier’s speaker cone reveals tonal nuance.

While the place I have chosen for the test recordings overlooks the main lake, where the characteristics of the acoustic space¹ are well articulated, it is only a short distance into the reserve, and within 20 meters of the train line. I have chosen this location and timed my arrival to coincide with the passing of one of the express trains; due to the lack of environmental masking the envelope of the sound from onset to conclusion is uncluttered and extended. As a sonic event the recording may prove useful as library material – and as a test source it is capable of revealing much about the quality of microphones and on-board preamps.

While the lack of isolation, even with headphones, means that any serious on-site listening is impossible, I pick a few files at random to reassure myself I have recorded something, and to check for handling noise. It is the experience of the next few minutes that is to become the point of departure for my PhD research.

What strikes me at this point is the difference between the experience of listening to an environmental sound recording in the studio or at a concert and the experience of listening to the same recording at the place where it was made. Here, the potential relationships between sounds, objects and sequences of events do not exist only in the

¹ A term used here to suggest the, “perceived area encompassed by a soundscape” [Truax, 1978/1999] rather than Murray Schafer’s (1977/1994, p. 27) definition, “The profile of a sound over the landscape” or; the term Marshall McLuhan uses in relation to the categorisation of media and culture (Edmund Carpenter and Marshall McLuhan, 1960, pp .65-70).

hearing and imagination; they are directly informed by the visual and auditory elements of the prevailing environment. So what is going on here?

Canada Geese fly overhead through the aural domain but there is no visual correlation. Shortly after, I see Mallards fly directly in front of me, yet their wings appear to beat this passage in silence. I hear my recorded footsteps as I move a few meters to the left, and my perspective is relocated – yet I remain stationary. This creates a feeling I can only describe as that of a sensory extension beyond the body. This leads me to consider the promise of psychical phenomena – such as remote viewing or astral projection – where the desire for a sensing beyond human physical limitation is expressed. I am also drawn to think about Sigmund Freud's (1919/1959 pp. 372-403) observations concerning the causes of uncanny experiences. I hear the wind gust but do not feel its rough caresses in my hair and suddenly I turn, physically startled by the sudden passing of a train – but it is nothing more than an electroacoustic Taranis without physical presence.

1. Methodology

1.1 Introduction

Following the initial spur created by my Westbere Lakes field trip in 2007, this PhD enquiry began in earnest in the autumn of 2008. I first set out to contextualise a set of primary observations that I extracted from my personal experience of in situ listening:

- Coincidental interactions between recorded audio and real-time audio and visual phenomena
- Various forms of disorientation created by listening to recorded environmental sound materials while on location
- Uncanny sensations – which might, or might not, simply be another form of disorientation

At the time, I was aware that this phase of the research would identify other potential strands for the enquiry. Hence, I formulated the following three basic questions to delimit the disciplinary and methodological scope of the research, while encouraging a wide range of observations for the purpose of identifying areas where gaps in knowledge might exist.

- What perceptual and cognitive functions are revealed by this practice-led enquiry?
- How does existing theory support or challenge observations made during practice-led research?
- What form of sound art practice might deliver an intellectually and emotionally engaging experience at the same time as creatively exploring perceptual and cognitive functions?

While it felt important to formulate question 3 at an early stage in my process, I was also aware that moving too quickly to define the form of the work or adopt specific methods might unduly prejudice outcomes. As a result, the first PhD related artwork was not executed until June 2010. Broadly speaking, the period October 2008 to June 2009 was given over to the investigation of related literature and practice and reviewing sources that discussed different approaches to PhD enquiry (i.e., the trajectories of practice-led, practice-based and practice as research). In the second half of 2009 I commenced a

programme of active listening and began to conduct field trips. At the same time, I began investigating research methodologies and approaches across a constellation of disciplines, which I identified as research environments in which my core concerns might be addressed. I identified these concerns as:

- Environmental sound
- Schizophonia and transphonia
- Electroacoustic mediation
- Psychological affect
- Participant and community experience
- Artistic production and delivery

The disciplines I identified (and subsequently explore in section 1.2) were:

- Soundscape studies
- Acoustic communication
- Acoustic ecology
- Landscape architecture
- Acoustics
- Ethnography
- Communication studies
- Art and design
- Sound art

At this early stage of the research I became somewhat fixated with the need to generate research questions and a central hypothesis; an underlying requirement for PhD enquiries to progress from research questions to methodological enquiry and an argued thesis was the dominant paradigm for doctoral research in all fields. This was clearly evidenced, for example, in the documentation of the Arts and Humanities Research Council. This felt problematic at the time but it was not until much later, when I encountered Michael Biggs' (2003) observations concerning the fundamental problem of a 'question and answer' based approach to research in art and design, that I began to understand and articulate a key issue concerning process at the heart of my endeavour.

“Although the practitioner may set some particular problem as a motivation for work in the studio, most creative activity seeks to problematize that which is familiar, or to raise questions or issues rather than to answer them. Outcomes need to be interpreted rather than simply 'read' and this undermines their reception as putative answers.” (Biggs, 2003)

Biggs goes on to observe that the format may be redeemed if questions are, “rephrased as: 'how can X be problematized?' or, 'how can Y be raised as an issue?’” (*ibid.*). This focuses the enquiry towards themes that may be creatively explored in, and by, the work: the experiential and the interpretative, and away from the need to deliver proofs.

While soundscape studies has embraced field recording and soundscape composition since its earliest days, both have remained discrete activities for documentation or artistic presentation rather than as direct methods for site investigation. Observing Truax comments (1984/2001, p. 237) on the relationship between soundscape composition and the listener and the way successful work may change the listener’s awareness and attitudes towards the soundscape, I decided to investigate ways in which I might use phonography, compositional practice and site-specific installation as core methods to deploy in the field. Truax’s observations aligned effectively with Biggs’ ideas concerning the problematization of the familiar and the raising of issues. They also prompted questions about where knowledge might be located in relation to the work itself. Here, Biggs’ commentary was again useful in highlighting the benefit of performance-oriented works because they have the advantage of being time based.

“This allows a narrative to be constructed that takes the audience through a developmental process, modifying their perception. Whether this can be done by the same performance that we wish to prepare the audience to receive is another matter. I suspect it cannot: that we are describing a preparatory process that may be undertaken by means of a performance followed by the performance over whose interpretation we wish to have greater control,” (Biggs, 2003)

While the last part of this quote appears somewhat cryptic, Biggs is talking about the contextualisation of the work in relation to a wide range of extrinsic factors. He builds a case for the overall embodiment of knowledge, a gestalt if you will, that includes an initial contextualising ‘performance’ (be it in the form of a written, spoken or performed introduction, programme notes, etc.) that introduces the work and, “the combination of the work (painting, design, poem, dance etc.) and a critical exegesis that describes how it

advances knowledge, understanding and insight, i.e., its instrumentalism.” (*ibid.*)

A more general review of research frameworks for art-based PhDs delivers up three primary models that may be drawn upon to support the development of individual enquiries: practice based, practice led and practice as research. In terms of a timeline, Linda Candy suggests (2006, p.3) that the practiced based trajectory was the first to emerge, in Australia, in the early 1980s. She also observes that there is a good deal of confusion concerning the differences between practice based and practice led research approaches. As a proponent of the practice based approach she notes that the terms are often, incorrectly, used interchangeably. She proposes the following definitions:

- If a creative artefact is the basis of the contribution to knowledge, the research is practice-based
- If the research leads primarily to new understandings about practice, it is practice-led

Candy goes on to observe that the practitioner’s claims that relate to new knowledge are evidenced through the inclusion of work (dance, sculpture, music, etc) for practice based research whereas a practice led enquiry may be successfully conducted as a purely text-based exercise. This might include the documentation of practice but the creative output itself is not an essential element of the exegesis. While the terms practice based and practice led are widely used, it is certainly not the case that these precise definitions are universally adopted. Hence, many enquiries that self-identify as practice led position artefacts and outputs at their core.

Anna Douglas, Karen Scopa and Carole Gray (2000) observe three different research routes as emerging from a practice-led trajectory: personal research, research as critical practice and formal research. Personal research is often a private form that is focussed on the development of individual works or projects. It is rarely a formal process and often takes place within the framework of professional practice. It may become embodied in the work and therefore implicit. This form of research is located in relation to the contexts of publishing, performance or exhibition. The research as critical practice trajectory may be observed where work is produced in relation to experimental criteria

designed to facilitate creativity, innovative approaches or foster new relationships with audiences. There are various forms of funds available to support this form of activity and, largely as a consequence, the reflection on process, documentation of outcomes and the discussion of underlying issues are often well developed. This form of research is, again, presented via the medium of practice. However, the more advance forms of documentation it generates may allow it to become the analytical subject of formal research. Formal research is, “presented through structured and evidenced argument, itself a product of rigorous analysis, in which artworks or art projects may have a specific and clearly articulated role” (*ibid.*). While practice remains at the centre of the endeavour, insights that are presented as new knowledge must be validated, evidenced and contextualized in relation to the broader field of study. Douglas, Scopa and Gray suggest that these three modes of research function as a continuum and that, “the dynamic allows the practitioner to anticipate what the requirements, limitations and impact of any one route might be, enabling them to position themselves within a complex research culture” (*ibid.*). They also observe that there is no consensus view as to what constitutes a correct research paradigm for a practice-led enquiry and that individual methods may be drawn from a wide range of disciplines. As a result, “The proposing and evaluating of different interpretations of the practice/research relationship becomes a vital characteristic of our research culture” (*ibid.*). It is at this point that the development of a ‘bespoke’ methodology for each individual enquiry emerges. Indeed, the development of methodology in relation to practice led research has, in itself become a specific contribution to knowledge within the interdisciplinary frame. Hence, both the documentation of its development and its implementation needs to be as rigorous as any other aspect of the enquiry. Details concerning the particularity of methods and their evolution during the course of the enquiry needs to be documented and evidenced. I do this initially in section 1.3.1 and then in chapter 5 and 6.

Robin Nelson, as a contemporary critic of the term practice-led research who’s work traces the relationship between practitioner, statement and opinion observes (2013, p.10) that the term, intentionally or otherwise, implies that knowledge follows or is secondary to practice. He proposed practice as research as a more useful term, noting that the

processes of practice and research inform each other reciprocally in a successful enquiry². He also points out that writing is not a means to translate practice into words; “writings assists in the articulation and evidencing of the research enquiry” (2013, p. 36). He triangulates (*ibid.*, pp.37-47) praxis in relation to three discrete, but interrelated, areas of knowing: know-how, know-what and know-that. Know-how, or procedural knowledge, is gained through the doing or making or work. It is the summation of a set of skills acquired incrementally through experimentation, the formal learning of technique and a developing knowledge of technologies and situations. In time, this form of knowledge may become embodied and its application may become second nature. Hence, practitioners may be unaware of having learned these skills as their application to a situation may be instinctive. Nelson relates this form of knowledge to Donald Schön’s conceptualisation of tacit knowledge (Schön, 1983/1991, pp. 49-69), which itself develops ideas initially proposed and explored by Michael Polanyi (1966/1983). Schön’s discussion emerges from the observation of intuitive performance in every day life where it is often difficult to articulate the underlying knowledge that facilitates action; “our knowing is ordinarily tacit, implicit in our patterns of action and in our feel for the stuff with which we are dealing. It seems right to say that our knowing is *in* our action” (*ibid.*, p.49). This, he extends to the actions of professionals – noting the importance of this tacit knowing-in-action by which phenomena are recognised and judgements made without reference to formal sets of criteria, rules or procedures. Barbara Bolt also recognises (2010, pp. 27-34) the importance of tacit knowledge, specifically the form that relates to modes of knowing that can only be gained through the handling of materials in practice. She draws attention to the dialogic relationship between making and writing and highlights the moments when practice and theory mutually inform one another. She suggests that praxical knowledge emerges as a reflexive knowing from the engagement with materials and processes and it is around this core reflexivity that practice led research coalesces.

Nelson defines know-what as the product of critical reflection: a process by which the consideration of what one is doing leads to a specific form of insight. He observes that,

² The importance of this reciprocity between research and practice is not something that that escapes observation by the proponents of a practice-led research model however. Barbara Bolt for example, in assessing David Hockney’s investigation of Jean-Auguste-Dominique Ingres’ drawing technique observes that, “Hockney’s visual argument demonstrate the double articulation between theory and practice, whereby theory emerges from a reflexive practice at the same time that practice is informed by theory (Bolt 2007/2010, p.29).

over time, operating purely within the instinctual framework of tacit knowledge can lead to repetitive and routine outcomes. Learning to stand back and observe in a critical and constructive fashion facilitates the development of method and the documentation of process. Ultimately this may lead to a form of reflection-in-action (a term initially proposed by Schön) where the practitioner may 'find the groove' or a 'feel for' the material or situation they are working with. In order to aid the process of critical reflection Nelson also notes (*ibid.*, p.45) that, "an additional dimension is required to dislocate habitual ways of seeing... a dimension may be mobilised from within, from an element of playfulness in the know-how process, and from without, through engagement with a range of perspectives and standpoints to promote the interplay with fresh ideas." His third form of knowledge, know-what, represents both the body of knowledge derived from academic study as well as the experience gained through engaging with process in the context of a particular research enquiry.

Nelson observes that a constructive engagement with, and the interplay between, these three different forms of knowing can be used as a successful model for developing a practice as research enquiry. It suggests forms of activity that may be required and helps to clarify where different types of evidence may be located – while continuing to centralise practice at the heart of the enquiry. This creates an emphasis on the articulation of the experiential and the intuitive and helps to dismantle the notion of knowledge as an absolute; it provides multiple centres around which parallel research narratives may coalesce. While scientific method may deliver the apparent assurance of an experimental, repeatable rigour the interplay between contextualisation, practical intervention and critical reflection proposed here for arts-based enquiry is equally rigorous. This also facilitates the development of the type of bespoke methodology required for arts-based enquiry, the adoption of methods from a range of disciplines and the overarching sense of interdisciplinarity that characterises a practice as research enquiry.

My response to the above assessment of research frameworks is documented in section 1.3, which outlines both the methodology and the specific methods chosen for my enquiry. This development is also conducted in relation to a review of the approaches of related disciplines. This follows.

1.2 Related methodologies

1.2.1 Soundscape studies

In accord with Schafer's (1994, p. 4), initial conceptualisation of soundscape studies as a "middle ground between science, society and the arts", social science methods including surveys, questionnaires and in-depth interviews play a significant role in location studies. This is evidenced by: the European Five Villages Soundscapes (Truax, 2001, pp. 84-88) and its continuation study Acoustic Environments In Change (Järviluoma *et al*, 2009); Kanda Soundscape Project in Tokyo (Keiko Torigoe, 2002, pp. 39-54); the TESE project on the Scottish Islands of Harris and Lewis (Gregg Wagstaff, 2002, pp. 115-132) and Peter Cusack's Favourite Sounds project (Angus Carlyle and Irene Ravell, 2009, p. 9). The documentation of early World Soundscape Project's enquiries (see David Paquette, 2004, p. 51) evidences the application of a wider range of quasi-ethnographic methods such as initial archival research covering newspaper resources, legislation, literature, historic sources and the identification of earwitness accounts. Here, human perspectives enter the study frame and qualitative data concerning inhabitant's impressions and opinions may be used to inform project planning and final outcomes such as written reports. Interaction with the soundscape's community is considered an essential part of locating key sounding aspects, and broadly defining the character of the acoustic environment.

The WSP's International Sound Preference Survey of 1970 (Schafer, 1994, p. 269) demonstrates the use of quantitative survey techniques. This samples opinion about eleven different categories of sound in four different countries. Another qualitative method is the soundscape diary (*ibid.*, 1994, p. 211); this is used to note interesting variations in sound from place to place and time to time. However, the form is flexible and can include anecdotal information and observations. Uimonen (2002, p. 174) recommends the keeping of sound diaries by participants in long-term preference tests as it develops a focused relationship with everyday sounds over time. Diaries are also seen as a useful adjunct to interviews. Such journals can build up detailed information about a single location, a journey or provide comparisons between places.

Soundscape studies methodology has borrowed extensively from the sciences.

Sonography (Schafer, 1994, pp. 264-270), the art of soundscape notation, has evolved as

a series of graphical mapping techniques which are among the principle tools for addressing concepts of space. Isobel contour maps (*ibid.*) have been used to show variation in sound pressure levels over a given area by connecting locations with similar readings in the same way that geographers map altitude. Sound counts (repetition) have also been used to produce soundscape maps with acoustic patterns being revealed by comparing counts and maps over time. More recently, The Positive Soundscapes Project research group at the Division of Health Science, Manchester Metropolitan University (Carlyle and Ravell, 2009, p.7) has tracked heart and respiration rates during soundscape listening. Emotional response to soundscapes has been tested using functional magnetic resonance imaging at the University of Nottingham's MRC Institute of Health Research (*ibid.*, p.8). Listening tests have been used to establish an objective Speech Intelligibility Index for different levels, content and background noise (*ibid.*, p.12).

Walking (see Schafer, 1967 and 1994, p. 212) is an important aspect of Soundscape studies methodology. In a group listening walk people spread out so they cannot hear each other's footsteps and proceed while listening for the footsteps of the person ahead – so as to keep the ears alert. What is heard is discussed after the event. Soundwalks (Schafer, 1994, p. 212), on the other hand, are usually guided and designed to draw attention to unusual sounds and ambiances. Soundwalks (Drever, 2009, p. 31) may feature a written score or script to suggest interactions with the environment. Both listening walks and soundwalks are useful tools for exploring new and familiar locations and heightening acoustic environmental awareness.

As Paquette (2004, p. 50) observes, the WSP's introduced sound recording as a fieldwork method at a very early stage in its research programme. However, neither techniques nor approaches were ever formalised. As a consequence, the form and quality of archive recordings varies considerably. Particular attention is given to the classification of soundmarks, sound signals and keynote sounds as developed by Schafer (1994, p.9). Paquette notes a high degree of consistency in the compilation and retention of contextualising materials.

The recording of walks, instigated by WSP member Hildegard Westerkamp, reflects the availability of the first truly portable sound recording equipment in the 1960s. Westerkamp's introduction of narrative and spoken word content might be seen as

representing an extension of the guided aspect of soundwalking and, as Andra McCartney (1999, p. 263) points out, it has not always met with critical approval. With reference to *Kits Beach Soundwalk* she observes the fact that one listener, “reacts against the voice while the other continues to find it soothing, points to the most persistent critique made about this piece: that the vocal narrative takes hold of one's focus, seeming to restrict people's abilities to go on their own journey during this work.” However, the inclusion of spoken content has become a popular device. Westerkamp's approach has influenced artists such as Janet Cardiff, Stephan Crasneanski, Viv Corringham, Zoe Irvine and Jennie Savage.

While I have already touched on the role of soundscape composition within the soundscape studies paradigm it should be noted that Truax (2001, p. 237) defines the form as a continuum which begins with found sound: “a soundscape whose organisation is so compelling, varied, and interesting that a simple recording of it may be listened to with the same appreciation that one has for conventional music.” It evolves towards works, “that are painstakingly constructed from elements such that they appear to have plausibly occurred that way, to those that have been substantially manipulated for musical or other purposes, but are still recognisably related to the original environment.” Thus the parameters of what constitutes a composition are both fluid and malleable.

It must be noted that soundscape composition today is a problematic concept for many. Drever (2002, pp. 21-27) highlights issues concerning its positioning alongside the acousmatic tradition of academic music studies and how this influences both listening and production techniques. Francisco López (2004, pp. 82-87) criticises Truax's assessment of the primary goal of soundscape composition as, “the reintegration of the listener with the environment in a balanced ecological relationship” (Truax 2001, p. 241). He suggests this limits interpretation and constrains artistic freedom.

1.2.2 Acoustic communication/acoustic ecology

While the existence of the terms soundscape studies, acoustic communication and acoustic ecology suggests different disciplinary focuses, it is, in practice, quite difficult to separate them as distinct areas of study. Methodologically, each shares much common ground. Acoustic communication, developed initially by Truax, is essentially an outgrowth from the original WSP approach; he was one of its principal members. He

(2001, p. 11) suggests that acoustic communication reframes the engagement with the sound environment in relation to a communications model of acoustics that, “deals with the exchange of information, rather than a transfer of energy. In other words, it does not deal with sound in isolation from the cognitive processes of understanding it” (*ibid.*). Listening and community become key aspects. There is a greater focus on the idea of the listener as a sound maker (*ibid.*, p. xviii) and therefore as an integral aspect of the environment.

Truax defines acoustic community as, “any soundscape in which acoustic information plays a pervasive role in the lives of the inhabitants,” (*ibid.*, p. 66). This is general enough to encompass a room full of people, a building or a communications network. Whereas Schafer’s earlier writing focuses on the historical aspects of soundscape change which, for the most part, is framed as a perceived fall from grace, acoustic communication is consistently rooted in the study of the present. Consequently, there is a greater acceptance of electroacoustic phenomena and media ecology as legitimate areas for impartial study, rather than as universal ills. Much of this analysis is, however, still presented from a dystopian viewpoint: schizophonia is viewed negatively and the use of personal stereos is seen as an indicator of a growing social trend towards self-imposed isolation (*ibid.*, p. 135). Out of this is born an enhanced focus on the development of electroacoustic design (*ibid.*, pp. 243-250) as an interventionist form, and a renewed focus on soundscape composition as a means of communicating issues and concerns to a wider audience.

In practice, anyone engaged with studying the soundscape applies the shift of perspective created by acoustic communication to the earlier Schaferian model in order to create a more contemporary and inclusive synthesis. In other words, acoustic communication informs soundscape studies. The term acoustic ecology emerges from Schafer’s early writing.

“Ecology is the study of the relationship between living organisms and their environment. Acoustic ecology is thus the study of the effects of the acoustic environment or soundscape on the physical responses and behavioural characteristics of creatures living within it.” (Schafer, 1994, p. 271)

There is an emphasis on the interrelation between the different sonic elements within the soundscape, which reflects the notion of its natural ecological balance. This balance includes the incidents of both human artefacts and soundscapes where human activity prevails (see Truax, 2001, p. 66). While it is not uncommon for soundscape researchers to refer to themselves as acoustic ecologists and Truax has produced the *Handbook for Acoustic Ecology* (1999), a separate identity for the discipline cannot readily be identified. Indeed, the *Handbook for Acoustic Ecology* exists now as an essentially online repository of terms, definitions and methods that agglomerates the approaches, perspectives and methods of soundscape studies, acoustic communications and, to a lesser degree, acoustics. Methodologically, practitioners who self identify as acoustic ecologists appear most likely to engage with the documentation of personal observation, field recording, mediated curatorial approaches to sound and verbal and written presentations than they do to scientific methods. They may also engage with studies involving participant/community feedback, which enhances an underlying ethnographic orientation.

1.2.3 Centre de recherche sur l'espace sonore et l'environnement urbain (CRESSON)

While there are distinct crossovers between the soundscape studies paradigm and approaches developed at CRESSON, a multidisciplinary research unit based at University of Grenoble, the latter's methodology development warrants separate consideration. As the Centre has been in operation for over 40 years and has engaged with a wide range of research themes and projects, a case-by-case analysis is beyond the scope of this current enquiry. However, general guidelines and principles have been specifically documented to aid researchers in the field. At the most fundamental level Björn Hellströmm (2002, p.61) observes that study begins from the position: "*diagnostiquer le bien*". It is the signification of quality that is important: a space that sounds good need not necessarily be quiet.

Jean-François Augoyard, CRESSON's founder, is from a very different background to Schafer: sociology and philosophy. Prior to its formation he published *Step By Step, Everyday Walks in a French Urban Housing Project* (1979/2007). This, as the title suggests, is a detailed, experiential and observational account of a particular aspect of contemporary urban living. Augoyard's focus on walking as a method of urban exploration connects to a different tradition: the deambulations of the 19th century *flâneur*

as poetically depicted by Charles Baudelaire (1863/1995) and explored by Walter Benjamin (1928/2006) and; Guy Debord's (1958) Situationist practice of *dérive*. *Step by Step* influenced Michel de Certeau's writing of the *Walking In the City* chapter of *The Practice Of Everyday life* (1980/1988) and, as a consequence, gains a direct engagement with debates concerning space and place. The consideration of walking presents common ground with the trajectory of Schafer's soundwalking practice and connects the discourse to earlier literary perspectives and practices of writers such as Marcel Proust, Henry Thoreau and composers such as Ludwig van Beethoven and Erik Satie (Drever, 2009, p.12).

Sonic Experience, A Guide to Everyday Sounds (Augoyard and Henry Torgue, 1995/2008) provides a clear overview of aspects of CRESSON methodology and is a key point of reference for many related fields. As a guide to an eclectic range of phenomena, the effects are grouped thematically. As a result, it bears a strong resemblance in both form and function to Truax's *Handbook for Acoustic Ecology*. One of the principal characteristics of the CRESSON approach is the comparison of the physical features of a location with the perceptual awarenesses of inhabitants and users. To aid this analysis 16 major and 66 minor sonic effects are identified. Although the resulting lexicon of terms is constructed in relation to the built environment, they are generally useful across a wide range of sound environments. They are designed as tools for the analysis of complex sound situations, representations and interventions, and for educational purposes.

Hellström (2002, pp. 60-82) notes that CRESSON often uses a complex multi-stage method for urban study in which different groups of participants make site visits and respond to field recordings during listening sessions. Final reports are produced that document:

- The sonic environment – the objective, measurable acoustic qualities
- Sonic milieu – the subjective consideration of the practices, uses and customs of inhabitants as heard in the sonic environment
- Sonic landscape – the inter-subjective assessment of a location's phonic beauty

While group study is not an aspect of my enquiry, these three parallel approaches are useful perspectives to have in mind during the process of site investigation; they address many important parameters.

1.2.4 Communication studies/ethnography

A wide range of methods that owe their origin to communications studies approaches have already been outlined in this review in relation to the methodology of soundscape studies; as a consequence of the WSP's legacy as a functioning entity within a department of communications studies. Since it became a defined discipline in the 1970s, communications studies has drawn widely on ethnographic methodology. Carolyn Ellis lists the qualitative ethnographic methods deployed in fieldwork as, "everything you do to gather information in a setting, especially hanging around, making conversation, and asking questions, but also formal interviewing and other information gathering" (2004, p.26). Rebecca Rubin, Alan Rubin, and Paul Haridaki (1996/2009, pp. 220-222) list the principal tools as questionnaires, polls and ratings, intensive interviews (and related transcripts) and focus groups. These are used in relation to ethnographic observational approaches. These are generally classified as either: participant observation, where the researcher participates in the social or community situation, recording their own observations and information from group members; or unobtrusive observation where the researcher remains on the outside of the group in an attempt to retain the maximum objectivity. Both approaches lead ultimately to the preparation of case study documentation that endeavours to form, "objective descriptions of social norms and events that occur. When attending to the physical and social ecology of the communication setting ethnographers try to explain the regularities of how people behave in social situations," (*ibid.*, p. 222). While social context is not the primary focus of this practice as research enquiry it will become apparent as this thesis progresses that an underlying social subtext, both in terms of the environments encountered and the installation/art experience, represents an important dynamic.

As my enquiry is closely aligned with the documentation and exploration of personal observations and participant's reactions to work the use of ethnographic methods such as journals (in the form of sound diaries), questionnaires, recorded interviews and transcripts are all deemed highly appropriate. Also, because the methodology mobilises elements of creative writing in the form of extracts from diaries and journals it needs to

be located in relation to autoethnographic method. While this term first appeared in the mid 1970 (see Tony Adams, Stacy Holman Jones and Carolyn Ellis 2015, p.17) the approach developed in the 1980's to meet the needs of researchers in fields such as sociology, anthropology, communications and women's studies where there was a desire to engage with subjectivity, reflexivity and narrative-based approaches. The method is designed to avoid be sort of claims to objective truth that might be made were an enquiry being carried out from a more orthodox social science perspective. Creative writing is central to the process; autoethnographic stories are, "stories of/about the self told through the lens of culture. Autoethnographic stories are artistic and analytic demonstrations of how we come to know, name, and interpret personal and cultural experience" (*ibid.*, p.1). Ellis (2004, p.15) talks of how autoethnograph is contextualised by our own autobiographical content and by making explicit our influences and pathways. As a research method, personal experience is uses to describe and critique cultural phenomena, beliefs, practices and experiences. It reveals the 'workings out' of how ideas and meanings evolve experientially and uses processes of self-reflection to interrogate the interstices between the personal, cultural, social and political aspects of the research. This focus on individual experience, both the participant's and my own, is more appropriate than, for example, pursuing the statistical analysis of questionnaire data as this doesn't capture the flavour of the 'narrativisation' of the participant's story or the emergent character of the research journey. It provides nuanced, complex and specific knowledge relating to individuals, events and situations and it does not attempt to generalise. The use of autoethnographic method also illustrates, "the investment researchers have in their research; by being personally, emotionally, aesthetically, and narratively connected to a cultural group or experience, autoethnographers may take more responsibility for and greater care in representing themselves and others," (2015, p.18). As these narrative elements engage with both the practice and the production of the thesis they also help to clarify the relationship between practice, theory and the written submission. However it should be observed that the mobilization of different 'voices' within the framework of a thesis might create confusion in relation to the subject position 'I'. Hence it is necessary to differentiate between the general discursive, authorial voice and the role of the embodied speaker in the journal and script extracts. This issue is addressed in detail in section 1.3.

1.2.5 Landscape architecture

The methodology of landscape architecture is defined principally in relation to practical methods and design solutions (see Kevin Lynch and Gary Hack, 1984) and evidences a client-oriented approach. Per Hedfors (2003, p. 12) observes that methodologically, contemporary practice draws upon environmental psychology and geography and that site specificity is a key aspect of planning that drives both design and aesthetics. He also observes that the discipline has a primary visual focus, with sound and acoustics playing a background role at best. As a consequence, he devises a methodology that looks to soundscape studies and embraces and adapts CRESSON approaches.

Identifying a fundamental survey-analysis-design methodology (*ibid.*, p.18) he locates the need for the consideration of the soundscape at the survey stage. Through the development of field interview methods (see also Hedfors and Per Borg, 2002, pp. 91-114) based around a manual of sounds and implications, meticulous physical descriptions and sound recordings, a detailed evaluation is created. Three categories of informants are chosen for on-site interviews, supplementary questionnaires and to consider geographical maps: experts in landscape architecture and planning; experts in music and acoustics and the general public. Issues are raised concerning the relatively short time that can be allotted to each site visit; which creates a limited form of sound sampling. The potential artificiality of the experience, and the possible influence of interviewer bias, are also considered.

1.2.6 Acoustics

At a fundamental level acoustics is a science grounded in relation to acoustics equations (see Malcolm Crocker, 1998, pp. 3-21). As such, a great deal of research closely follows the scientific paradigm. If we look at the programme for the Euronoise conference held in Edinburgh in 2009 for example, at which I presented a paper, it is easy to identify scientific themes among the conference threads.

While the above scientific aspect of acoustics' methodology is not considered pertinent to the current enquiry, acoustics has, over the last eight or so years, become progressively more concerned with the concept of soundscapes. This is also evidenced in the proceedings of Euronoise 2009. An overarching review of paper contents demonstrates a

willingness within the field to consider the perspectives of social scientists, architects and arts practitioners. Architects Asli Ozcevik, Zerhan Yuksel Can and Cengiz Can's paper presents a study of urban squares using a methodology that adapts soundwalking, binaural recording, sound level monitoring, questionnaires and site evaluation techniques to develop time/history graphs and final reports. Lex Brown's paper focuses on soundscape as a resource with an emphasis on the analysis of human appreciation and preference data rather than sound pressure level measurement. My paper (2009), documents aspects of my practice-led research.

There is further evidence in the same proceedings that indicate the expansion of the field towards interdisciplinary study and the development of mixed method approaches. This is considered highly relevant to the current enquiry. There is, for example, a paper from the Positive Soundscape Project (William Davis *et al*, 2009), a collaboration between the University of Salford Acoustics Research Centre, Warwick University Manufacturing Group, London College of Communication, University of the Arts London and Manchester Metropolitan University. The paper presents an overview of group activity and the methodology behind the development of a positive soundscape evaluation tool. Methods include, "soundwalks, interviews, focus groups (all qualitative), laboratory listening tests (qualitative and quantitative), physiological measurements, including functional magnetic resonance imaging (fMRI, all quantitative), synthesis and reproduction (artistic and quantitative) and questionnaires (artistic)." (*ibid.*)

1.2.7 Art and design methodologies

Much of the debate concerning practice based, practice led and practice as research approaches to PhD enquiry takes place within the framework of contemporary art and design research. I have already considered a number of sources and trajectories in the general introduction to this chapter; they deal with ubiquitous issues that relate to all forms of PhD enquiry that engages with creative content. As indicated at the beginning of this chapter in relation comments and observations by Biggs, Nelson, and Gray, research in art and design demonstrates a number of key problematics. Many of these engage with the ways in which knowledge may be identified as residing in the work. The consensus view appears to be that contextualised work functions as an aspect of an overall research 'package' where a range of materials (introductory texts, events, performances, documentation, subjective analysis, autoethnographic writing and participant feedback)

function as a holistic entity. Creative work generated in relation to a research context functions, as Biggs observes, as that which may problematize aspects of everyday experience, raise issues and serves a central role in creating and exploring research questions. Such questions may themselves be reflexively focused on the ongoing challenge of developing the work itself. Practical research and artistic practice inform and sustain the theoretical and contextual research while developments within the theoretical and contextual frameworks help drive the development of the practice.

In terms of a generalised methodological approach, Gray and Julian Malins (1995, pp. 6-7) identify a group of underlying practices common to all art and design research:

- The perspective of the practitioner as the, “primary data-gathering and generating instrument”
- The setting of the work, both in terms of production and delivery environments
- The application of tacit knowledge
- An emergent approach to methodology which develops in relation to a developing conceptual framework
- Artistic experimentation
- Constructive engagement with peer review as a consequence of exhibiting work
- Ideographic interpretation which is concerned with work-related specifics (both in terms of the research goals and the art practice) rather than attempts to generalise
- Some form of trust assessment concerning the reliability of research observations – based on their active role in a contextualised framework appropriate to the area of practice

In practice, this leads to a common set of basic methods:

- Contextual research
- Technical research
- Qualitative and quantitative testing (if appropriate)
- Concept charts, flow charts and matrices
- The application of appropriate tools – both analogue and digital
- The assessment of case studies (which may focus on personal work and/or the output of other artists)

- Documentation of working practices and outcomes
- A body of work

This list functions as a very useful reference in relation to the broad considerations of methodological development and the choice of methods that serve specific roles in relation to the overall acquisition and development of knowledge. As a result, it provided useful input during the development of section 1.3 of this thesis where I look at methodological specifics.

1.2.8 Sound art

Is it possible to identify a methodology specific to sound art research? While the generalised art and design methodology outlined above remain applicable, there are now many books, such as *Sound Art: Beyond Music, Beyond Categories* (Alan Licht, 2007); *Background Noise: Perspectives on Sound Art* (Brandon Labelle, 2006) and *Listening to Noise and Silence: Towards a Philosophy of Sound Art* (Salomé Voegelin, 2010) that propose sound art as a distinct category of contemporary art. The recent proliferation of sound art courses and modules at university level supports this proposal. If this is the case, then some level of independent methodological development should be evident.

One of the principal trajectories for contemporary theorists who seek to establish sound art's independence is to address the way the work is displayed and experienced. This initially coalesces around the discussion of the differences between hearing and seeing, sound and light. Voegelin³ for example, observes sound as an intangible, internal presence in need of interpretation and image as the stable, external object of criticality. This theme also threads its way through the writing of Connor (2005), Labelle (2010) and David Toop (2010), and may be seen as representing contemporary orthodoxy. As will be shown later in section 5.7.2 and 6.6.4, this continues the tradition of writers such as Bergson and Nancy. This orthodoxy may be questioned: if, as Voegelin proposes, sound

³ "Sound's ephemeral invisibility obstructs critical engagement, while the apparent stability of the image invites criticism. Vision, by its very nature assumes a distance from the object, which it receives in its monumentality. Seeing always happens in a meta-position, away from the seen, however close. And this distance establishes a detachment and objectivity that presents itself as truth ... By contrast hearing is full of doubt: phenomenological doubt of the listener about the heard and himself hearing it. Hearing does not offer a meta-position; there is no place where I am not simultaneously with the heard. However far its source, the sound sits in my ear." (Voegelin, 2010, p. xi – xii)

‘sits’ in the ear, then light must also ‘sit’ in the eye; both are forms of energy. Hence, it can also be argued that seeing’s apparent meta-position is an illusion because the image is not ‘over there’; it is an internal representation formed in the visual cortex as a consequence of light hitting the retina. In a similar way, sound engages with the tympanic membrane and subsequently the cochlea – and hearing takes place in the auditory cortex. Interpreting sound in relation to stored models of meaning or significance requires a degree of mental projection; hence sound becomes associated with objects or events that are ‘over there’. Thus, sound also acquires a potential meta-positional aspect. This is a discussion I pursue further in the section 6.6.2 while exploring the relationship between soundscape, site and installation practice. Here, I am raising the issue because the perceived difference between auditory and visual experience exerts a strong influence on the development of sound art theory and hence its methodological growth.

The debate concerning the differences between auditory and visual experience lies at the core of the relationship between sound art and site; how, and where is sound art to be experienced? Given the historic and political interaction between art and gallery space, sound art finds itself drawn into both a relationship and a dialogue. This is one area where a degree of methodological divergence may be identified.

Caleb Kelly (2011, p. 17) observes that the contemporary ‘white cube’ gallery is inappropriate for the contemplation of sound in art; “The hard, flat surfaces cause sound to reverberate throughout the space, detracting from the experience of the work itself.” Conner (2005)⁴ takes this point further. He observes that sound and sound art both have a tendency to expand beyond the gallery and to mix and interact with external sources and sound worlds in ways that visual art does not. This creates both problems and opportunities. Sound art brings the outside into the gallery and translates the art experience into the world beyond the gallery. This process of commingling leads to incidence of collage and juxtaposition that, “focuses attention on the edges or outward surfaces of things brought up against each other” (*ibid.*). This focus upon surfaces and

4 “The interior spaces of galleries are disposed in Euclidean straight lines and perpendicular planes, presumably because that is how light travels and how vision works. Rather than moving from source to destination like a letter or a missile, sound diffuses in all directions, like a gas. Unlike light, sound goes round corners. Sound work makes us aware of the continuing emphasis upon division and partition that continues to exist even in the most radically revisable or polymorphous gallery space, because sound spreads and leaks, like odour.” (Conner, 2005)

edges is something I explore in depth in relation to both Freud's triggers for uncanny experience and the Lacanian notion of the *extimité* in section 5.7.7.

Sound's characteristic 'mixability' may work both for, and against, individual incidents of sound art and is especially problematic in relation to exhibitions featuring multiple works. On the one hand, unstructured interaction may lead to cacophony and compromise; on the other, the balance between isolation and interference may potentially create interesting results. Nevertheless, the concept of the gallery-based group show has become an established aspect of sound art methodology.

Susan Ferleger Brades (2000, p. 12), in the catalogue introduction to *Sonic Boom* at London's Hayward Gallery notes that, "In response to David Toop's suggestion that work should be made with the spaces of the Hayward Gallery and the demands of a group exhibition in mind, artists have developed entirely new projects, adapted existing ideas for spatial presentation or adjusted older works to suit the new context." This particular show can be identified as one of a series of international group shows of its era (others include *Volume: Bed of Sound* in New York in 2000; *Art & Music* in Sydney in 2001; *Sonic Process* in Paris in 2002 and *Sounding Spaces* in Tokyo in 2003) that helped to concretise the relationship between sound art and gallery space for artists and public alike.

The exploration of spaces and themes using a process of sound installation and curation has become well established in the last decade. Using London as an example, such events include: *Her Noise* (2005: South London Gallery); *Worlds Collide* (2007: Tate Modern); the five events of the *Soundproof* series (2007-12: Event Gallery, Unit 5 and Carter Presents); *Soundworks* (2012: Institute of Contemporary Art) and *At the Moment of Being Heard* (2013: South London Gallery). However, this use of gallery space is not something that finds universal approval. Max Neuhaus (2000, p. 72), for example, suggests that the concept of events at visual arts institutions themed around sound art is simply an art fad that reached a peak during the mid 1990s.

Ferleger Brades' comments highlight the underlying importance of site specificity within the methodology of sound art: professional quality work is nearly always made for a specific space or 'tuned' in some way to its parameters. Examples include Bill Fontana's

River Soundings (2010: Somerset House), John Wynne's *Soundtrap IV* (2009: Beaconsfield Gallery) and *Installation No 2 for High and Low Frequencies* (2012: Angus-Hughes Gallery) and Céleste Boursier-Mougenot's *New Commission for the Curve* (2010: Barbican). In each case, the artists address different aspects of space, perhaps considering location, history, prior use, acoustic features or the interaction with physical structures or adjacent environments. The relative success of these installations appears to reflect the idiosyncratic nature of these sites, which are far from uniform gallery space and therefore more open to interaction and interpretation.

The making of work followed by its public exhibition in gallery space and the subsequent reflection on the process lies at the heart of many practice-led sound art research projects. Among my own contemporaries I might cite the enquiries of both Dawn Scarf (2011) and Jeremy Keenan (2011) as examples. During this enquiry I too have appropriated gallery space and conducted two installations. However, over time I have come to feel that my research, which is principally focussed on the exploration of prevailing open-air soundscapes, is best pursued using techniques that place both the work, and the participant's experience of it, into the environment where the source material was recorded.

My enquiry's unfolding relationship to site specificity is documented in chapter 5 and 6 of this thesis. The body of work outlined in these chapters is also framed in reference to a series of other artist's practices, which I discuss in chapter 2. As these practitioners do not necessarily self identify as sound artists it is not appropriate to discuss them in detail in this section. I have therefore structured chapter 2 as a separate practice review. Methodologically however, these works by Udo Noll, Jan Schacher, Marcus Maeder, Michael Hujsman, Dallas Simpson, Cusack and Cardiff all evidence a commitment to place based on the phonographic documentation of everyday sites. Each uses a range of techniques to reintroduce the recordings and mediations back into the context of the original environment.

The extended and fluid relationship between site and sound and between sound and sound itself (as a result of its 'mixability') is one of the key areas where sound art differentiates itself from visual art forms. Hence, it is perhaps not surprising that much of contemporary sound art research finds itself drawn to the interstices between place, event

and experience. This is a discussion I expand further in section 6.6.2 in relation to various conceptualisations of site.

While sound's ability to document, reveal and mix is key to the general development of sound art and specifically to this enquiry, there is an additional, antithetical capacity that must be acknowledged: sound's ability to immerse and to mask. As Conner (2005) observes, sound may also be used to create, "a form of detention or agglutination of place." Sound may, "build as well as take down walls" (*ibid.*). To a degree, installation sound always explores a vicarious path between revealing and obscuring. The presence of sounding objects or any form of sound diffusion in a space will obscure some aspect of quotidian airborne sound. The use of headphones will create more extreme incidence of mediation or separation for the listener. For example, Abinadi Meza's installation *House Of Infinite Transmissions* (2008), which amplifies sound from a building's structure using contact microphones to bring otherwise unheard sounds to the listener's ear, both reveals and obscures. The further extremes of sound's masking ability can be seen in relation to the use of headphones with mobile media players that Truax (2001, p.135) observes as representing the near perfection of the schizophrenic situation.

The ability to successfully manipulate the dual forces of mask and reveal is a core skill for any artist who works with sound and site.

1.3 Methodology – overview

Following the completion of the above assessment of the various methodologies of disciplines that intersected with my enquiry, I was able to identify a set of core methods that could be mobilised in relation to my research goals and the research questions proposed in this chapter's introduction.

The methodology for this enquiry is a synthesis created from two primary paradigms: soundscape studies and sound art. It is subsequently enriched by the inclusion of concepts and approaches from a range of aforementioned satellite disciplines. Broadly speaking, this is a practice as research enquiry that explores the relationship between listeners, soundscapes, electro acoustic mediation and the experience of transphonic sound in a range of different environments. I take a mixed methodological approach and the research is designed as a multi-stage programme in which there is a reciprocity between

practice and theory. Central to the research is the ongoing development of a form of site-specific sound art installation that evolves over a series of iterations. Each installation moves through phases of research, site investigation, recording, making, delivery, documentation and consideration. Each installation builds, both technically and conceptually, on knowledge derived from the previous handling of materials and the ongoing development of process: the tacit knowledge gained through experience and engagement. However, the basic mode of engagement only changes incrementally – whereas each location is radically different from the previous. This creates an opportunity for comparative study, cross-reflection and the juxtaposition of observations. Due to my enquiry's interdisciplinary framework and the particular constellation of methods I employ, I consider the development of the methodology to represent a contribution to knowledge.

While individual methods are drawn principally from soundscape studies and sound art research their choice, development and deployment within the framework of my methodology is informed by the broader consideration of: practice based, practice led and practice as research approaches in the arts as proposed by Biggs, Candy, Douglas, Scopa, Gray, Nelson, Schön and Bolt conducted in the introduction to this chapter; the specifics of ethnographic methods outlined by Rubin, Rubin, and Haridaki and autoethnographic method as outlined by Adams, Holman Jones and Ellis. The engagement with autoethnographic method is considered essential to ensure rigour. This is because of the self-devised, bespoke nature of my enquiry's methodology, which engages with both my own personal observations and those of event participants. Autoethnographic method is designed to deliver outcomes that avoid statements that relate to objective truth, such as might be claimed in other forms of PhD enquiry, especially within the social sciences. Autoethnographic approaches concerning the narrativization of content have proved especially useful in the development and realisation of field notes, sound diaries and text-scores where the introduction of elements of creative writing has allowed me to mobilise subjectivity in a rigorous and coherent fashion. In order to clearly differentiate between my role as author of the thesis and as the embedded speaker in journal extracts, an italic typeface is used to indicate the change of register for the latter and the text is indented. Text-scores are presented using single-spaced, italicised type and separated from the main body of writing.

1.3.1 Methods

In this section I identify the methods I consider to be pertinent to my enquiry, its research questions and the production of the finished thesis. For more detailed discussion concerning deployment and development of methods in the field, see the documentation of site investigations and installations in chapters 5 and 6.

1.3.1.1 Site investigation through listening

Each sound installation is designed to be a response to the specifics of place and space and as a result, an initial physical exploration of the site is required. Listening, both as an unmediated, focused and active practice and one aided by recording, monitoring and playback technology is deployed in the field (see section 3.1) and each investigation is conducted in relation to the broad theorisation of listening (see section 5.7.2) and the knowledge that varying degrees of documentation will subsequently be required. Photographs of the location, especially sounding objects, building interiors and unusual environmental features are taken - principally as a memory aid for future reflection. However, these play a secondary role in the thesis where they help to convey a sense of place and event to the reader.

1.3.1.2 Walking

Walking is both a practical method for achieving an embodied engagement with site and a practice that has been considered and philosophised from a wide range of perspectives (see sections 1.2.3 and 2.3). For example, a knowledge of Schafer's concepts of listening walks and sound walks, the poetic sentiment of the *flâneur* and the subconscious, unplanned deambulations of the Situationist's *dérive* all inform the process of consciously walking and observing the environment. The relationship between listening, walking and sound recording is intentionally flexible and designed to respond to the scale and features of the site and the time available for the investigation. Where more time is available or multiple visits are possible, recording can take place in a second phase after an initial listening field trip. For large-scale sites or in relation to tight time frames, processes can be conducted in parallel – given that dedicated time is deliberately apportioned for pure unmediated listening, movement and recording. Recording while walking, as a means of tracing the body's movement through space (see section 3.2 in relation to the work of Jean Rouch and Steven Feld) is a technique that hybridised

walking and sound recording in a way that reveal spatial relationships and topographies and pursues embedded narratives.

1.3.1.3 Field recording

The phonographic documentation of each site is conducted using high quality location sound recording equipment. Recordings are made in relations to a number of criteria: Schafer's definition of keynote sounds, sound signals and sound marks (Schafer 1994, p,9); Bernie Krause's concepts of biophony, geophony and anthrophony (Beaver and Krause, 2012, pp. 183-105 and see section 3.2); Dennis Smalley's consideration of spectro morphology (1986, pp. 61-93 and see section 5.5.1) and CRESSON's lexicon of sonic effects (Augoyard and Torgue, 2008 and see section 1.2.3). Different stereo and monophonic techniques are mobilised and specialist microphones (binaural, contact, hydrophones and coil mics) are deployed when required. Sound is recorded digitally to facilitate transfer, copying, processing and editing. During the course of the investigation my recording techniques and equipment changed and these developments are noted at the relevant points in the text. I also developed a range of approaches to deal with different situations. For example, the recording of short or extended sections of environmental sound depending on the degree of sonic activity at a site or the use of beaters or other artefacts to 'sound' objects. This information is embedded in the evolving narrative of the work in chapters 5 and 6.

1.3.1.4 Field notes and sound diaries

The process of documenting the sonic aspects of site investigation, installation delivery and the assessment of listening outcomes is a key element of the practitioner method I am developing. Detailed hand written notes concerning observations are produced immediately after each phase of the installation programme. Time in transit on trains is especially well suited to the task as it often affords a block of focussed time immediately after a field trip or event. I have been keeping personal longhand journals for in excess of 25 years and as a result have developed a strong personal voice and a practiced eye for observation, documentation and reflection. Even before formally engaging with autoethnographic approaches my journal keeping evidenced a strongly narrative character and, I believe, a degree of poetic fluidity. This voice adapts well to the process of writing about the sounding aspects of environmental experience where fine shade of richly layered description are often required to convey the nuances of environments, perceptions

and feelings. My sound diaries document initial site investigations, sonic impressions of the installation event, participant observations and the subsequent post-event studio listening sessions where both the original materials and the sound montage used in the installation are subjected to focussed acousmatic introspection. Excerpts from my notes and sound diaries are used extensively in the thesis. Dates and times of journal entries are provided in order to locate and correlate these unique materials as an indicative cluster and evidence methodological claims.

Note that in translating sound diary content from hand written to digital form a degree of editing occurs and amendments are made in the form of after-the-fact observations. While the core observational content remains intact, and large sections of text are often directly translated with only minor changes to correct spelling and grammar, I regard this journaling process as dialogic and cumulative and the finished draft emerges through a similar process of revision to other textual content. While there is a creative element to how I write I do not adopt storytelling conventions such as Ellis (2004, p.32) proposes where people are depicted as characters and narrative tension is created in order to herald resolution or explanation; I am mostly engaged with personal and environmental observation, not extended societal interaction or cultural situations. My journals fit more broadly with Ellis' notion of the ethnographic memoir (*ibid.*, p.50), an almost 'confessional' form of reflexive writing – not dissimilar to the personal notes made by researchers in earlier eras that were not published as part of the main body of work due to the belief that such subjective content compromised academic credibility. My sound diaries represent a personal mapping (like a sketchbook) which has an ebb and flow in time – and they are used in the same way that one might work with sound and then remix: in order to give a curatorial quality. Far more content was generated than is quoted in this thesis (a point I consider in the conclusion), however the selection adds a sense of time and duration to the evolving form of the work and documents both detail and decision. Extracts were chosen for inclusion on the basis that they coherently document process, place and engagement, highlight key interactions or observations that helped more the enquiry forward or illustrate points arising from contextual or theoretical research.

1.3.1.5 Soundscape composition and installation

A detailed discussion of the creative and technical aspects of the sound installations that form this enquiry's core activity is conducted in chapter 4. Two different formats were initially used for installation sound: linear, fixed media soundscape compositions and the output from a Max/MSP patch designed to recombine individual recordings of soundscape elements into a constantly evolving soundscape montage. Both were developed using field recordings from the installation site itself. Both approaches were used during the first two installations and participant response to the different forms of mediation was part of the research assignment at this point. After this, when I was no longer trying to assess the differences in participant response to the two forms of mediation, I concentrated on using and developing the Max-based output.

Part of the ecology of the Max/MSP patch was the implementation and development of a number of text scores to control timing and triggering. These piece of creative writing also function within the framework of the general autoethnographic method as their production, during an installation's development phase, enabled me to mobilise certain autobiographical resources. Where these scripts are presented in the text, single-spaced italic type is used to differentiate the material.

During the course of the enquiry I also produced work for two gallery installations. Initially I anticipated that this form of acousmatic presentation would be a central aspect of the enquiry, however as my programme progressed, its role diminished in importance. After the two gallery shows in 2012 I was drawn to observe that they were essentially self-contained sub projects. While making this work was an interesting process that provided the opportunity for further reflection back into the material and the nature of site specificity, the assimilation of the work itself was not essential to the flow of the thesis. Hence at this point I began to concentrate solely on developing the site-specific work. Due to their initial role in the development of my programme both the work for the Carter Presents and SHO-ZYG shows are documented – but in Appendix A rather than as part of the body of the thesis.

1.3.1.6 Questionnaires

Questionnaires were handed to participants at six out of the twelve installations. Form and content evolved over the course of the enquiry and specifics are documented in the write-ups of each installation in chapters 5 and 6. Questionnaires initially sampled opinion on a wide range of participant observations concerning soundscape events, implied meaning and the emotional and cognitive effects of listening to transphonic sound. As the enquiry progressed my questions became more focussed of key areas of interest: disorientation, uncanny sensations and the awareness of coincidence. Space was provided for written comments as well as tick-box answers. People were asked to indicate their gender and age group but this information has not been used in the thesis; no obvious differences or correlations were observed and statistical analysis was not ultimately deemed appropriate due to the arts-based nature of the enquiry. Toward the end of 2011 I proposed two different journal articles, one for *Organised Sound* and one for *Sound Effects*. Some basic statistical analysis of questionnaire data was attempted for these articles but this proved highly problematic, confirming issues relating to population size, continuity of focus and concerns relating to information collected in the field outside of a controlled listening situations. Given these issues, questionnaires were subsequently only explored for the embedded ethnographic narrative rather than their quantitative potential. It was also noted that the statistical analysis did not give the flavour of the ‘narrativization’ of the participant’s story.

1.3.1.7 Interviews, comments and transcripts

In order to engage with participants I personally invigilated all the installation sessions and in three cases I was able to record conversations and comments. Some of the exchanges were extended, providing a degree of informal interview content. When these opportunities arose, an awareness of certain autoethnographic strategies such as emergent interviewing, where informal contact can lead to more a more structured exchange and sensory-based interviewing, which focuses on sensations, locations memories and metaphors (see Adams, Holman Jones and Ellis 2015, p. 55) were extremely useful. Ellis’ notion of dyadic interview technique (Ellis 2004, p.61) was also useful; this gave me permission to adopt a more conversational, empathic approach rather than attempt to retain the objective distance formal questioning endeavours to facilitate. Given that I was often questioned by participants about my practice and

observations some of these exchanges developed characteristics of what Ellis refers to as interactive interviewing (*ibid.*, p.64), where the roles of participant and researcher become less well defined and the process becomes dialogic. These recordings were subsequently transcribed and extracts are used to illustrate a range of points in chapter 5. Where these comments occur in the text they are placed within quotation marks and the date and time of the recording is logged on the page.

2. Practice review

At the start of the enquiry I began the work of identifying other artists and examples of practice I felt were indicative of the context in which my work functioned. Further to this, I instigated a discussion thread on phonography@yahoogroups.com⁵ to canvas opinions on the topic of listening to field recordings in situ from other phonographers and sound artists. This discussion helped to broaden my contextual base as I became aware of artists and practices I had not yet encountered. It also gave me direct access to a number of practitioners whose work I was already investigating. This chapter contains extracts from these communications. Some of these exchanges are extended, however they have not been published elsewhere and represent valuable primary research material. Please note that I have not corrected punctuation, spelling or grammar in these free flowing text-based interactions as this would, in my opinion, not feel entirely in keeping with the spirit of the exchange.

2.1 Udo Noll: *Radio Aporee: Miniatures for Mobiles*

Radio Aporee: Miniatures for Mobiles is a web-based project (2013) created by Udo Noll which uses the *Aporee* Sound Map as an interface for location-based sound art and field recordings. Miniatures are designed to be heard at the site to which they relate; they can be accessed on a GPS-enabled mobile phone using the *Aporee* mobile app. Contributed by a wide range of independent artists, the works encompass narratives, individual sounds, sound marks, performances, documentary recordings and soundscape compositions. Noll sets some editorial criteria: a miniature should be dedicated to a relatively small area and any composition should work sensitively with the character of the space. As the *Aporee* site explains,

“The sounds continuously change and fade along your path, depending on position, speed and directions, and naturally mix with the actual sounds reaching your ear while walking. You can explore the works specifically created with the miniatures for mobiles platform, or just browse the radio *Aporee* sounds right at the place of their origin. If you want, your movement in space and time leaves traces, not to track you down, but to create unique soundtracks which inscribe into the city space and can be heard by others in future.” (Noll, 2013)

⁵ This list was established in August 2000 by Patrick McGinley (2004) and is now a widely used community mail group for those interested in field recording.

Noll himself continues,

“One could say that it's just a pimped audio walk, but the difference is that the already omnipresent technology and related social practices create sort of permanent layers on top of the physical surface, not dependent on the availability of a prepared mp3 device or so. Things stay "there" and may become part of the "sonic reality" of a place (used in a plain and concrete sense here). Spatial inscriptions if you want, like grooves on a record.” (Noll, 2013, email)

Here we have a project that builds upon the basic concept of in situ listening, drawing out a range of potential sonic interactions and opportunities for participant engagement. Noll also observes:

“For one piece we've used these Neumann dummy head binaural microphones and recorded everything at the place where it was supposed to be heard. This means you record all this spatial information, the ambience of the place etc, the result was impressive. You almost couldn't tell what's inside or outside, a very immersive listening situation. Some innocent listeners had to stop because it was too much of an intimate touch.” (*ibid.*)

So we have the suggestion of an immersive and intimate experience: one that is potentially confronting and disorienting for the inexperienced listener. I find it easy to reflect my experiences of in situ listening into the framework of these comments. Noll continues,

“When I was testing the initial prototype years ago, I was walking (many times) at night over an empty marketplace, where all the recordings from that busy market came in. Suddenly I jumped aside because of a van right next to me – which was a sonic ghost of course. Simple effect, but amazing.” (*ibid.*)

The concept of the sonic ghost is one that we will encounter on numerous occasions as this thesis progresses. The observation that disembodied sound – sound separated from source – may cause a wide range of both physical and emotional effects is hugely important. It connects the notion of the naturally illusive, haunting character of sound discussed by Toop (2010); transphonia and the classic studies of the uncanny of Ernst Jentsch (1906/1995, pp. 6-18) and Sigmund Freud (1959, pp. 372-403), which I explore in greater detail in chapter 5. These in turn, lead to the more fundamental consideration of aural perception and hearing as a faculty selected by evolution (Geoffrey Manley and Otto Gleich, 1992, p. 561) for its contribution to communication, survival (Truax, 2001,

p. 18), location and orientation (Perry Cook, 1999, p.101 and Trevor Wishart, 1986, p. 41).

2.2 Peter Cusack: *Aporee* Berlin projects

Phonographer and acoustic ecologist Peter Cusack takes up the *Aporee* discussion.

“I worked with the *Aporee* app on a couple of Berlin projects. One was to do exactly what you describe, i.e. to listen to recordings back in the same location as they were recorded. The other was to trigger sounds recorded in Beijing parks (especially the unbelievable amount of music and performance usually by older people) back in Tempelhof airfield (now a huge park in central Berlin) through changes of GPS location as one walks around.

My experience of the results is mixed. I found listening to recordings of a location in the same place interesting in that it reveals in detailed clarity what is missing from a recording compared to the real experience, ie in-sync input from the other senses; a true feeling of spatiality (including when using high quality binaurals); how the soundscape is constantly effected by weather, time, activities of other people etc etc etc; that the soundscape never ever repeats itself but that some aspects of it are very consistent.

The miss match between the recorded (virtual) and the real is quite disturbing at times, but in the end, although I found this fascinating educationally, it seemed less so creatively. Maybe a rule here should be to listen to other people's recordings not your own. Then memories from when making the recordings cannot add further complications to the experience.” (Cusack, 2013, email)

While it is poignant to identify the limitation of reproduction, it is interesting to note that these failings serve to highlight some primary characteristics of environmental soundscapes: the interplay between a potentially wide range of constant factors, a degree of iteration and reiteration – but an absence of repetition. A recording, on the other hand, is a form of inscription that facilitates repetition through replay; it is both an artefact and a form of text. Hearing a recording of the environment while in the environment changes the overall listening contract; as Cusack observes, it can both disappoint and highlight. It exposes relationships, juxtaposes content, creates temporal anomalies and challenges perception. Again, we have the observation of an element of discomfort; the experience is disturbing – and by extension, disorienting. It interrupts the experience of the present by creating temporal layers and encourages the listener to consider underlying relationships between sound and source.

Creative production is problematised in many ways so it is perhaps not surprising that Cusack observes that memory may limit as well as inform the artist's listening experience. If this is so, then strategies are needed to manage or subvert its influence. One might indeed use recordings made by other people or develop editorial, compositional or processing systems to destabilize authorial control. It is, however, important to remember that an audience's relation to material is, by its nature, less tangible than that of the artist. Cusack continues:

“The attempt to recreate aspects of the Beijing soundscape in Berlin was more successful, although full of issues. Once again it's the detail that is vital. How fast one walks obviously make a difference as to how fast sounds approach or recede. The playback of recordings on location need to mirror this otherwise it just sounds wrong. Janet Cardiff builds in sonic devices to influence ones pace (by including recordings of her own footsteps which you tend to walk in time to). This is manipulative but perhaps a good idea. Other pieces have verbal instructions to sit down or stand still etc. but without such guidelines getting the exact details of fades, exact spacing, loudness, duration of recordings all correct relative to the location is quite a task.” (Cusack, 2013, email)

Cusack's comments highlight many potential issues with the use of transphonic sound in artwork and propose some possible solutions. They also highlight two forms of works where field recording is a key element: one where sounds from another environment are introduced to a site and one where structural and compositional elements are included. If we put these together with his initial project to replay basic location recording in situ, we can begin to identify a range of forms and practices. Each of these trajectories creates a specific relationship between site, recorded sound and listener.

Cusack's comments above also reflect the concerns and solutions of artists who work with what I will refer to as vector-based approaches; where the artist's experience of a site leads to a form of feature mapping and the work is experienced as a guided journey through the environment. Indeed, the audio content itself becomes the analogue of a map; one annotated by the artist's listening, content and production decisions. This process creates two referential intellectual trajectories. Firstly, towards Schafer's (1994, p. 212) original conceptualization of soundwalking as a guided exercise (see section 1.2.1); and secondly, because the synchronization between the recorded sound and visual content is seen as an important element, towards the idea of the soundtrack as it is experienced in relation to audio-visual media.

2.3 Janet Cardiff and the ‘cinematic’ soundwalk

Cardiff (2005, p. 258) first proposes the idea of the ‘filmic sound track’ in relation to her *Louisiana Walk* of 1996. The comparison is not surprising; with its timed segments, jump cuts, narrative interplay and the allusion to events and locations, the walk offers the participant a fictionalized encounter with a real-life environment. Walking is the primary method for both making and engaging with the work and the movement of Cardiff’s body through space is one of the principle methods by which the work is dramatized. As Cardiff (2006) observes, she has been exploring the same format and style ever since. This point of artistic departure occurs roughly five years after she first experiences listening to recordings while still on location, immediately prior to the creation of *Forest Walk*, during her residency in Banff in 1991.

“I started doing the audio walks because I was out doing some research in a cemetery. I was just recording on my little Walkman and I had headphones on. I made a mistake and I pushed rewind when I meant to press play – or stop – or something like that. And then I was trying to find myself (on the tape) so I was playing it. It was so weird; hearing my voice describing what was around me. And my footsteps walking in the exact same site. And I’d never heard anything like this before and I went, this is really uncanny because I’m walking along and it says ‘ok, such-and-such died in such-and-such year, whatever’ – and I can see it right in front of me and then I hear my footsteps walking further and further. Then I decide I gotta use this.” (Cardiff, 2006)

From this I observe a number of elements of her experience that mirror my own at Westbere Lakes: not the more obvious example of uncanny feelings created by the experience of a spoken narrative, but subtle sensations in relation to the disjuncture between audio and visual events, and the importance of the footfall in the acoustic environment as an agent of change, locus of meaning and as a sonic event. If we dig deeper into Cardiff’s work there are further resonances. Mirjam Schaub in *The Walks Book* also observes,

“Listening to a recording with only a slight time delay in the place where it was recorded, can create an experience that is both familiar and strange. What lies beneath the spontaneous pleasure we feel when something that has ‘just happened’ unexpectedly coincides with something happening right now? Is it the experience of an event, in which a dimension has been rendered invisible, even though we remain acutely aware of it? Or, following Proust is it the superimposition of two different modes of time, or more precisely the sudden appearance of a time that we believed lost and has now been regained?” (Schaub, 2005, p. 80)

Cardiff is drawn to observe coincidence, as is Schaub – who, in the above quotation, is proposing that its discussion should be located in relation to feelings/sensations (pleasure being only one potential) and time. The consideration of feeling leads us towards perception, cognition and affect – as the term is used in psychology to denote an instinctual reaction to stimulation. A reflection on time predicates an engagement with the concepts of memory and experience. The consideration of time needs to be situated in relation to the debates concerning space and place.

2.4 Jan Schacher and Marcus Maeder: *Davos Soundscape*

What is the artist/participant experience of vector-based audio work without any form of guiding narrative? The *Davos Soundscape* is a topographical composition created in 2007 for the Davos Festival (2013). The artists refer to this locative media work as an open composition in the sense proposed by Umberto Eco:

“‘Informal art’ is open in that it proposes a wider range of interpretive possibilities, a configuration of stimuli whose substantial indeterminacy allows for a number of possible readings, a ‘constellation’ of elements that lend themselves to all sorts of reciprocal relationships.” (Eco, 1989, p. 84)

Some caution is needed when applying Eco’s ideas to contemporary sound art; as prescient and appropriate as his observations may appear, his writing dates from the 1960s and concerns very different forms of work. However, Schacher and Maeder attempt to programme the form of indeterminacy Eco highlights into the experience of the work: the *Davos Soundscape* website (2013) suggests that, “By following the routes and zones in a personal manner, varying chronologies and superpositions of our sounds emerge and a non-linear soundtrack to a movement through the landscape is produced.” The work contains musical elements as well as field recordings and the scale of the project is immense; covering the whole of the Davos region, encompassing the urban centre, alpine, lake and woodland zones.

During the winter of 2012/13 I contacted Schacher for more information. The *Davos Soundscape* was envisaged as an augmentation of the experience of listening to the natural environment. Open-backed headphones were used to ensure that the listener was not entirely cut off from their surroundings. Field recordings from one region were

relocated to another, for example from the valley to the alpine meadow. In relation to the work, Schacher highlights three primary phases of observation:

- During the process of exploring and recording – the realisation of the site’s sonic materials
- While hearing the work in situ for the first time – identifying the presence of a mysterious additional sound-domain at the threshold of perception
- Noting the experience of the event participant, especially the difficulty people had perceiving the transphonic elements. This, he suggests, reflects the limited listening skill of people who are not trained in sound-art or environmental soundscape listening

Schacher’s final point here suggests that the audience found the listening experience a challenging one. Without a narrative or verbal instructions to structure the pace, participants had difficulty in engaging with the interplay between live and recorded content. This would, perhaps, be less surprising if Schacher had simply blended live and recorded sound from the same zones – rather than creating more apparent juxtapositions. The discrepancy in ear training between artist and participant is a factor to consider, but I feel he is reaching too swiftly for this explanation and overlooking problems with headphone delivery.

Headphones offer one of the few options where mobile listening is required. Multichannel diffusion systems are expensive and they require installation, weather proofing and ongoing maintenance. Open backed headphones do allow a degree of spill from the environment to mix with the recorded material. However, the process is compromised because spill is not something deliberately engineered into headphone design. The degree of interaction is uncontrolled and reliant on the listener’s ability to balance the two sound sources. Even if binaural recording can more accurately deliver a realistic listening experience for the stationary listener, sound in the headphones does not respond to a participant’s head motion. There is the question of how these factors are managed to create a coherent listening/artistic experience. These are issues I address in chapter 4.

2.5 Michiel Huijsman: *Soundtrackcity*

In Huijsman opinion the participant's experience of mobile environmental sound work is highly dependent on the form of the initial briefing.

“...to make that work it is not so much the technique or system used, but rather the state of mind (an active, attentive one) of the listener that is important. With the soundwalks of *Soundtrackcity* in Amsterdam (done with half open headphones plus added sound) we found out that this active state of mind can be evoked by the author(s) of a soundwalk. The discrepancy between the actual sounds and the recorded sounds is but one of the tools to achieve this. The listener is 'asked' to engage in a 'negotiating process'.” (Huijsman, 2013, email)

Ina Boiten, who produced the *Soundtrackcity* text for its website also focuses on the contract between the work and its audience.

“...Taking a soundwalk with headphones exposes us to two parallel worlds: the actual surroundings we're walking through and the world evoked by the sound composition we hear through the headphones. We are constantly required to switch between different temporal/spatial experiences and must try to bridge the gap between these two worlds in one way or another. ...” (Boiten, 2013)

This observation holds true for the listening experience where there is a clear perception of the live sound from the environment and the recording as occupying different temporal and sonic territories. The comments of Huijsman and Boiten concerning the need for a perceptual bridge between the 'two worlds' of sound created by a 'compound' listening experience exhibits an interesting resonance with those of Street concerning a more general mediated mobile listening experience.

“The example from my own experience I give is that of travelling into London on a commuter train on a wet Monday, while listening to a location feature on St Kilda - how I was inhabiting a visual space, but at the same time imaginatively through sound another completely different experience.” (Street, 2010, email)

If we compare these comments of Huijsman, Boiten and Street with those of Noll concerning the participant experience of hearing field recordings played back in situ using headphones, we may start to observe a content-driven change in the perception of the in situ listener. This ranges from a near-total immersion to a more disjointed, juxtaposed and layered auditory experience. Audio content, location, degree of

transphonic dislocation, sound image and compositional structure all play a role as we move from one extreme to the other.

2.6 Dallas Simpson: *Canalsation II* (2007)

The in situ listening experience, particularly because of its relationship to site, is far more poignantly connected to visual content than pure acousmatic listening where a more obvious separation of sound from source takes place. Where recorded sound is intended to be experienced in relation to site, especially if the recordings originate from the site, the relationship between cause and effect and audio-visual content become more ambiguous. This ambiguity can be manipulated for effect – a technique clearly evidenced in Cardiff's audio walks where scripting, production and timing are carefully controlled so that both the audio and visual narratives appear to move with, and direct the movements of, the participant over the site. It is the control of narrative elements, sound effects (especially footsteps) and scripting that leads commentators such as Cusack and Schaub to reference the cinematic character of Cardiff's work.

While Dallas Simpson is best known for his binaural sound works he has also completed a number of experimental videos. His experience of creating *Canalsation II* (2007) is highly relevant to this enquiry. Simpson records a location's sonic environment and then returns 24 hours later to create a video work using headphone-based playback of the original binaural audio recording as a cue-track. He suggests that the term intermingling best describes the interaction of recorded and live sound during filming and that this confusion is most powerful in relation to binaural recordings. He also notes (email, 2013) that coincidences occur, "in a variety of circumstances where specific intentions are performed in open situations where what appear to be random events are happening in the vicinity."

Simpson's observations support Cardiff's comments about the confusion between recorded and live events during in situ listening. If we consider Simpson's comment that locates the moment of coincidence at the interstices between intentional performance and random happenings in the environment, we have a similar model to that which Schaub proposes in relation to coincidence in Cardiff's work.

If Simpson's experience at the site resonates with both Cardiff's and my own, what form does this take in his finished work? Can the relationship between sound and image in video art tell us anything about the relationship between the live visual aspect of a site and sound recordings experienced in situ?

In *Canalsation II* we are led onto an urban canal towpath at night. It is a world of shadows, stones, pipes, railings, litter and graffiti. Spaces are examined in a way that fetishizes them; there is an almost forensic attention to detail. It is as if we are shown the image of the crime scene Cardiff's soundwalks often allude to. Traces of human behaviours and actions are everywhere, but people are absent – this sense of absence seems to be intensified by the experience of the dislocated soundtrack, where 'noises in the night' take on an eerie quality as a consequence of the audio-visual disjuncture. The work is performance oriented; the sonic characteristic of each surface is explored. Rhythmic patterns from metal and wood emerge as railings and benches are tapped, scraped and hammered. Beer cans crackle and newspaper scrunches. Viewing the work creates a feeling of ambivalence. Why so? The thing that appears to be missing here, something perhaps akin to Schaub's (2005, p. 80) "dimension that has been rendered invisible, even though we remain acutely aware of it", is the thing that normally connects us to the more distant sounds of the acoustic environment: the presence of obvious foreground relationships between sounds and images. We hear the rattle of railings but no hand appears. A footstep stumbles on a step but the camera does not respond with a similar motion. It is as if we have become sense-impaired in our immediate close-sphere.

In this consideration of the audio-visual disjuncture there are aspects of film-sound theory that may usefully be considered. Environmental sound as heard by both a protagonist and the audience is diegetic, and contained within the scene. The application of music or sound effects that function purely at the level of the audience, to convey mood or information and cannot be heard by the on-screen characters, is identified as non-diegetic (see Amy Villarejo, 2006, p. 50). The combination of Simpson's soundtrack and his subsequent interactions creates an ambiguity between diegetic and non-diegetic sound. The soundtrack directs the visual narrative so there is a gesture towards cause and effect that is apparent to the audience. However, the traditional Foley relationship (see Vanessa Ament, 2014, pp. 1-3) where the synchronised sound performance closely follows the on-

screen action is reversed: time is more 'elastic' and the immediacy of the relationship between sight and sound is subverted.

The sound we experience in *Canalsation II* is not essentially contained within the environment of the visual frame. The overall performance aspect of the work is elusive and hard to grasp. The work cannot be characterised as mime; we are shown both gestures and the physical objects, so we are not reliant on the imagination. The relationship between source and sound is ambiguous; sometimes sound precedes source, sometimes this is reversed. Time, in Simpson's work, cannot be taken for granted. It appears to run in different directions and the 'time' of the image and the 'time' of the soundtrack appear to tell parallel narratives. This, I suggest, is the seat of the ambivalence at the core of the work and it leads me to question the basic mechanisms that animate the experience.

3. Listening and the Field



As the initial motivation for this enquiry came from a specific, unplanned, in situ listening experience, it felt appropriate to explore listening further once the research had commenced. I decided to seek opportunities to engage actively with on-site listening in both familiar and unfamiliar environments – both alone and with other people. As well as active listening, methods identified as appropriate were walking, field recording, journal/note keeping, personal observation, group discussions and studio listening sessions for material recorded in the field. This led to a programme of activities between June 2009 and September of 2010.

3.1 Listening in the field

While visiting Australia in 2009 I made a series of field recordings in and around the Blue Mountains near Sydney and in the more urban setting of the Botanical Gardens in Melbourne. I saw this encounter with sound as a means to create a sense of otherness and distance as a point of reference with which to return to the more familiar sonic environments I was habituated to. I hoped this exercise would enable me to listen in a more open and creative way to the acoustic environments I would encounter as the enquiry progressed. At the same time, I decided not to use these more exotic locations as

the core focus for the research as I was more interested in everyday engagement with familiar environments than exploring a spectrum of otherness and difference.

Some Australian soundscapes can sound intensely alien to the European ear. Native birds and insects contribute a very specific character and sound is spatialised in very particular ways. Cicadas are very common and each creates an intense sonic zone. The listener experiences an overall density of sound created from overlapping zones, which appear to shift location and character in relation to wind and the position of the listener. Individual cicadas also stop and start making sound with unpredictable irregularity so there can be moments of relative foreground silence in which a more distant density of sound can be heard. The highly localised calls of Bell Miner birds contribute a curiously musical upper register voice. The specific acoustics of unfamiliar spaces may also intrigue the ear. For example, listening from above the eucalypt canopy to the sound of rain hitting a seeming infinity of foliage – while Sulphur-Crested Cockatoos screech through the damp air. Stranger still, perhaps, to the un-habituated ear, is the blending of such unfamiliar sounds with everyday human-made content: the sounds of traffic, music and voices. The resulting montage of natural and man-made sounds presents an extraordinary model of unplanned sonic interaction.

In March 2010, I helped organise a soundwalk as part of the AudioLab10: Language of Place Symposium at West Bay in Dorset. Allan Upton, Adrian Newton, Adam Baker and I walked the footpath between Bridport and West Bay. I recorded the walk and we focused on the theme of locating and interacting with sounding objects. The experience was then discussed, and the recording subsequently edited by each participant into a soundscape composition. One point to emerge from the discussion was the idea of latent sound and the identification of sounds that might be extracted from the objects and structures of the environment. It was here that the idea of ‘playing’ gates and other metalwork emerged – and also the extraordinarily rich sonic possibilities presented by detritus, especially litter such as drinks cans, crisp packets and plastic bottles. This process revealed much about the personal nature of listening; each participant was drawn to different sounds, combinations and treatments. This awareness of multiple ‘listenings’ was something I was able to carry forward into both the design and delivery of installations. As a result, my focus became less centralised on my own reading of the work and expanded to engaging with the participant’s experiences. Another awareness

was the change in listening through the course of the walk and how one's focus cycled through modes of distraction, intense concentration, heightened acuity and relative ambivalence.

As an artist involved with the satellite programme for the Whitstable Biennale in June 2010 (see section 5.2) I organised and recorded a soundwalk between the Old Neptune public house on the Whitstable seafront and the area known as Tankerton Slopes. This was a valuable opportunity to juxtapose the focussed listening exercise I had undertaken in order to record and prepare the biennale installation with a more generalised listening experience of the same location in a group situation. In discussion after the event it again became clear that listening was a very personal experience. Participants were drawn to many different sounds and expressed a range of preferences and associations.

In September 2010 I used the opportunity afforded by a family holiday to Thessaloniki, the Halkidiki Peninsula and the island of Hydra, in Greece, to revisit and practice the listening method I first explored in Australia in 2009. Again, I made numerous field recordings of diverse locations, this time including more general urban and suburban soundscapes. Having recently engaged with the soundscape of Whitstable, I was keen to visit and record similar locations in Greece. Again, the idea was to explore, through active listening, the differences and similarities, such as spatialization, the effect of climate, culture and the interaction of individual sonic events and sound signals. This experience was particularly useful when I explored the soundscape of Corfu Old Town during the WFAE conference in 2011 (see section 5.6).

These listening experiences, along with the recordings, notes, observations and contextual research I produced during this phase of the enquiry came to inform my subsequent approach to site investigation in the UK.

3.2 Field recording

A field recording is any recording that takes place outside the specifically prepared environment of the recording studio (see Frank Dorritie, 2003, p. 4). Field recording, almost unintentionally, captures the acoustical traces of landscapes, locations and populations; the potential intertwining of topography, meteorological phenomena, architectural acoustics, fauna, flora and mechanical processes. The terms field recording

and phonography are often used interchangeably in contemporary writing, and this is the case with this thesis. However, it should be noted that there is an alternative use of the term phonography associated with the writing of François-Bernard Mâche (1983, p. 131) that emerges in the context of electroacoustic composition, as defining a category of non-musical material.

Street observes that the development of early field recording techniques establishes the practice of separating sounds from their environmental context (2012, p. 102). It is tempting to assume that this form of sound collecting is an extension of the 19th century naturalist's focus on collecting and archiving (see Charles Darwin, 1909/2008). However, John Drever observes (2013, personal conversation) that the development of an apparent species-ist approach can also be attributed to the limitations of early sound recording technology, which made getting as close to the source of a sound as possible a necessity.

Before the introduction of portable, clockwork Nagra tape recorders in the 1950s, field recordists took studio equipment on location. For example, Ludwig Koch's (1955) pioneering bird song recordings of the late 1920s and 1930s were achieved using bulky direct-to-disk recorders. Radio and television stations maintained recording vans, from which microphone lines could be run. This was a technology and a degree of mobility employed by Pierre Schaeffer (1952/2012). During the 1920s, location sound recordings were also made using telephone lines to transmit the signal back to a central facility. These approaches provided a degree of flexibility, but also severely limited access potential. The first battery-powered portable stereo Nagra tape recorder, the Nagra III was launched in 1958 (Nagra, 2012). Luc Ferrari was one of the first people to adopt the new level of portability, and compose with the field recordings he collected. *Music Promenade* (1968) was followed in 1970 by *Presque Rien N° 1 ou le Lever du Jour au Bord de la Mer*. Recording from the window of his lodgings in a Dalmatian fishing village, he documented the emergence of sound from silence between 3am and 6am over an unspecified number of nights.

“I recorded those sounds which repeated every day: the first fisherman passing by same time every day with his bicycle, the first hen, the first donkey, and then the lorry which left at 6am to the port to pick up people arriving on the boat. Events determined by society. And then the composer plays!” (Ferrari, 1998)

In Ferrari's reimagining of the dawn we hear cows harmonise and cycles of everyday activity repeated so as to become subtle rhythmic patterns. A boat engine merges with the sound of footsteps, which in turn becomes the sound of horse's hooves. Time is compressed and narratives are interrupted. However, content and context remain central to the work – unlike the situation with *musique concrète* where the exploration of environmental sound as pure sound is paramount. This work, as David Grubbs points out in the liner notes to the re-release of *Interrupteur/Tautologos 3* (1999), can be identified as representing a new genre of music for its era, one that Grubbs identified as sound art.

When Warner Brothers commissioned Bernie Krause and Paul Beaver to produce the album series that included *In a Wild Sanctuary* (2006) in 1970 it required field recordings. Krause, who had no previous location-sound experience, recorded these himself using a Nagra. *In a Wild Sanctuary* is generally accepted as the first music album (Wendy Carlos's *Sonic Seasonings [1998]* was released in 1972) to, “use long segments of wild sounds as components of orchestration, and also the first to feature ecology as a theme” (Beaver and Krause, 2012, p. 15).

“Like a pair of binoculars, my mics and earphones brought the sound within a close and intimate range, exposing a range of vivid detail that was entirely new to me... I didn't feel like I was listening as a distant observer; rather, I had been sucked into a new space – becoming an integral part of the experience myself... I realised, even then, that wild sound might contain huge stores of valuable information just waiting to be unravelled.” (*ibid.*, 2012 p. 16)

Krause (*ibid.*, pp. 83-105) went on to coin the term biophony in the 1980s, to describe the overall orchestration of animal sounds, in a niche hypothesis where individual species adapt to occupy particular parts of the frequency spectrum or times of day – so as to avoid the masking of their auditory communications by other species. Biophony, along with geophony (sounds created or related to physical phenomena) and anthrophony (human made sounds) are a useful set of classifications for analysing acoustic environments.

Equally important in establishing the contemporary phonographic field is the pioneering work of Steven Feld. As an undergraduate in the 1960s Feld studied sound recording, *musique concrète* and electroacoustic composition with Herbert Deutsch and anthropology with Colin Turnbull (see Feld, 2013, p. 203). Immediately prior to his first

visit to the rainforests of Papua New Guinea in 1975 Feld also studied film sound with Jean Rouch. At the time, field recordings were usually made from fixed locations. Feld (*ibid.*, p. 205) adopted the approach of wearing his heavy equipment; “I would walk with this rig in the way I had learned, from Rouch, to walk with a camera to record the body’s tracing of space.” Thus we have the development of method toward mobility and performance. Feld’s general comments concerning the experience of heightened and focussed listening as a consequence of on-site monitoring share a similar revelatory tone to those of Krause⁶.

3.3 Schizophonia and transphonia

While the separation of sound from its source via the process of recording and playback has a long history going back to the beginning of the last quarter of the nineteenth century, a term for this separation, schizophonia, was not coined until the late 1960s when it was first used by Schafer in *The New Soundscape* (1969)⁷. Since its introduction, schizophonia has become an established term in soundscape studies. It also has some currency in related disciplines such as acoustic ecology and sound design and is known among sound artists, especially those who use environmental sound in their work. Schizophonia is a useful concept, but it is a problematic term. In the late 1960s Schafer’s perspective was that of a music educator with a strong attachment to the traditional tonal aesthetic of western classical music (as evidenced by his compositional oeuvre which includes both string quartets and choral works) and an agenda concerning noise pollution. Much of his writing can be viewed as a direct response to the rapid urban expansion of Vancouver in the 1970s. Schafer presents the separation of sound from source by

6 “One of the very first recordings I made after I arrived in Bosavi [PNG] was of a group of guys who were clearing a forest for a new garden. Simultaneously I was hearing birds, I was hearing yodelling, I was hearing whistling, I was hearing singing, I was hearing talking, I was hearing yelling and I was hearing machetes and axes and trees coming down all around, I was hearing the earth move, and I was hearing streams and creeks and insects. It riveted me and made me realise that if I was to unravel the experience, I would have to be doing it through sound recording as much as through any other analytical equipment.” (Beaver and Krause, 2013, p. 205)

7 “Since the invention of electronic equipment for the transmission and storage of sound, any natural 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 makers of the sound. This dissociation I call schizophonia, and if I use a word close in sound to schizophrenia it is because I want very much to suggest to you the same sense of aberration and drama that this word evokes, for the developments of which we are speaking have had profound effects on our lives.” (Schafer, 1969, p. 43)

electroacoustic process as a negative phenomenon and, as a term, schizophonia plays a specific role in his initial polemic.

This position has been substantially revised in the last 35 years. In Truax's *Acoustic Communication* for example, published in 1984, we find a significant shift towards a more open-ended exploration.

“However, it should be clear that, like most tools, electroacoustic technology is a double edged sword that provides benefits and conceals dangers. Schizophonia is an inevitable fact of audio technology, but our concern with it will be to understand its implications, not to condemn its existence altogether.” (Truax, 2001, p.134)

Schafer himself, in his introduction to *Sonic Experience, A Guide to Everyday Sounds* (Augoyard and Torgue, 2008) acknowledges how much has changed in relation to the study of the sound environment since the 1970s and highlights the importance and validity of research that is conducted from different cultural perspectives.

Uimonen observes the influence of 1970's environmental activism in the development of early soundscape studies terminology and proposes transphonia as a bias-neutral contemporary alternative to schizophonia for the separation of sound from source⁸. To date, he has almost exclusively discussed transphonia in relation to the use of radio as background music (see 2015) in urban public spaces. However, the concept is not limited to broadcast applications or musical content; when questioned directly regarding on-location playback of sound recordings he observes the term is also applicable.

“I think the concept of transphonia could be used in this context, too. After all, sounds are first recorded and THEN mixed with the already existing sounds of the actual environment, which can be interpreted as a process of relocation of sounds.” (Uimonen, 2013, email).

⁸ “The concept of transphonia is defined as mechanical, electroacoustical or digital recording, reproduction and relocating of sounds.” (Uimonen, 2005, p. 63) The concept refers to sounds imported to a given place where they are heard or listened to simultaneously with the existing sounds of the sonic environment, or in some cases the imported sounds replacing the existing ones. The study of transphonic sounds emphasizes how sounds are being used individually and communally but more importantly, how a shared acoustic environment is being constructed sonically and what are the social, economical, technological, legislative, organizational and cultural factors behind these transphonic sound events.” (Uimonen, 2015, forthcoming)

As a contemporary term transphonia refreshes the discussion of sound and source. As well as allowing the discussion to circumvent the historical bias, it also bypasses a degree of ambiguity embedded in the term schizophonia as a result of its origin. Unlike schizophrenia, which is a long-term mental health condition, schizophonia is a process. One does not essentially suffer from schizophonia – although Schafer’s term appears, quite intentionally, to imply this.

The ambiguity is further compounded by the fact that, while the Greek prefix schizo- does mean split, any association between the term schizophrenia⁹ and the idea of the split personality (dissociative identity disorder) is either a misreading of historical sources or the application of the sort of populist concept of schizophrenia that occurs in novels or films. By creating a term for the separation of sound from source, based on a loose, and possibly imprecise definition of a term from another discipline, Schafer’s argument loses both independence and clarity of meaning.

As the term transphonia can be usefully employed in relation to the sound materials, sonic processes and mediated environments under discussion in this thesis, I have chosen to use it extensively. Where I use the term schizophonia, it is to refer to Schafer’s specific conceptualisation, with all its vagaries, associations and biases, or in direct quotations.

From the varied perspectives outlined in this chapter it is possible to assemble a single, multifaceted concept of the field that underpins this enquiry. One that represents:

- A physical location with attributes that may be documented
- An area of cultural, scientific and intellectual research where parallel approaches reveal, express and problematize in equal measure
- The space in which anthroponic, biophonc, geophonc and transphonc sounds interact in real time to deliver a distinctly nuanced and constantly evolving soundscape

⁹ Eugen Bleuler, who coined the term schizophrenia in 1908, focussed on four disorders: autism (defined here as a tendency to retreat into one’s own world); association defect (the connection of thoughts); ambivalence (contradictory, simultaneous thoughts that immobilize) and affect inappropriateness (blunted or inappropriate emotional responses) as the potential causes of a set of manifest symptoms (see Jeffrey Lieberman, Scott Stroup and Diana Perkins, 2006, p.13; and John Lauriello and Stefano Pallanti, 2012, p. 5). However, since the 1970’s, both research and clinical practice have focused on the primary symptoms themselves, not categories of disorders (see Peter Jones and Peter Buckley 2006, p. 7).

- A location where contemporary electroacoustic practices have introduced many incidents of transphonic sound
- The physical and creative space where artists, writers and musicians interact with forces and sources
- The place of everyday encounters with both the ordinary and the extraordinary

4. Installation Development



Following on from the listening and recording field trips I made at the start of the enquiry I began looking at the form my practice might take within the research. As a response to Biggs' (2003) observations noted in section 1.1 concerning how creative practice, “seeks to problematize that which is familiar, or to raise questions or issues rather than to answer them,” my initial creative question became:

- How can I problematize the everyday experience of hearing environmental sound in a way that draws attention to content and heightens the experience of transphonic material?

Starting with my own library of field recordings, I explored various techniques, such as filtering, time stretching and other forms of audio processing – looking for ways to create works that might explore the feeling of detachment and otherness created by my in situ listening experience. My early experiments revealed a number of issues.

I believe that the way we listen to the world around us and to music is very different. As I note in section 5.7.2, hearing and listening have been considered from many different perspectives and a multiplicity of ‘listenings’ have been theorised. As Eric Clarke (2005,

p.19) observes, auditory perception is an active, self-tuning process. The reception of sound from an environment resonates with internal models, expectations and past experiences. We know what a city street or an open field sounds like even if we are unfamiliar with a specific location, and we know how to identify music. We listen to each through the appropriate cognitive filter. Hence a processed or treated soundscape may simply sound ‘wrong’. At best, it ceases to be the subject of environmental perception and becomes the object of aesthetic experience.

As my enquiry was proceeding from the perspective of the soundscape, transphonia and listening in the field, the use of sonic treatments did not feel entirely appropriate. Turning to the idea of soundscape as a collection of independent elements I began to explore compositional approaches in which the orchestration of individual unprocessed sounds and ambiances took precedence.

This immediately delivered results that I felt were more appropriate. For example, by overlaying the sound of traffic with an outdoor café ambience, individual voices and other recorded events, it was possible to create a very realistic soundscape. This came as no real surprise, as the approach closely mirrored techniques I had used previously in film sound design. As a consequence I visited the De Montfort campus of the University of Leicester in the run up to the first research installation and recorded a range of individual sound signals, soundmarks, keynote sounds and general ambiances. In the studio I set out, using Pro Tools software, to ‘reconstruct’ the soundscape. During this process I shifted the relationship and balance between soundscape elements and subverted some of the more obvious aspects of cause and effect while keeping the overall character of the location intact. My purpose was to create a soundscape composition that felt ‘real’ enough to engage the participant on an everyday level, but different enough to encourage a more focussed listening experience. Returning to the location to listen to the composition was interesting.

(21/05/2010. 4.25pm) I experiment with playing the sound back using small speakers, but this isn't particularly rewarding; the sound doesn't mix effectively with, or mask, the location sound. The colouration and containment creates an auditory effect somewhat similar to listening to an adjacent space through an open window. It's possible to insert individual sounds into the prevailing soundscape (such as a voice, or a passing bicycle) using this technique but this doesn't create the desired effect.

Introducing sounds that are not otherwise present (seabirds, cicadas and a fun fair) achieves little sonic impact as the soundscape of this urban campus already features many transphonic sounds from television and radio broadcasts.

Listening with closed-back headphones is far more impactful as it masks the quotidian sound relatively easily. While the conventionally recorded stereo image has a different character to the omni-directional sound field experienced while listening to the environment in an unmediated way, it still feels as if I am immersed in a location-specific soundscape. The effect is most realistic when standing still as the recorded soundstage cannot adjust to head movement. However, one of the problems identified in relation to the 'lo-fi' urban soundscape (see Truax 2001, p. 96) actually works to my advantage: noise obscures the auditory image leading to an apparent loss of directionality. The nature of the urban environment also means that I cannot always expect to see the source of a sound, and sound is reflected and channelled by architectural features. As a result, walking with the recording often feels like a perfectly realistic listening experience, albeit a mediated one.

Listening to the recording severs the direct relationship between audio and visual events. However, the recorded soundscape retains a strong sense of place, which grounds the work. Coincidental interactions between the recording and live events are common and the experience is perceptually quite disorienting. Playing the recording at different times of day creates an additional sense of temporal dislocation. However, I find that the impact of the work soon diminishes. Firstly, I habituate to the listening experience quite quickly. Secondly, with repetition, the content of the fixed media output becomes familiar and hence predictable.

I did not consider either of these last points to be major issues against using the approach for a public presentation; participants would be experiencing the work for the first time, and were unlikely to listen to it on multiple occasions. As a result, a modified, extended version of this composition was used to create one of my contributions for the 2010 Site, Sound Space and Play conference at De Montfort.

During my MMus I had already started to use Max/MSP to construct and control multiple sound file players. My initial purpose had been to create raw material to compose with: randomly structured, densely layered audio that could subsequently be edited and

manipulated. Experiments with environmental recordings generated an output with a character not too dissimilar to classic *musique concrète*, especially because the Max patch cut, looped, repeated, reversed, filtered and changed the playback speed of sound files. When it came to developing practical methods for the PhD I felt that this technique, if suitably controlled and extended, could be used as a way of generating a live, mediated, transphonic soundscape montage for the enquiry's installation programme.

I felt there were three principle advantages to this approach. Firstly, by placing the output under the control of randomising forces I could myself maintain a greater distance from the work. This, I hoped, would create a more open listening experience, one that might retain the ability to surprise me. Secondly, I could use the Max output in the live installation setting, thus creating a constantly evolving soundscape over any given duration. I reasoned that this approach would also shift the emphasis away from the crafting of finished work and back toward the actual recordings, selection of sound files and listening. This, I hoped, would help the work remain connected to the sound of the environment and therefore present a study of the soundscape – rather than showcase my ability to manipulate materials and create structured linear narratives. On a creative level, the interaction between stochastic processes and a limited range of sonic options appealed as I felt the output could be developed to create a close analogy with the basic form of the quotidian soundscape: a drama of reiteration without repetition – an idea succinctly expressed by Cusack in section 2.2.

At the same time as exploring working practices I began to look at delivery systems. As my early experiments with on-site diffusion yielded unsatisfactory results I settled on the idea of a headphone-based approach. I reasoned that some form of wireless system would work best as it would allow participants to experience the same soundscape at the same time (unlike a situation where people use MP3 players, and everyone functions in relation to an individual time frame). This also felt like a way of differentiating my work from practitioners such as Cardiff and Savage and because it would enable people to encounter the soundscape as a potentially shared experience; which would make the work much easier to discuss. Having researched a number of locative media works I decided against this approach as the limitations of GPS triggering at the time meant you could not mix sound files (rather, the participant moved from one zone to another) and were reliant on the system accessing fixed media outputs.

Having witnessed the ‘silent disco’ phenomena that enabled festival organisers to circumvent late night noise curfews by broadcasting dance music to partygoers wearing headphones, I decided to investigate and possibly repurpose this technology. I tracked down an operator and purchased a transmitter and 15 pairs of headphones. The system proved to be highly effective with a broadcast radius of approximately 100m. The transmitter also broadcast on two channels, which allowed me to broaden the scope of the research through the presentation of two parallel approaches to soundscape composition. Hence I was able to present both the fixed media and randomly structured works at the same time.

4.1 Max/MSP patch for headphone installation

The initial patch was built around 15 individual stereo sound files. These were arranged in three libraries so that, at most, three sources could trigger at any one time. I reasoned this was a good level of complexity to start with, one capable of creating an interesting layering effect, while avoiding cacophony. In the earliest version of the patch, playback was initiated using a simple metronome to drive three random number generators, which, in turn, sent triggers to the individual sound file players. Not surprisingly, this delivered a rather mechanical sounding output, but this was not an issue when material was being selected and edited for composition – the selection criteria simply being interesting and unexpected collisions between audio events. However, building a ‘soundscape engine’ capable of creating a mediated, real-time output with a grounded environmental sensibility, required much greater flexibility.

While searching for alternative approaches for triggering files I observed that the installation’s wireless technology facilitated mobile listening and hence participants would be able to explore the physical site and the superimposed soundscape simultaneously. An analogy was noted here between the installation and soundwalking practice, especially with reference to Schafer’s (1994, p. 213) original brief for, “an exploration of the soundscape of a given area using a score as a guide.” The use of a text score to orchestrate playback was subsequently considered, trialled and implemented. The role of the score was primarily envisaged as a form of poetic grammar (see Street, 2012, p. 14), something designed to initiate a cyclic, and if necessary, rhythmic feel. One reason for its inclusion followed the observation that while John Cage used many permutations of random and chance procedures in his work there was always an

underlying set of authorial directions. For example, the score for *Williams Mix*, is a tape cutting and splicing guide derived using I Ching operations, which enables the work to be produced using different source recordings (Gilbert Chase, 1966, p. 592).

Playback timing was controlled by predetermined triggers sent by a 'reading' of the text score incorporated into the patch's main page. This reading began as an actual spoken word presentation that I recorded into Pro Tools. I then noted the start time of each word in the score and transferred this to a timing grid to create a temporal map of the score. A triggered pulse was then sent through the grid so that at the point a word appeared in the spoken delivery, the ASCII codes for the word were output. This provided me with a set of numerical codes that could be used to initiate the playback of sound files or activate sound modifiers. Most importantly, this meant that words with specific meanings could be used as triggers for sound files with specific content. I also added a second mechanism that would allow me to send all the triggers embedded in a sentence at once. This was a tool I designed for use in the field so that if, while invigilating, I needed to generate a denser soundscape for demonstration purposes, I could.

The importance of the score in relation to the architectonics of the work varied considerably over the course of the installation programme. For the first three installations I produced entirely new scores based on memories I, or in the case of the Bournemouth installation my mother, had of the location. Subsequently, I produced a generalised score, based on the recording instructions I devised for myself during site visits. As a result, this score was appropriate for a range of different locations. At the time of its introduction I felt that by removing a variable, as a result of standardising the score, I might find it easier to assess the primary differences in the generated soundscape output for each new site. I had also been refining the output for a while and had moved away from the denser, more rhythmic and arguably composed approach to triggering in favour of a sparser aesthetic. This, I felt, offered an output that was still clearly mediated, but one that was more like a coherent environment. This was achieved by thinning out the numbers of triggers embedded in the grid. Thus the score still served a useful function as it facilitated the overall control of timing, sound density, file access and sound treatment, but the importance of its ability to impart rhythm diminished.

In order to function as intended the sound files needed to be archived in themed libraries. For example, if the word ‘weather’ appeared in the score the trigger could be sent to a library containing a range of meteorological phenomena. Rather than specify an outcome a file would be chosen at random, which allowed the work to unfold in an unpredictable way. The first sound bank classification I devised was to differentiate between ‘people sounds’ (sounds of human actions, voices, motions) and ‘place sounds’ (environmental atmospheres, machine sounds, natural phenomena). These two basic categories proved useful and were eventually developed (prior to the SPR Colloquium at Goldsmiths in July 2011) to differentiate files in relation to five criteria:

- Stereo acoustic spaces and keynote sounds
- Binaural acoustic spaces and keynote sounds
- Stereo and binaural sound events – emphasis on people
- Stereo and binaural sound events – emphasis on places and materials
- Monophonic sound events – objects

The Max/MSP patch used for the first installation at De Montfort University had four-voice polyphony and accessed twenty stereo sound files. These ranged in duration from approximately three seconds to three minutes. During the course of the installation programme the number of sound file players was increased to five, and the file storage capacity to thirty. This was found to reduce the number of sound repetitions to a level that more accurately mirrored the behaviour of sounds in everyday environments. The library function was also developed to incorporate monophonic sound recordings and a sub-routine to randomize their placement in the stereo field. Generally speaking, monophonic events were found to add a sense of realism and directionality to the overall mix. Binaural sound recordings helped add a realistic three-dimensional feel to the soundscape (especially for motion events such as aircraft or bicycles). However, careful management was required; too much binaural activity, especially when layered, proved to be psychoacoustically disorienting. It created problems with the localisation of sound and generated unpredictable masking effects.

Various forms of sound file manipulation were explored over the course of the installation programme including automated looping, filtering, speed, direction and repeat functions. Once again, the score was used to trigger these functions. While the effected

sounds added a novel, compositional aesthetic I soon found that participants became fixated on the source of the sounds they did not recognise. This led many discussions back towards Max/MSP and its sound processing capabilities. As the software was not the focus of my enquiry I began to move away from obvious treatments.

As the installation programme progressed the desire to treat sounds also lessened as the novelty wore off. At the same time the focus on recording, preproduction, sound quality and curating sounds increased, and the work became more knowingly phonographic. Less complex mixes relying on the interaction of 'open' materials controlled by cuts, juxtapositions, layering and the native characteristics of different microphones and recording techniques proved to be more appealing and engaging in the long term.

By programming a zero option within the playback field of each file player it was possible to create an audio output which included periods of silence, into which the prevailing soundscape could easily bleed; so as to enhance the ambiguity between recorded and 'live' sound. This subtle device became one of the most powerful in establishing a link between the work and the quotidian sound environment and enhancing the sense of site-specificity. Details and discussion concerning the individual headphone installations can be found in chapters 5 and 6.

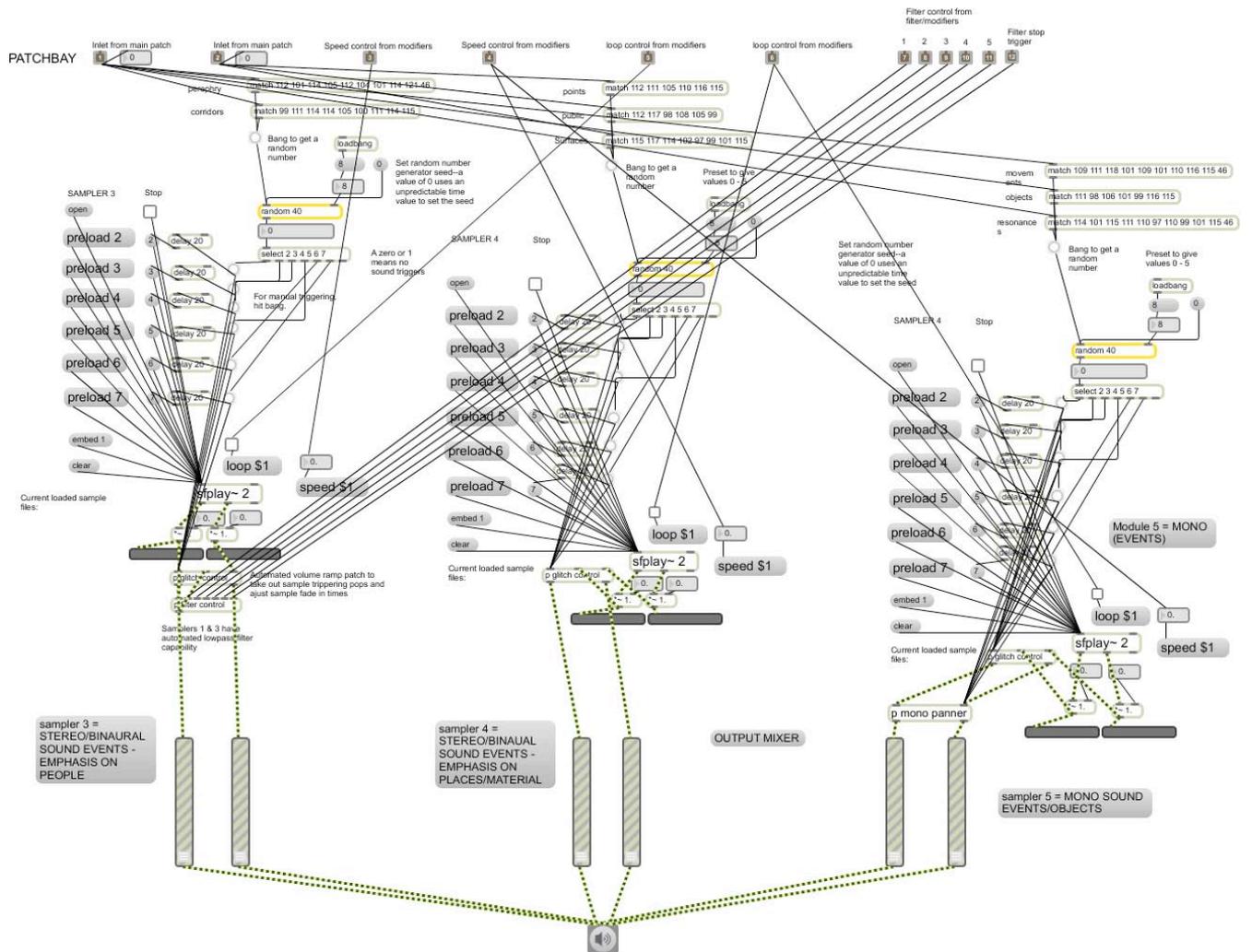


Fig. 4: Max/MSP patch: example file player bank (one of two per patch)

5. Engagement, Emotion and Experience

This chapter commences with the documentation of six installations. Due to the personal nature of my enquiry's encounter with site and soundscape, and the adoption of autoethnographic methods, much of the writing has a strongly autobiographical character. Where text is drawn directly from sound diaries, dates and times are indicated. These sections are indented and an italic font is used to differentiate the material. In order to create a degree of consistency, I have used the same section headings for each installation write-up. These sections contain the following information.

- **Site, listening and production:** provides a description of the location, noting any relevant historical, geographical and sonic information. I also document my field trips and look at the development of the work as it progresses from issues relating to field recording, towards studio-based practices such as sound editing, script development, Max/MSP programming and hardware modifications.
- **Installation delivery:** briefly outlines the details of the installation itself – where and when it was conducted, number and length of sessions, weather conditions, details of any problems encountered and an estimate of the number of participants. Where questionnaires were administered, the number of forms returned is also noted.
- **Observations and outcomes:** documents my own experiences of invigilating the installation on the day. This section also focuses on my observation of participant behaviour and their reactions to the work.
- **Critical listening and reflection:** in this section I note my own experiences of listening to the work in situ, and also during focussed studio-based listening sessions conducted after the event with the installation's Max/MSP audio output.

The second part of this chapter contextualises and explores a series of themes I identify as emerging during this phase of the practical research: disorientation, uncanny sensations and the awareness of coincidence. Where appropriate, I make use of participant feedback to support and challenge assertions. This chapter also evidences my developing interest in the relationship between soundscape, site and time, which I focus on in chapter 6.

5.1 Sound, Sight, Space and Play (SSSP), De Montfort University, Leicester (June 2010)

5.1.1 Site, listening and production



The De Montfort University campus in Leicester occupies a central city site, southwest of the main shopping and commercial district. Contained principally within a triangle bounded by George Street (the central ring road), Walnut Street and the river Soar, it is criss-crossed by smaller streets that remain open to both pedestrian and vehicle access. There are also a number of pedestrianized open spaces such as the central Magazine Square and Castle Park on the edge of the campus. The university occupies a diverse selection of buildings, ranging from contemporary purpose-built property to repurposed 70's, 60's, Victorian, Georgian and even medieval buildings. This combination of diverse architectural styles, different approaches to town planning and a significant amount of on-site traffic creates a number of contiguous, but independent, zones each with its own distinct acoustic character.

(29/04/2010. 5.30pm) I enter the campus via the central portal on The Newark. At this point the soundscape is dominated by heavy and continuous traffic noise. Moving further onto the campus this influence gradually recedes. However, it becomes clear that I had arrived during a period of extensive building and maintenance. I note how even the simple scrape of a shovel on a paving stone can activate the relatively large acoustic space of Magazine Square. Construction work is full of rhythms – such as the slow rolling tempo of pneumatic drilling with short pauses where the operator

rests. Each gesture and pause is dependent on the individual operator, so the signature reveals a human characteristic. In a similar vein, different footsteps create a narrative of surfaces. I realised that, on many occasions, I can tell a person's gender from their footsteps; principally because there are significant differences between some types of men's and women's shoes. I also find myself wondering when the sound of a wheeled suitcase became a ubiquitous aspect of pedestrian traffic¹⁰.

While the day is very wet there are a couple of extended dry periods and this helps to illustrate the many and varied sonic aspects of the relationship between water and site. I observe that the sound of rain in this urban setting is largely dependent on the surface onto which it falls. Rain falling on grass, concrete or water sounds completely different. Rain falling on a corrugated plastic roof, a resonant metal litterbin or scaffolding boards reveals a material trace. Thus, the urban environment in the rain develops a noise-scape aspect where pitch and amplitude are influenced by the complex interaction with surface materials. The sound of rain masks the smaller sounds of everyday actions, muffling voices and footsteps.

The parallel use of the space by different communities is also apparent. In my focussed listening I'm able to juxtapose a group of university administrators with a group of students. The tones, language and presence of the business conversation and the more casual social interaction are brought into sharp relief. The first group is attempting to coordinate events in relation to a set of predetermined principals and mutual-use relationships, while the other is embedded in the drift of casual engagement. Superficially this flow of people seems mundane and ordinary – and yet under closer scrutiny, the fact that both coexist in, and colour the experience of both soundscape and place, seems to symbolise the campus dynamic quite succinctly. The campus soundscape generally evidences a far greater incidence of utterance than the streets beyond. This is indicative of the specialised use of the space and of people moving in groups. The experience highlights the overall absence of community in the general urban areas of Leicester on this day; people are more likely to be in transit as individuals. The only voices I hear out on the streets are those of teenage schoolchildren laughing or shouting.

¹⁰ When I research this later I'm surprised to find that the contemporary style of rolling luggage wasn't invented until 1989 (see Jeff Swystun, 2011).

Having recorded in various outdoor locations I shift my focus to university buildings where I continue to explore aspects of public space. Thresholds prove interesting as different eras of entranceway create different relationships between internal and external sounds. Contemporary buildings often feature a defined transitional zone, one generally confined between double sets of automatic doors. These act like movable acoustic baffles allowing aspects of indoor and outdoor sound to mix in different proportions. This mix is controlled by the density of foot traffic and punctuated by periods of relative silence when transit ceases. Once inside these buildings very little sound from outside is audible. The contemporary trend to site cafés and other commercial outlets in foyers creates a specific acoustic signature in which the sound of an Italian-style coffee machine is often a keynote sound. By comparison, the single glazed, heavy manual doors of the older buildings do little to impede the flow of sound and once inside, the outside world is still clearly audible. Smaller, unreconstructed entrance areas lead directly to corridors or staircases, often with highly reflective characteristics.

Returning to the studio I set about listening to the recordings and started to identify extracts that were either of particular sonic interest or highly indicative of a particular acoustic environment. I experimented with both normalised and un-normalised files. I found the latter to be more useful in layered situations because the preservation of relative volume levels created a more naturalistic flow. As part of this exploration of materials I used Pro Tools to create the linear soundscape composition (see chapter 4). This was used for the second Leicester field trip for listening to materials in situ and subsequently adapted for the final installation. Early tests with the Max/MSP patch indicated that files needed to be carefully edited to avoid audible triggering clicks. Subsequently, I programmed an automated volume ramp on the output stage of each sound file player. This was adjustable so longer fade-ins could be set for artist purposes or short ones for sound management (this feature was not extensively used until later in my programme when the time available for pre-production was sometimes more limited). Sound files were carefully named to indicate content and recording method.

At the same time as sound editing I was also developing the score aspect of the Max/MSP patch. One of the things that had significantly coloured my trip to Leicester was the awareness that this was the first time I was visiting the city as an adult. My father worked

in the brewing trade and each time he was promoted we had to move to his new area. As a result we lived just outside Leicester for about three years. Returning to the city, I wondered if I would find any aspect of it familiar. I was also aware that, had my father's career taken a different trajectory, I might have known the city intimately as my hometown. As it was, any connection I felt on my return was minimal. None the less, these thoughts were with me on the day and as a result I felt this subtext was an appropriate source of material for the score. As a result I produced the following:

*Leicester –
I lived near here when I was a child:
Two to around five, left before starting school.
Close – my mother had already bought the uniform.*

*In later years, dad told me he hated the place;
As a brewery rep in Exeter he'd circled his area
Selling beer into country pubs:
Passed his time with jovial landlords,
Presented the darts prize,
Played a bit of cricket.
In Leicester, he pumped hogsheads into working men's clubs,
Worked evenings, worked weekends
And took busloads of shop stewards on seaside outings.*

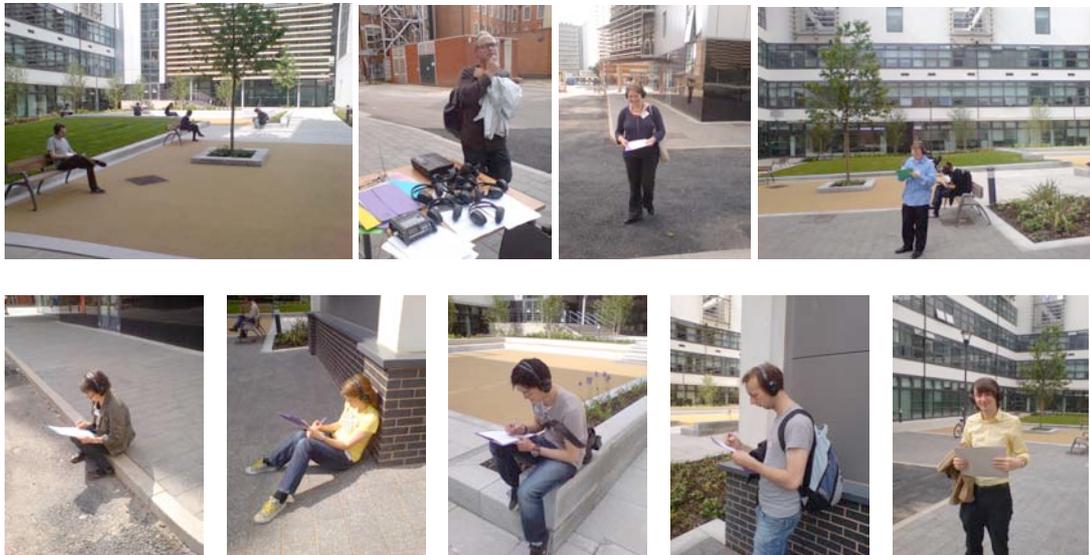
*I remember an old house in Narborough,
A few childhood incidents, very few.
Nothing in the city evokes a memory.
And yet this place could be as familiar
As the soles of my feet:
Had the tide of his promotions
Not landed us further along the shore again.*

Having programmed the script into the patch I set about exploring the 60 files of my primary library until eventually I identified 24 that I felt were representative and sonically interesting. These were loaded into the patch and the resulting audio output was tested and modified.

The final aspect of the production phase was to devise a questionnaire. I decided to use a mixture of closed questions where simple yes or no answers were required (with space provided for additional comments should participants want to qualify their observations) and open questions where I was interested in the type of content people were observing. As I had not designed a questionnaire before, the document I produced was quite lengthy.

It included questions about basic event and sequence identification, embedded meaning and emotion, and aspects of the installation experience. Identical questionnaires were used for both audio programmes: A, the linear soundscape composition and B, the Max/MSP output. I realised I was asking a lot of participants, however I reasoned that conducting this research in the context of a PhD student conference offered the best opportunity I would have to explore the method's potential. I also reasoned that this exercise would help me with the process of refining questionnaires in the future, so to a degree, this survey functioned as a pilot.

5.1.2 Installation delivery



The Leicester installation took place on Wednesday 2nd June 2010, between approximately 2-4pm in the courtyard at the rear of De Montfort's PACE building. Participants were able to walk from here out into Magazine Square. The day was fine and warm, providing a marked contrast to the day when the recordings were made – a fact that many participants noticed. The installation held people's attention and many commented on the fact they found it intriguing and enjoyable. The event was well attended. People were extremely conscientious about listening to both audio programmes and a total of 27 completed questionnaires were returned.

5.1.3 Observations and outcomes

(02/06/2010. 5pm) *Invigilating the installation is an interesting experience: a very effective method for engaging with participants. I try to avoid saying too much about the audio programme before people set off so as not to colour their experience, but make myself available to talk about it when they return the headsets. I kept a digital recorder running throughout the event and record many of these conversations.*

The response to the two different audio programmes is interesting. Some participants express a clear preference, but there is no obvious overall bias. Those that are drawn to the composition prefer the intentionality of the work and the sense of narrative flow. Several people indicate that they find the composed soundscape more immersive. One person observes that they feel the composed work is less 'self conscious'. Those drawn to the Max-based work appear intrigued by the intervention it presents and enjoy the perceptual challenge it proposes. The fact that it is less immersive, in the sense that the layering and juxtaposition of audio stops them habituating to the sound and keeps them focussed of sonic content, is seen as appropriate for the themes I am exploring. Intriguingly, several participants feel that time passes more slowly during the installation experience – but others feel it passes more quickly. Reviewing the questionnaires and the recorded feedback I observe that using the two different audio programmes appears to tell me more about the aesthetic preferences of individual participants than about soundscape listening.

5.1.4 Critical listening and reflection

(20/04/2012. 3.30pm) *The Leicester Max/MSP output presents a cut and splice sound environment. The work doesn't suffer from the lack of monophonic sounds, probably because of the focus on pre-production and sound file editing. There is music, vehicle sound, and plenty of other evidence of people inhabiting the space. There are background and foreground sounds but the overall mix is quite dense and there is a sense of compression. There is a very purposeful tone to the soundscape; almost everything is happening as a consequence of intent: the driver's foot on the accelerator, a hand on a drill or the response of a door mechanism to a visitor's arrival.*

Listening to the work from the perspective of the score is interesting; you can hear the iterative nature of the soundscape but the score cycle is not especially obvious. The overall effect does seem to mirror the natural mix of environmental sound in the way that familiar elements reappear, but not in the same combinations. Aesthetically, some score cycles are more successful than others, but quite why is not easy to pin down. Quality feels dependent on the tension between two factors: how successfully the work mimics an everyday sound environment and how sonically interesting the sound combinations prove to be.

Sounds that are looped, reversed or slowed down initially add a certain intrigue and function effectively in a compositional way in the short term. However, these more obvious effects become too invasive over time and distract from the sense that one is listening to a 'real place', albeit one subject to mediatisation.

5.2 Whitstable Biennale, Kent (June 2010)

5.2.1 Site, listening and production



Whitstable is a small town on the Kent coast. Unlike the nearby resorts of Herne Bay and Margate that developed under the aegis of Victorian tourism the town did not receive a similar architectural makeover, and as a result both the town and the seafront retain the character of a much earlier era. Whitstable has been a working port since Roman times. Most notably it has a connection with oyster fishing, which continues to this day. The presence of a small fleet of working boats at anchor in a cast iron harbour, which was built in 1832, helps set the character of the town. So too does a sea front where the

gardens of weather-boarded houses back directly onto a pebble beach heavily segmented by the wooden groynes designed to prevent longshore drift. There are sections of both concrete and wooden walkway, but there are no major roads near the beach so the soundscape is mostly free from traffic noise. As well as houses on the seafront there is a tennis court, the Old Neptune public house, a car park and access to Keam's Yard, which contain three restaurants and a number of former boat sheds, which now house second hand or bric-a-brac shops. Further along the seafront, just before the harbour, is a yacht club. In recent years the harbour has seen some commercial development, and there is now a restaurant above the fish market. There is also a café with outdoor seating and a small tourist market.

Moving away from the seafront and into the town, the immediate area is solidly residential. The streets are narrow and lined with small, Victorian terraced houses and a range of older, weatherboard-clad properties. Beyond this area, the High Street contains most of the town's shops. With the exception of a couple of small supermarkets there are few chain outlets. There are many charity shops, cafés and restaurants and also greengrocers, butchers, bookshops and outfitters, so it is still used extensively by local residents. The High Street also features the Whitstable Playhouse theatre, a public library, St. Alphege Church and the Horsebridge Arts Centre. The soundscape on a Saturday features a rich mix of voices, church bells, buskers and the noise of slow moving traffic. As a result of its picturesque character, painter-friendly light and proximity to London, Whitstable has had a long running association with the art world. A Biennale programme has been running since 2002.

(29/05/2010. 6pm) I spend one full day recording in and around the town, with an emphasis on the seafront and the beach area; a location in front of Keam's Yard has already been assigned to me for the installation. The differences between the soundscape of the De Montfort campus and the Whitstable site are immediately apparent. The absence of vehicle noise on the seafront creates a hi-fidelity soundscape. On a Saturday in June the environment is busy, but individual sounds remain strongly directional. Even quiet sounds present themselves as distinct and clearly audible. Close to the sea, the slow rhythm of the waves and the interaction of water with groynes, jetties, rocks, shingle and sand provides a range of familiar keynotes. This relaxed atmosphere is punctuated by traces of human activity: the crisp

rasp of footsteps moving across shingle, the sounds of children's voices and the thrum of casual conversations drifting with the breeze. The sound of various bird species is also very much in evidence.

Moving up the beach the sound of tennis adds an additional, slightly chaotic rhythm to the soundscape and conversations from the boardwalk came into sharper focus. As too do the sounds of people walking on wood or concrete surfaces. Without intentionally eavesdropping, the nature of conversations is easy to ascertain – one aspect of the quieter environment is the way in which it is easier to identify groups and overall patterns of community. In this particular environment the homogeneity of population is apparent; local Kent accents prevail and English is the predominant language heard. People's interaction revolves around discussions of the location, local issues, shopping and leisure activities. The sound of laughter is common. Children's voices, which are largely absent from the Leicester soundscape, are a very present element. The interaction between adults and children is also a key aspect of the soundscape. Bicycles, prams, strollers, skateboards and roller skates each have their own type of sonic signatures, as does the trotting and pattering of many different dogs.

In the process of moving along the seafront I encounter a numbers of specific areas where a certain sound predominates or a localised soundscape exists. For example, around the yacht club where the light breeze sets the masts and rigging of small boats ringing and clattering. The sound of slow moving and reversing vehicles punctuates the sound of the area closest to the car park. Near the harbour the sound of an ice cream van is a dominant sound signal and the sound of a refrigeration plant attached to the fish storage sheds adds a distinctly industrial tone.

The harbour itself has the natural reverberant character of a large open space, with the lengthy, solid concrete wall in front of the Brett Aggregates plant providing a highly reflective surface. A lively and bustling soundscape is created by the mixture of commercial and leisure activity. Light work on boats, in particular the hauling of chains, creates a particular nautical accent. The presence of food on outdoor tables ensures the lively interest of seagulls. The absence of traffic noise allows individual soundscape elements to stand out clearly and there is an opportunity to identify many 'small' sounds in the overall mix; for example, the sound of water running in a drain.

Further along the harbour music from market stalls becomes part of the prevailing soundscape.

On the De Montfort campus there was often a sense of abrupt transition between areas with quite distinct soundscape characteristics. Here in Whitstable these transitions are less abrupt, with each zone blending into the next. This is also the case with the more urban areas beyond the seafront. Off the beach, the ambient noise level drops, reflecting the reduction in activity. Moving toward the High Street is accompanied by a gradual increase in volume and a fairly subtle change of content to include the increasing traffic flow. Partly as a result of the town layout, and the presence of many pedestrians, traffic moves extremely slowly and an underlying spectrum of bass frequencies is apparent. The sound of traffic does not overpower the sound of human voices, which are a very present aspect of the town centre soundscape.

Moving in and out of buildings is an enjoyable experience; the atmosphere of the fish market is a particular highlight. The combination of running water, a sputtering chip fryer, voices, fridge noise and the shovelling of ice, all under a low roof, creates a sonically rich environment. Partially open to the harbour, the sense of the interior and exterior interaction is palpable.

Returning to the studio, the clarity and quality of the sound recording was immediately appealing. Without the masking effect of rain and traffic noise sounds stood out very clearly and there was a far greater sense of background and foreground activity. Sound from a far greater distance (such as light aircraft noise or distant construction work) was also present adding significantly to the sense of scale and depth. With the exception of the recordings made near the High Street there was very little low frequency content and very little was needed by way of equalisation.

The clarity and separation of sounds in the recordings enabled me to work much more precisely with the idea of recreating the soundscape using individual elements. As a result, I created shorter files to include in the mix. I was also able to isolate several passages from the binaural recording in which distinct motion events could be heard travelling across the stereo field. Once I started to experiment with layering, these

elements immediately stood out as adding an extremely realistic texture to the listening experience. Having decided to adopt the same basic approach that I used in Leicester I produced a stereo soundscape composition.

I also decided to work with the same Max/MSP patch; I reasoned that keeping the basic structure the same but working with new sound materials would potentially be revealing. However, a new script was necessary. Whitstable is in my local area so the town featured in various ways during my early adult years and, again, my memories of the place felt appropriate to use.

*I practiced here in the early 80s.
Alex could sing like Bono – but – we made
More money busking Beatles songs.
More than pumping gas on a Sunday.
Or working at the chipboard factory:
Gotta love that 20p coin.*

*I'd drive over from Herne Bay for parties:
Intimate, run down little houses packed with life.
Narrow gardens overgrow, a distant sound of surf.
Purple Hipsters in the kitchen,
Red Squares on the stairs,
And the late-night scent of Rothmans
Hanging in the air.*

This script was slightly shorter (82 words versus 136 words) and, given that my vocal delivery had a fairly consistent tempo, the overall timing came up slightly shorter. Thus the resulting soundscape montage had a faster overall cycle. As with the Leicester installation I started out with approximately 60 sound files and gradually thinned this down to what I felt were the most appropriate 24.

My experience with the questionnaires in Leicester raised a number of issues. I did not believe I could expect anywhere near the same degree of cooperation at a public art event. Hence, I decided to minimise the use of the method on this occasion. Looking back, the version I produced was still quite demanding as it featured nine questions. These targeted both the identification of sounds and the emotional/perceptual effect of the work.

5.2.2 Installation delivery



The installation took place on June 19th, the opening Saturday of the 2010 biennale between 11am - 4pm. The event was severely compromised by strong winds and intermittent showers; I had to move from the designated pitch on the beach in front of Keam's Yard to a relatively sheltered location in the yard itself. As a result of the wind I was unable to record the event successfully and while I had a good number of participants, only seven questionnaires were completed. Given the somewhat challenging nature of the situation I also abandoned the A/B programme format and concentrated on the Max/MPS output.

As I was somewhat disappointed with the day I conducted a second installation on July 4th 2010. This was far more successful as the weather was warm and calm. Something in the region of 40 people experienced the installation and I was able to record many useful conversations and interactions. In total, only nine people agreed to complete questionnaires.

5.2.3 Observations and outcomes

(19/06/2010. 7pm) *The opening weekend of the biennale attracts people from around the UK. As a result, the participants mostly seem to be either local or visiting artists or the locally based, but established, biennale audience. The flow of conversation follows a similar pattern to that in Leicester: people are interested in the work and how it's made, intrigued by the ideas and materials involved. Some give advice, discuss the work in relation to the output of other artists and some suggest alternative*

approaches. Few people comment on specific sounds. On average, people stay with the work for between two and five minutes. Generally they do not stray far even though I suggest they can move about the beach. A few people wander off and they are the participants that listen the longest, and return with tales of strange coincidences and inexplicable feelings.

(04/07/2010. 8.pm) Day 2: this time people who engage with the installation appear to be almost entirely local residents taking advantage of the fine weather. The age range is much greater and the range of conversations far more diverse. People who are familiar with the local soundscape want to discuss specific elements and identify sounds they like and dislike. Several people ask me if I have recorded sounds they knew of, such as a boat being dragged along the beach. Both children and adults are able to engage with the work. Children's responses are particularly physical and many start looking around for the source of sounds. This experience is not lost on adults either; as the content of the recordings is very similar to the actual beach soundscape, entering the work proves to be comparatively seamless, especially when the headphone volume is balanced so as not to fully mask the outside world. The periods of silence are also particularly effective in creating a relationship between the recording and prevailing soundscape. People are reticent about giving additional time beyond the first experience, so any attempt at using the second audio programme is abandoned.

5.2.4 Critical listening and reflection

(16/02/2012. 3.30pm) I am pleased with the way the Whitstable materials sound. The initial quality is there and the advantage of being able to select and pre-master is apparent because the clarity and separation of individual sounds is good. This makes the interaction of individual sonic elements more interesting. At times the interplay of clear voices and the injection of music makes it feel as if one is listening to a radio play. I was expecting more gaps in the Max/MSP output – but there are less than in the Leicester output. Indeed, both periods of silence and the harder cuts between sound files are less common – so when they do occur they are more memorable. Episodes become defined between silences. One of the reasons the soundscape seems more integrated is the presence of 'relative silence' within the actual field recordings; when these quiet passages overlap, the transitions are more naturalistic and less self-

conscious. Again, this is a function of a soundscape where there is less background noise. There is a lot of motion in the binaural recordings and the soundscape is far more directional than the urban equivalent. In a sense the work feels quite 'poetic' in as much as there is a greater depth of emotion as a result of the relaxed feel of the utterance-content. It is hard not to extrapolate some overall narrative arc as a consequence of the different incidence of embedded meaning. This is reinforced when snippets of conversation reoccur. Reoccurring sound events have a similar effect to punctuation, creating an emphasis at certain points.

As the work's overall structure is controlled by random processes I do not find myself habituating to it and, 32 minutes in, I am still listening to something that I can experience as fresh. By this point I know the individual elements, but continue to be surprised by combination. The elements of music in the piece (especially the harmonica) seem responsible for the creation of transitional and passing moods.

The sound of a child running mixed with the sound of surf creates a totally different emotional impact compared to the sound of children running with traffic sounds in the background. The sound of the harmonica, when inundated by the crashing of a huge wave, has a slapstick element about it. The invocation of mental imagery is an important aspect of the overall impact of this work. On site, there is a tendency to align the auditory experience with objects within the visual field, so the awareness of prior associations is less tangible. In the studio, one has to mentally project toward meaning, so the internal process becomes a foreground activity.

5.3 Space: the Real and the Abstract, University of Wolverhampton (July 2010)

5.3.1 Site, listening and production



For this installation I decided to explore the concept of transphonia by relocating sound from one environment to another. As a consequence, a preliminary site investigation and recording phase was not required. My wireless system was installed in the foyer of the Art and Design building during the conference and used to broadcast the Max/MSP based sound montages developed for De Montfort University and the Whitstable Biennale. Again, participants experienced the installation sound using headphones. There was a large open area immediately in front of the building, and while this was not an ideal location (due to the presence of the ring road and heavy traffic) participants were encouraged to exit the building and experience the work in relation to an outdoor space.

I produced a questionnaire for the event that explored a number of experiences: the participants' ability to recognise places and events from audio content not associated with the visual aspects of their listening environment, disorientating or uncanny sensations and incidents of coincidence.

5.3.2 Installation delivery

The installation took place on 6th July 2010 and was well attended. Many people experienced the work as a focussed listening exercise and sat down to listen. This created a very different relationship to the audio. In this environment people were responsive to the questionnaire and 13 forms were completed.

5.3.3. Observations and outcomes

(06/07/2010. 6pm) Participants that exit the building to listen appear to have the most impactful experience of the work. Several are drawn to comment on the differences

between listening inside and then outside. Inside the building the experience is considered to be more like hearing music or sound art. Outside it is more consistently reported as environmental sound and people are clearly aware that it originates in a different location. Several people observe the outdoor experience as disorienting and several comment specifically on the interplay between the sound of traffic from the bypass and the sound of waves in the Whitstable recordings. Those who remain indoors to listen are inclined to focus more on the detail of individual sounds and the interaction of sounds. I am drawn to conclude that the indoor experience is more about listening and the outdoor, more about experiencing.

5.3.4 Critical listening and reflection

As no new sound work was created for the Wolverhampton event I was aware that my process of scheduling a personal post-installation studio listening session would not be possible. Hence, I deliberately spent more time listening to the work in situ on the day of its installation.

(06/07/2010. 4pm) Moving around the gallery and foyer space with headphones on is quite disorienting and the lack of correlation between audio and visual content is very apparent. Orienting oneself in relation to doors and the presence of structures such as dividing walls becomes difficult. This sense of confusion becomes even more marked when sounds and voices from the prevailing environment begin to blend with the recorded sound; the presence of two very different sets of spatial characteristics is difficult to reconcile. The easiest way to manage the experience is to sit down. This allows for a more introverted, isolated listening experience where the creative character of the work and the interaction of elements become a focus. I find that leaving the building creates a tangible sense of relief, not because there is a correlation between sounds and events, but because there is a better match between the overall spatial characteristics. Sounds recorded at a distance such as traffic or voices, feel more naturalistic; the characteristics of distant sounds recorded in the open air, unless significantly affected by local architectural, topological or climatic conditions, do not appear to vary significantly from place to place. Under most circumstances, the distance between listener and source appears to create a consistent degree of signal degradation and tonal filtering.

5.4 Sounding Out 5, Bournemouth University (September 2010)

5.4.1 Site, listening and production



The Talbot campus of the University of Bournemouth is located two miles inland from the city centre. Over the years, there has been considerable building and expansion. The site is centralised and pedestrianized, with a bus station and car parks at its periphery. The Wallisdown Road (A3049) runs close by, but little sound penetrates to the centre of the campus. As a result, the soundscape is comparatively free of low-frequency sound or the more obvious sounds of traffic. Due to the density of building and the quiet environment one often hears sound without seeing its source. There is a substantial student village on site but during the summer break there is little activity. Of all the site visits this proved to be one of the most challenging; apart from a few administrative staff and maintenance workers there was very little human presence.

(17/08/2010: 3.30pm) The most acoustically active space is the Atrium Café, around which the majority of visitors seem to congregate. The space is highly echoic and the sound of a coffee machine dominates the soundscape. Outside on the campus the only obvious sounds to be heard are the occasional footstep or hushed conversation, a high-flying aircraft or the intermittent sound of an electric drill. I set off to explore and subtle sounds start to present themselves: the trickle of water from an open tank near a greenhouse, the rush of air from a vent, the distant sound of a vehicle reversing or the wind in the many on-campus trees. Moving through the various spaces created by the architecture, my footsteps become the principal indicator of the acoustic

parameters – which are many and varied due to the presence of numerous courtyards and semi-open walkways with distinct reverberant signatures.

During previous site visits I felt very little need to interact with the environment due to the abundance of sound signals. Here, I decide to explore the performance-oriented method I first employed during the AudioLab10 soundwalk in Dorset at the beginning of the year. I therefore set out to explore the materials and surfaces of the campus itself using a felt-headed drumbeater. I choose this particular implement because I imagine it itself will contribute very little sound in the process of sounding an object. What soon becomes apparent is that I am now looking at, and listening to, the campus in a very different way.

The first thing I notice is the presence of two very distinct categories of detailing. The first is the amount of wood used for benches, tables, walkways and edging around planters. The second is the amount of tubular steel of different gauges being used for handrails. Each category of material yields a different array of percussive tones with both long and short decay envelopes. Expanses of wire link fence rattle or deliver clear ringing tones depending on the tension and gauge of the material used. Individual items, such as the chains designed to demark parking areas, all have particular sonic signatures – some more, or less, appealing. A particular style of metal litterbin has an extraordinarily resonant, gong-like character. I find it interesting to observe how none of these sonic potentials is an intentional design feature, and yet how each might contribute to the soundscape as a result of pedestrian traffic on a busy day.

Once inside campus buildings any sound from outside is excluded and these contemporary, double-glazed and carpeted interiors offer very little acoustic potential. As in Leicester the threshold experience had interesting features, but this is almost entirely limited to the fact that every building has a different form of electric door automation, each with its own rhythmic cycle.

In the studio the materials from the fieldtrip proved to be very detailed; prior to the field trip I had replaced my Ederol R44 recorder with a Sound Devices 702 and I had added a

Rode NTG3 short mono shotgun microphone to my field kit – for the purpose of collecting fine detail and isolated close-up sounds.

While the overall soundscape evidenced less activity, the detail captured by the new equipment revealed a subtle and changing set of ambiences. There was a much greater sense of distance, as faint sounds from beyond the campus were not masked by local activity. Comparing field trips I realised I had actually recorded far more material in Bournemouth – this was because I set up and recorded longer soundscape sections in order to capture less frequent events. I also had a lot of gestural, percussive material from my various interventions. This proved quite hard to work with as it had a tendency to dominate the sound stage. The most useful interventions tuned out to be the most casual and a-rhythmic. Single strikes were also useful and where these interacted randomly with each other, interesting sonic relationships were created.

Prior to Sounding Out 5 I had updated the Max/MSP patch to include a mono file player. This increased the number of overall file choices so the soundscape became more diverse. I also created a function to randomised sound placement in the stereo field. I programmed fewer triggers, which allowed longer passages of audio to interact with each other. Having generated more sonic variety by expanding my recording techniques I decided to disable the loop, filter and speed modifiers.

I also produced a new score/script for the Bournemouth patch. Having no prior association with the city I could not use the same autobiographical method, and spent some time considering the initial field trip itself as a source of inspiration. This proved somewhat fruitless, and it was not until I had a casual conversation with my mother that an idea emerged.

*My mother tells a story of how, shortly after the war
She and her friend Jean would take holidays in Bournemouth.
A week here, a week there – always staying at the same guesthouse.
It was run by a woman whose husband was a classical musician,
And he did not like his wife running this business.
On one occasion he placed an ancient gramophone with a massive horn
By their door – and began playing music in the middle of the night.
On another, they returned to find the curtains torn down and the furniture
overturned.*

*And yet they kept returning –
In cheerful anticipation of such unpredictable behaviour;
Seemingly, it added spice to the seaside adventure.*

As I still had the option of the A/B programme format and the beginning of an installation archive, I also decided to see how people would respond to the superimposition of a completely different soundscape. I chose to use the Whitstable installation sound as this provided a marked contrast. I also revised the questionnaire for the event, this time adding questions about the identification of rhythms in the work and any awareness of underlying compositional intent.

5.4.2 Installation delivery



The installation took place on the 9th and 10th September 2010 – a morning and afternoon session on the first day and a single session on the second, which was scheduled to include the conference lunch break. The weather was dry, but overcast, and the amount of on-site activity remained at a minimum. Over the course of the two days I had a good

number of participants but engagement was very spread out as I was providing one activity among many. As a consequence, however, I was able to engage more fully with individual delegates. The work was well received and prompted many interesting exchanges, many of which I was able to record. As a result, I felt the use of the questionnaire as a means of documenting people's experiences was less needed and I was relaxed about proposing it. Hence, only six forms were completed.

5.4.3 Observations and outcomes

(09/08/2010. 11am) Participants are mostly academic staff or students. There are also a number of industry professionals here and I receive some particularly interesting input from people involved in film sound and radio – concerning the nature of diegetic and non-diegetic sound and the history of broadcast practices. People are generally less aware of sounds repeating in the work but they do observe the arbitrary rhythms created by the performed, percussive elements. Several people observe that they feel a heightened sense of general soundscape awareness after they stop listening to the installation.

The quiet campus environment and the quality of the relatively sparse Max/MSP output means that recorded and live sound mixes very easily. Several people comment on the fact that the building work I had recorded had subsequently stopped – and yet how realistic its presence feels. Participants seem more likely to notice coincidental interaction between the recorded sound and live events, such as when the sound of footsteps coincides with someone walking up a flight of steps. As this is the quietest installation site so far, and the recordings the most detailed, perhaps there is more opportunity for observing this type of independent episode?

(10/08/2010. 3pm) The response to the superimposed Whitstable soundscape montage is quite different. Without exception people comment about how dislocated or 'wrong' it feels – but in an interesting and thought provoking way. Several people find it more disorienting than the montage featuring campus sounds. While the Whitstable recordings contain sonic elements that could be present here, it's their combination and the mismatched spatialization that appears to create the disjuncture. One of the things I observe is that the experience becomes perceptually more uncomfortable when the volume is increased to the point where the recording fully masks the

quotidian. Up to this point, the work feels incongruous, but not disorienting; more like the familiar experience of hearing broadcast sound from a television or radio in the environment. As I have a CD version of the De Montfort installation sound with me I try playing this to some of the more engaged participants – in all cases they find the mapping of the alternative urban campus sound environment much more ‘believable’ than the Whitstable montage.

5.4.4 Critical listening and reflection

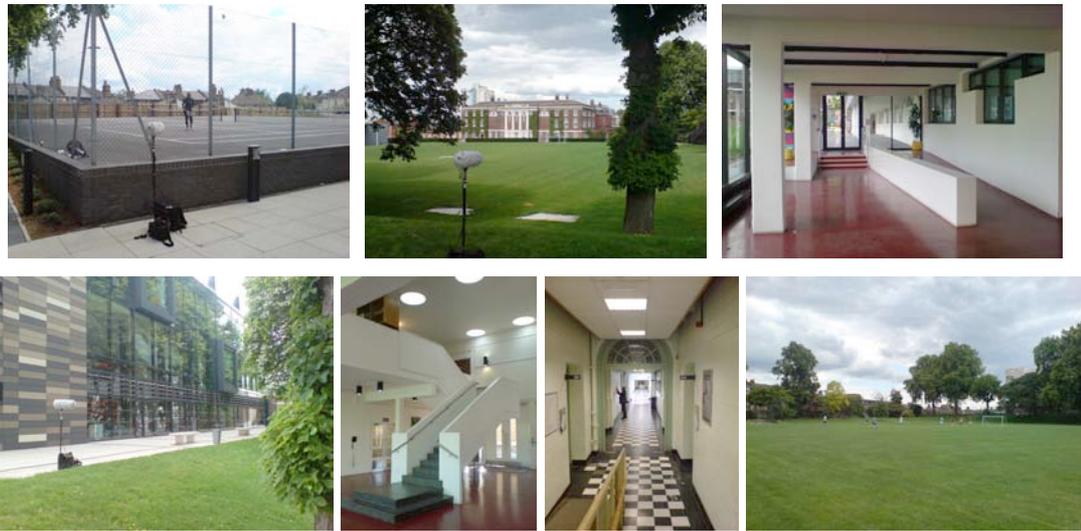
(14/03/2012. 4pm) In the Bournemouth work there is a familiarity that comes with the repetition of sounds, and the continuity of the overall sound level is almost comforting. Familiar sound objects and sequences emerge in different places within the mediated soundscape. The richness of tones creates a more composed aesthetic and there are very few apparent glitches. What is this place? Where is this place? Who hears this acoustic landscape? It is as if one could hear simultaneously in different locations; there is no fixed listening perspective. Some repetitions start to annoy, but this passes. What happens to time? It is somehow fixed... but still moving.

As an experiment I try recording some single iterations of the score with the final sound files being allowed to play out until their eventual limit. Each ‘pass’ is different, but feels equally valid and complete. The difference between them demonstrates clearly the random aspect of playback and the different sonic effects the same score can generate. Each is poetic in its way: there is a natural start point and a form of resolution due to the final play out, which nearly always seems to be the conclusion of a single file. Each expresses one set of relationships that, together with all other possibilities, represents the totality of the work. Is this any different to allowing the programme to roll? Yes, because the cycles normally overlap and merge.

These comments had a particular effect on subsequent installations and especially the decision to include the short-form single iterations of the work in the Carter Presents show I document in Appendix A.

5.5 SPR Phonography Colloquium, Goldsmiths, University of London (July 2011)

5.5.1 Site, listening and production



Goldsmiths, University of London is located in the busy, urban environment of New Cross in South London. The main Richard Hoggart building dates from 1844. Campus development has been ongoing and College Green has gradually been surrounded, first by the Whitehead Building and subsequently by the Club Pulse fitness centre and the New Academic Building (NAB). There are tennis courts next to the NAB, and a high brick wall, beyond which there are residential properties, dominates the fourth side of the green. As a result of this containment, and the fact that on-site traffic is strictly controlled, College Green is a remarkable oasis of calm in an otherwise densely packed, highly populated and frenetic inner city neighbourhood.

On the day of my field trip, again outside of term time, the site proved quite difficult to engage with. I was faced with another grey, overcast and somewhat windy day and the conspicuous absence of staff or student activity. However, having already conducted a number of site investigations I had a practiced range of appropriate methods to consider. By recording for extended periods of time I was able to capture detail and nuance in the overall acoustic environment.

By this point in my research, largely as a consequence of my encounter with resonance during the site visit for the Bournemouth University installation, I had also started to consider environmental sounds in relation to Dennis Smalley's concept (1986, pp. 61-93)

of spectro-morphology. I found his approach, which was designed to facilitate the consideration of sounds in relation to their frequency spectrum, extremely useful.

While the underlying theory of spectro-morphology is advanced from the perspective of reduced listening, for the primary purpose of engaging with sound materials in relation to electroacoustic composition, Smalley identifies its role in assessing sounds of the environment, as these have become musical materials. Discussing their content and structure using conventional musical terminology is both difficult and potentially unproductive because such terms are inadequate for discussing sounds that do not demonstrate predictable harmonic order. Concepts such as pitch and timbre are replaced with a spectral continuum that oscillates between note, noise and noise (*ibid.*, p.65).

By using what Smalley refers to as the impulse archetype, a single, sudden and detached onset that is immediately terminated (in this case, provided by a strike from my felt-headed mallet) it was possible to reveal many interesting resonances and latent spectral textures internal to objects and structures. He (*ibid.*, p. 90) notes the, “propensity of spectral texture to suggest spatial analogies.” This helped me to identify the fact that these internal resonances were revealing alternative ‘inner spaces’ nested within the macro construct of the soundscape. This observation gave me a better understanding of an intuitive aspect of my compositional practice where I use the inharmonic spectral characteristics of these spatial activations to manipulate transition within the installation sound and create a sense of dislocation. As Smalley (*ibid.*, p.66) suggests, “Their dispersal components often resist fusion and may therefore be perceived from a variety of angles provoking a fruitful ambiguity of focus.”

Tuning from the contemplation of these worlds of inner sound to consider ideas of spatial articulation where, “a sound structure interacts with the properties of the acoustic environment it inhabits,” (*ibid.*, p.90), Smalley’s perspective concerning reverberation also proved useful. This enabled me to think more deeply about how the choice of environmental recordings might influence morphology (temporal shape), motion and the structural articulation created by layering and combining sound in the finished work. By taking these ideas on board during my site investigation phase the focus of my field recording became both more conscious and more creative. The expression of time and

trajectory in the form of gesture, and the distribution of sound as texture, proved extremely useful when attempting to consider the final form of the work in advance.

Prior to this installation I also experimented with creating a new, more proscriptive text-score. This was based on a set of recording instructions I felt summed up the basics of my site investigation method, and which formalised my intended approach. This I reasoned could serve as the basic ‘text-drive’ aspect of the patch for a number of subsequent installations. As a result, I had a defined *modus operandi* for the field trip:

Record in the centre of College Green and at points of interesting acoustic character on its periphery. Start with fixed location stereo recording and then walk, using the sound in the headphones as a guide, towards and into interesting sounding spaces. Visit the surrounding buildings and record the atmospheres of corridors, public spaces and the sounds of people using these environments: their voices and movements. Make three passes; use binaural microphones second, and mono third.

As you move from space to space use a felt-headed mallet to sound objects and surfaces to activate reverberant characteristics and expose hidden sounds and resonances. Avoid creating rhythms and minimise your impact on the sound environment.

During the course of the day the only activity on the green itself was a brief football practice session. Apart from this, there were interactions in front of all the buildings. As a result, sound was nearly always travelling some distance to my ears. I observed that the playing field was, by necessity, defined as a relationship between a non-reflective surface (grass) and a void – one into which action was introduced. As a featureless, unimpeded space without foreground activity all sound from beyond was mixed to a flat uniformity. Hence, the soundscape of College Green did not change in any significant way unless one approached its periphery.

(16/06/2011. 11.30am) On the green the soundscape seems dominated by aerial sounds; the distant thrum of traffic, the summed effect of multiple aircraft passing overhead or the wind moving the leaves of the many mature on-site trees. Sometimes the traffic noise peaks with the sound of an exceptionally large or noisy vehicle, the sound of air brakes or a car horn. Aircraft noise ebbs and flows in relation to the proximity of louder transits. As this is a relatively low volume soundscape, a masking

effect is created by any gust of wind strong enough to rustle foliage. Into this overall acoustic environment are mixed the middle-distance sounds from the edge of the green: the sound of voices, laughter, trolleys, footsteps, security guard's radios or the occasional slow moving vehicle. Subject to the same reverberant characteristics, these all become a blurred aspect of an overall sonic impression.

Each of the buildings around the green has its own individual acoustic character. Entering the Richard Hoggart building via the heavy manual doors is a similar experience to entering the older buildings on the De Montfort campus. However, rather than arrive to a small entrance foyer I immediately engage with the throw of the main corridor, which runs the entire length of the building. It's a relatively quiet day and sounds from as far away as the café area can be heard mingling with those of foreground movements. The open foyer area immediately inside the Whitehead Building creates a highly reverberant environment and occasional footsteps or voices echo though the space. Moving around the central staircase I encounter fire extinguishers, metal rails and objects, many of which delivered ringing tones. Passing close by Club Pulse the sound of both gym machinery and music become forceful aspects of a localised soundscape.

Finally I visit the NAB. As the most recent addition to the campus it exhibits all the architectural and service features expected of a larger contemporary academic building. Passing over a threshold controlled by double automatic doors I immediately encounter an atrium-like interior. Sound from the café dominate the soundscape. As the area immediately outside the building is quite quiet there is no real sense of sound entering the environment from beyond. The space itself is particularly reverberant due to the amount of glass used in its construction and the height created by the exposed lower level.

Considerable time was needed to edit the recordings as a result of the amount of material. The majority of open-air recordings required some gain adjustment to bring the levels up to a useable level. Thankfully the signal-to-noise ratio of the recording equipment (the same as used in Bournemouth) allowed this, and a good amount of detail was revealed. As the recording environment itself was relatively low noise, individual sounds, when they did occur, were well differentiated.

My starting point for the installation was the more developed Max/MPS patch with the additional mono sound file player, which was first developed for the Sounding Out 5 installation at Bournemouth University. I also decided to reinstate the loop, speed and filter modifiers and experimented with various combinations of triggers and constrains until I reached a point where I felt these modifications added a suitably subtle, and very occasional, artistic intervention. I also assigned volume sliders to each of the outputs of the individual sound file players and used these to fine tune the output in situ with the broadcast system so as to create what I felt was the best possible mix.

As I had had good responses in Leicester and Wolverhampton, I decided that a questionnaire was appropriate for this academic setting. Prior experience suggested that a clearly targeted document with minimal content would be the most successful. By this time in my programme I had clearly defined a limited number of themes as close to the core of my research. As a result, the document I drafted had only four questions. It was designed to explore the participants' experiences of disorientation, uncanny sensation, coincidence and mood change. I also employed a new, simplified method using ranked response, based on a tick-box approach where people were asked to rate their experience against a 5-point scale with 'strongly agree' and 'strongly disagree' at the extremes, and a neutral central option. While I was not looking to conduct statistical analysis I felt that ranking participants' responses might reveal more shades of meaning and emotion.

5.5.2 Installation delivery



The Goldsmiths Phonography Colloquium was held on 5th and 6th of July 2011. I invigilated three installation sessions: 4.15pm - 5pm on the Tuesday; 12.30pm - 1.30pm and 4pm - 4.30pm on the Wednesday. The first session was conducted immediately outside the NAB, where the colloquium was being held. For the second two sessions I set

up near the rear entrance of the Richard Hoggart Building. The majority of conference delegates engaged with the work and 36 completed questionnaires were returned. As the sessions were too busy for constructive engagement with participants and because the questionnaire response was good, I decided not to record interactions.

5.5.3 Observations and outcomes

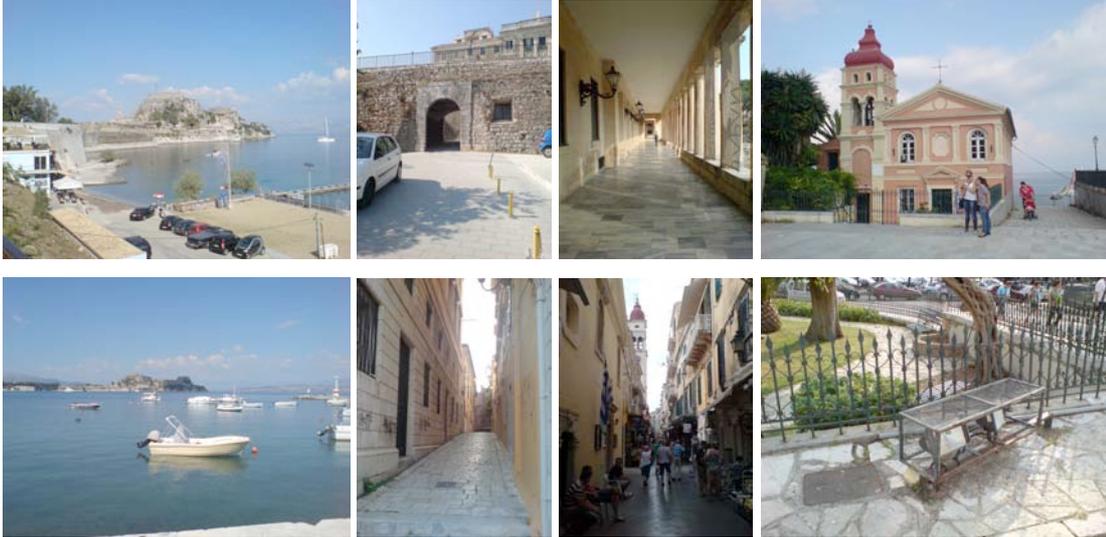
(06/06/2011. 6pm) *I feel that the extra effort I was able to put into the 'fine tuning' the work on site enhances its coherence as a sonic environment and makes it more immersive. The mix I created, linked to the silent passages in the Max/MSP output, creates an ambiguous relationship between the work and the prevailing soundscape. Several participants identify this as a key aspect of the work's appeal. One of the more interesting ideas revealed by people's comments is that the work encourages them to stay focused on sound in the present, rather than simply experiencing it as a background, transitional phenomena. Several people report that this has a calming effect on their mood. The interplay between indoor and outdoor spatialization is identified as a source of disorientation. Coincidental audio/visual relationships are noted by a number of participants.*

5.5.4 Critical listening and reflection

(30/03/2012. 4pm) *Compared to previous installation outputs this one stands out for me because it actually features fewer prominent sound signals. This is an accurate reflection of the quotidian soundscape. As well as the extended periods of silence there is a considerable amount of relative silence in the work – times when you can hear the space, but not specific sounds. As a result, the transition between sonic layers is subtle and the hard cut aesthetic is more constrained. At the same time as reflecting the prevailing soundscape there is a distinct 'otherness' to the output. The reintroduction of the sound modifiers changes the aesthetic slightly and the occasional looping of a file instantly destabilises the linear temporality of the work. Slight changes of file playback speed have a similar effect. This is particularly effective when applied to scant, ambiguous sources where the effect is hard to identify. Filtering effects work particularly well with regard to binaural content. The presence of distant, but very clear voices gives a strong sonic impression of activity taking place that one is not a part of.*

5.6 World Forum for Acoustic Ecology (WFAE) 2011: Crossing Listening Paths, Corfu, Greece (October 2011)

5.6.1 Site, listening and production



Corfu (city) is the capital of the island of Corfu, the second largest in the Ionian Sea. It has a population in the region of 28,000 and is home to the Ionian University, the host institution for the 2011 World Forum for Acoustic Ecology conference. The Old Town has the relaxed, bustling feel of an historic urban zone in a Mediterranean island capital; pedestrianized narrow streets lined with small cafés, restaurants, bars and shops service the needs of local people and tourists. There is good access to a number of larger historic buildings, public gardens and squares. Situated on the coast, there are a number of small bays and harbours. There are several main roads, a considerable amount of on-street parking and a number of car parks.

The WFAE conference in 2011 was my first opportunity to develop and present a research installation outside of the UK. Having conducted a number of listening field trips in the early stages of my research (including one to Greece, see section 3.1) this felt like a good opportunity to create an external point of reflection on the work thus far completed.

I arrived in Corfu two days before the start of the conference and immediately set to work. Due to luggage limitations I used a slimmed-down recording kit featuring a Zoom

H4n. The garden of the Palaia Anaktora, which overlooked the bay area of Faliraki where the conference was being held, was identified as a suitable location.

Given the walking distance between the conference location and installation site (approximately 300 meters) I decided to undertake a more wide-ranging investigation of the soundscape than during previous installations; this was the territory delegates could be expected engage with. This was also a further attempt to explore issues of scale and the limitations of the work first addressed in my Ceramic House installation in Brighton in May 2011 (documented in section 6.2), where I explored a much smaller site (a gallery and its garden). Using a tourist map I drew a circle using the Palaia gardens as the central point and the distance to the Faliraki peninsula as the radius. The overall area inscribed included the edge of Spianda Square, some small streets and the busy road immediately in front of the entrance to the Old Fortress.

(03/10/2011. 10pm) The garden itself provides a rich source of sound material. The first, and most obvious, difference between this and an equivalent location in the UK is the amount and type of birdsong. At most times of the day this creates an intense keynote, rising to a crescendo at dusk. Swallows are the predominant early evening species. The air is also filled with the sounds of various insects: during the day mostly bees, wasps and flies. From early evening onward the strident tone of cicadas takes over. In this environment I find it very useful to be aware of Augoyard and Torgue's linked concepts of asynderton (2006, p. 26) and synecdoche (ibid., p.123). By remaining conscious of my listening I can identify the former when I become aware of focussing on specific sounds in the environment as a result of disregarding background interference. The latter, I identify as more of a practiced skill that allows me to focus on specific elements, be they background or foreground sounds, through a process of selection.

During the day, the movement of visitors through the garden immediately highlights the range of surface materials: loose gravel, concrete, marble and grass, all of which respond differently. There are a number of resonant metal public art works. The site is edged with old-fashioned iron railing and a number of metal grab rails and benches have been installed. A variety of wire enclosures have been erected to protect floodlights. At some point all of this site furniture is 'sounded' by the passage of

visitors. Architectural features, especially the crenelated Venetian era ramparts, have a filtering or masking effect on the soundscape in a number of locations. Sounds from beyond the garden such as voices, light traffic and the more accented tones of motor scooters are clearly audible.

From the garden one can walk up into the portico of the Palaia. Here, the soundscape takes on the reverberant characteristic of the space and mixes with the echoing footsteps of visitors and people using the shade to relax. Moving down the hill toward Faliraki, I first encounter the sound of traffic and voices on a narrow, but busy, street before passing through the old harbour defences. As I descend, between high stone walls, the presence of the street diminishes with each footfall and high frequency content becomes progressively more muffled. Passing through the containment of a short tunnel, which excludes most sound other than the ringing, flinty tone of my footsteps, the soundscape completely changes. In Faliraki itself sound from the street above is masked and the sound of water and music from the café take over.

It is becoming clear that my extended area of study contains many distinct soundscape zones. The importance of natural, distinct transitions from place to place, are key aspects of the location. Returning to the Palaia, I set off in the other direction into Spianda Square. The Ionian climate encourages outdoor activity and the community sounds of talking, children playing, bicycles and wheeled toys in a large open space creates a very specific acoustic environment. Moving into the 'canyon' of narrow streets lined with four story buildings (with shops below and apartments above), the effect of this architecture on the soundscape is very apparent. Once again, there is a distinct sense of transition from one zone to another and once in the maze of small streets the embrace of the sound-field feels cool and welcoming. The mix of sound from shops and cafés evolve as I move, changing rapidly as one scene takes over from another. Each scene contains familiar elements and, to a degree, reiterates the preceding: differing in content and yet sonically similar. There is a similarity between this and the sonic form of the installation I am creating. My Greek is not good enough to understand the flow of conversation and I observe that the lack of familiarity with a language does, to an extent, allow one to hear the musicality of human exchange; it promotes a specific form of reduced listening.

Walking beyond this mercantile and leisure zone I continue to note the way climate facilitates the mingling of public and private life. As the narrow streets become more solidly residential I cannot generally see through open windows, which have, perhaps deliberately, been placed above head height. It is, however, possible to clearly hear the sound of lives being lived: the practicing of musical instruments, the sound of a busy kitchen, domestic chatter or the size of a room being revealed by the sound of a television. There is an episodic feel to the experience, a rolling narrative, punctuated by music, drifting through the fabric of the urban. This flow is orchestrated and contextualised by street sounds: a barking dog, running water somewhere out of sight, the screech of a cat or the sudden roar of a motorcycle starting from cold.

Finally, I emerge from this relative calm back into the square, pass by cafés now filled with the sounds of dining, and cross in the direction of the old harbour. Night has fallen and the soundscape's early evening emphasis on the sky created by the swallows has diminished. Now, from treetop level, cicadas are broadcasting. There are not many, perhaps only three or four in close proximity. However, they completely dominate one particular frequency region, filling the evening air with their droning and rasping. The area is awash with noise: shouting, laughing, the clatter of luggage, tourist coaches idling to keep their air-conditioning running and the guttural, asthmatic brogue of slow moving traffic. This is interspersed with high-pitched sounds and sudden bursts of noise that accompany the acceleration of small mopeds.

Rather than record extended sections of audio in Corfu I elected to record more short files and concentrate on capturing representative elements. This decision was partly pragmatic as my production time was limited and I did not have studio access. My intent was to create an overall sound environment that was structured around the garden sounds and then bring material from other zones to this – hoping to recreate, to a degree, the sense of extrinsic, unseen activity I experienced while walking and listening in the streets. At the time I was reading de Certeau and the idea of the scopic view (1988, p.92), and its antithesis, were much in my thoughts.

Prior to leaving England I had already revised the Max/MSP patch. By taking advantage of the generalised score that was developed for the Goldsmiths installation (the only change I made to the score was to replace the words 'College Green' with 'the site') I did

not need to reset the timing grid in the field. The script proposed the same 3-stage recording process and, once again, I made three passes over my extended site using stereo, binaural and monophonic microphones. Sound editing for the work was quite an intense experience; it had to be done at night in my hotel room using a laptop, headphones and the limited features of Audacity software. The fact that I recorded short sections of audio was useful under the circumstances as I could audition and select material quite quickly, rather than listen to longer passages and extract representative sections. Within the patch I was able to take advantage of the programmable volume ramps to control digital onset glitches and smooth and mix the audio elements in situ.

5.6.2 Installation delivery



The installation took place on the evening of 6th October 2011 between approximately 5-7pm. The conference organisers were very efficient and escorted most of the delegates to the site. This created a minor logistical problem; I had only been able to pack nine pairs of headphones. However, the bar was open at the Art Café, and the evening was warm and pleasant, so people were able to socialise and engage with the work at their leisure. I was extremely busy during the whole session. I did not have time to actively promote the questionnaire (I used the same design I produced for the Goldsmiths Symposium; again in an effort to streamline my process), however 11 forms were completed.

5.6.3 Observations and outcomes

(06/10/2011. 9pm) *While the site for the installation is excellent the initial part of the event is quite problematic, due to the intense activity of swallows in the vicinity of the garden. Once this diminishes the presence of the swallows on the recording becomes an interesting temporal motif because it creates a crossover with the sound of cicadas that subsequently emerge into the evening soundscape: a sense of dusk lingering as night takes over. Having a large number of participants in a relatively contained space creates a different dynamic to previous installations. This time people are forced to move into quieter regions of the garden to experience the work so there is a much more general sense of people exploring a well-contained site while listening. This creates some intense reactions and interactions. This is also the only event so far where my work's been programmed into an evening slot, and a number of people notice the temporal displacement of many of the recorded sounds. This is interesting as it further evidences for me the fine-tuning of our faculty for environmental listening; this is not a familiar environment for the majority of delegates, yet such temporal cues are still easy to discern.*

While I generally go to some considerable lengths to engage with the participants' experience of the work, attempting a critical and objective assessment of its impact on the participant is always problematic. Hence Katharine Norman's thoughts, written just after the event, are a particular useful commentary¹¹. Her assessment of the work is interesting because her prior experience of other sound installations leads her to assume that my work must function either by electromagnetic induction, some form of localised sensor grid or GPS that responds to listener proximity. Given that this is not the case, perhaps her perception is being stretching to reconcile the random aspect of playback with the concrete spatial and temporal fabric of the present-time experience? She also expresses an awareness of the audio-visual world outside the installation and this is pleasing to observe because this interaction is one that I hoped to achieve.

¹¹ "Later, in exactly the same spot in this garden but now in the cool darkness of late evening, conference goers put on wireless headphones to walk around in Marcus Leadley's soundwalk, sound samples are triggered by the listener's position in an engaging sound installation. Somewhat in the manner of a Kubisch invisibly mapped space. It's an intriguing but unnatural experience to be seeking sound in a place you cannot 'see', where it is you rather than the sound that moves, and while the parallel visual-sonic world of 'here and now' continues all around. But I think what makes this kind of experience most strange (not necessarily a bad thing) is being publicly engaged in a mysteriously private experience of the spatial world. Wandering around like mad people, swaying and moving to locate invisible sonic signposts, we must look very odd to observers. Indeed I suffer the indignity of being severely reprimanded by a tiny pet dog, despite its owner's protestations." (Norman, 2011)

Norman also comments on the effect of the installation on participants' movement and behaviour. This is intriguing as it proposes the idea that electroacoustic technologies choreograph their users. From inside the event this may not be immediately apparent, however, someone who encounters the participants as a group may well become aware of the shared nature of their experience as a result of their movements. I believe there is considerable work that could be done to interrogate the way in which shared listening experiences synchronise and influence populations. While such an investigation is beyond the remit of the current enquiry, it is something I propose as a potential avenue for future works in the conclusion to this thesis.

5.6.4 Critical listening and reflection

(08/06/2012. 4pm) For me, the work definitely feels compromised in terms of production values and sound quality. These factors are a direct result of the limited production time and the need to rely on more portable, lower specification recording equipment. However, the content of the work itself does not disappoint; there are some sonically intriguing passages where the overall flow treads an ambiguous line between presenting unaffected aspects of the prevailing soundscape and the electronic manipulation of its sources and signals. With less time for production and mixing there is a return to the hard-cut aesthetic and the incidents of juxtaposition are more forcefully felt. In this respect, it sounds more like the earlier Leicester installation output. However, the work does benefit from the time spent developing the universal script and its related triggers; as this creates a different feel to the early installations because longer sections of the field recordings can be heard in full. The work is more episodic than continuous; it is the silence passages in the work that separate the different movements rather than the presence of strong transitional sound signals.

Where sounds that did not occur together at the site (such as traffic sounds and waves) coincide there is an intriguing sense of new or imaginary locations being mapped. To my ear this does not occur to the same extent in the other installation outputs. This is something I ascribe to the greater range of sounds and independent acoustic environments I recorded. There are also some interesting sonic relationships that do not occur in other works. For example, the frequency and combined intensity of the swallows is operating in the same region as the hi-end tones generated by traffic. Hence there is a distinct crossover. One can mask the other, and at times they appear

to merge. This is an aspect of the Mediterranean soundscape I have not noticed before. On occasion, the squeal of a car's brakes in the mix can therefore sound like an avian interjection. This suggests that what we perceive as noise may be different in naturally cacophonous soundscapes.

Some aspects of the output are also quite musical. For example, the combination of random kitchen sounds with distant clarinet practice and laughter. This sounds almost intentionally composed rather than randomly generated. This is also the only set of installation field recording that include the sound of groups of children playing. In the Whitstable recordings there is the sound of children interacting with adults and the ones from Leicester contain teenage banter. In the Corfu recordings there is a sense of actual play – which reflects the cultural acceptance of children as autonomous actors in public space.

5.7 Personal observations and participant feedback considered

The next part of this chapter seeks to ratify my own observations concerning the awareness of disorientation, uncanny sensations and coincidences with the broader base of intellectual commentary and participant feedback. Initially, I consider general observations concerning listening and the installation, review participant's comments (from both questionnaires and audio recordings) and discuss these in relation to appropriate theory.

5.7.1 Sound and sequence identification

Questionnaire feedback from the Leicester, Whitstable and Bournemouth installations concerning sound sources and soundscape events evidences the extraordinary level of detail contemporary humans can extract for audio content. For example, 'car passing', 'moving plate', 'heavy traffic', 'rain on roof', 'stopping bus', 'aggressive small dog being walked', are all comments recorded on the De Montfort installation questionnaires.

The absence of visual correlation is no impediment to the identification of content if sounds are already familiar due to their prior assimilation into a cognitive framework – which Clarke (2005, pp. 23-24) identifies as being informed by an ongoing and essentially passive process of perceptual learning. William Gaver (1993, pp. 285-286) notes that sound and association are inseparable within the framework of everyday

listening. Hearing a sound simply as sound requires an active engagement with what he refers to as a process of musical listening. Peter Lennox (2004, pp. 17-18) observes that the fact that the seemingly sophisticated mechanism of perception, “rests on automatic and passive sensation logically leads to a position that what we experience is largely accidental. To avoid this, what must be asserted is that sensation is governed or steered by higher processes that are concerned with meanings as they describe the state of the world.” James Gibson (1968, pp. 284-6) observes that objects have affordances: a constellation of meanings and values, which are embedded in cognition through prior association, and become associated with the sounds they make. Affordances vary from person to person as a result of different experiences. Drawing on Gibson’s work, Clarke (2005, pp. 32-36) pursues the idea that objects also have invariant properties and exhibit specific behaviours that remain constant through natural processes of sonic transformation. Perception tracks these continuities through time to derive subtle shades of meaning from unfolding events. Clarke argues that invariance is the underlying reason why we perceive environmental sound as a relatively stable phenomenon.

In addressing the perception of environmental sounds and sequences Albert Bregman’s (1994, pp. 397-411) work on auditory scene analysis also becomes relevant. He suggests that unpacking complex audio streams into identifiable sub-patterns is achieved through parsing operations similar to those that determine linguistic grammar, syntax and semantics. Bottom up processing (based on the correspondence of present perceptions to cognitive models of past auditory phenomena) constructs a feature set that can be mapped to stored meaning. Top down processing (an intellectual process of reference and extrapolation) combines expectations, rules and patterns to provide interpretations.

The identification of specific, familiar sounds was only evidenced during the Whitstable installation, as the following comments from three different participants indicate:

The Harmonica, Marcus, was that that little dapper old man wandering up the high street?” (04/07/2010. 1.08pm)

“Where do they play the harmonica? In the pub? Was that a train?... I can hear the sound of people sitting outside that pub rattling glasses... Any chance of people walking along with their boats?” (04/07/2010. 2.24pm)

“You’ve been in the chip shop n’ all!” (04/07/2010. 2.45pm)

Significant numbers of people at the Whitstable installation were local to the area. This was not the case with the university conferences, so people's relationship to the site was quite different. Hence, in Whitstable we have the identification of the soundmarks that Schafer (1994, p. 275) identifies as, "specially regarded or noticed by the people of that community."

5.7.2 Environmental sound, hearing and listening

In order to approach human reaction to sound and content it is necessary to differentiate between processes of hearing and listening. While hearing is presented as a passive activity (Hanns Eisler and Theodor Adorno, 1947, p. 74; Nancy Van DeVeer, 1979, p. 2; Pauline Oliveros, 2005, p. 7; Barthes, 1985/1991, p. 246 and Uimonen, 2002, p. 177), a faculty selected by evolution for its contribution to survival (Manley and Gleich, 1992, p. 561 and Truax, 2001, p. 18), location and orientation (Cook, 1999, p. 101 & Wishart 1986, p. 41), listening is considered from many different perspectives. Barthes (1991, p. 245) suggests, "Hearing is a physiological phenomenon; listening is a psychological act." Uimonen (2002, p. 177) changes the emphasis slightly by suggesting that, "hearing may be defined as a physiological function whereas listening is more or less cognitive."

Many different commentators propose diverse forms of listening. Indeed, the establishment of a qualified form of listening has become an intellectual tool through which individual researchers may pursue a specific focus. My own use of the term *in situ* listening for example, serves this purpose. While an inclusive review of all proposed models of listening is unnecessary, some may be more generally adopted into this discussion. Barthes (1991, p. 245-248), for example, proposes three forms of listening: alert listening, which is the base-line model selected by evolution for its contribution to survival and orientation; deciphering, which is the beginning of human listening and is focused on the identification of signs; and an 'entirely modern' form that takes place in inter-subjective space where listening also speaks, because listening is engaged with the flow of significance. Truax (2001, p. 19-21) creates a similar delineation between basic processes – listening in readiness, where familiar sounds can be processed in the background without conscious attention, and listening in search, which represents the focused search for detail and information. Pierre Schaefer's (1966/2002) writings around *musique concrète* provide us with the term *sofège*. Michel Chion (2006, p. 2) defines this as "the art of practicing better listening." It can be both a generalized *sofège* that applies

to listening to the whole world, or an experimental *sofège*, which is concerned with becoming aware of sounds as musical material. Augoyard and Torgue's (2006) exploration of listening that emerges within the framework of the sonic effects is essentially an expansion on this basic conceptualisation of experimental listening. *L'écoute réduite* is the hearing of sound divorced from semantic or semiotic meaning. Francisco López (2004, p. 82) extends this concept to become blind listening, which he suggests is profoundly disconnected from meaning.

Nancy (2002/2007, p. 7) makes the observation that 'to hear' is the search for sense (a bird, a plane) and 'to listen' is always an inclination towards meaning and that, which is, "not immediately accessible". Connor (1996, p. 213) echoes a similar sentiment: "We ask of sound 'What was that?', meaning 'Who was that?', or 'Where was that?', we do not naturally ask of an image, 'What sound does that make?'" Nancy (2007, p. 7) also identifies meaning as the sum of many references. He observes that sound itself is a reference, because the sound that is heard is the resounding of a vibration transmitted from elsewhere; sound "spreads in space, where it resounds while still resounding in me". Thus, he concludes that sound and meaning share the space of a referral.

Nancy (*ibid.*, p.14) further observes the omni-directional sonorous present as an arrival: hearing and listening occur at the same time as the sonorous event. This is unlike visual presence, which is available to be seen even before it is viewed. This is an appealing differentiation between audio and visual phenomena, and one that works to a degree. However, the philosophy and the physics do not entirely corroborate; sound is the transmission of vibration (energy) through a medium (see Rickye Heffner and Henry Heffner, 1998, pp. 290-304) and likewise the visible is the outcome of time and motion – the reflection of light (energy) of different wavelengths (see Cook, 1998. pp. 332- 337) by the atoms of different materials. The visual is not essentially static as Nancy's comment suggests; we see objects because matter has properties, we do not see the same light. However, Nancy's observations draw attention to the specific temporal aspect of sound, which I discuss in detail in section 6.5.4.

Anecdotal, recorded feedback from a number of installations evidences behaviour that illustrate Barthes' alert listening: physical reactions to 'virtual' sound cues such as moving out of the way of an object perceived to be in close proximity. Questionnaire

returns provide more specific information: in relation to the Bournemouth, Leicester and Whitstable installations, significantly more than half of respondents indicate they experienced themselves looking around for the source of a recorded sound. This reaction was also noted, but to a lesser degree, on the Wolverhampton questionnaires. This perhaps reflects the fact that the audio was recorded at a different location to the playback environment.

Support for a variety of listening practices can be observed in participant comments. For example, the following two comments, transcribed from the recording of the Whitstable installation, suggest an awareness of perceptual change in relation to the 'before' and 'after' experience of the installation.

“Ah! I suppose when you're walking along there's lots of sounds you hear but go through one ear and out the other. Like those jet skies or boats going past. You'll be walking and you can hear them in the background but you're not really taking 'em in. It's just an everyday background you will always hear.” (04/07/2010. 2.30pm)

“I am really conscious of people talking and birds singing now – when you're wandering around you just get on with your thing – but it's there.” (04/07/2010. 2.48pm)

These comments suggest a form of passive, background audition; the phrase 'through one ear and out the other' is a colloquial description of the functionality underlying Truax's listening in readiness or Barthes' alert listening. The progression of listening to heightened forms, such as deciphering, modern listening and listening in search is encapsulated in the following two comments from Bournemouth:

“I've had similar experiences before but it's always amazing; it's exercising a part of your mind that you don't normally work with – the juxtaposition of sound.” (09/09/2010. 11.25am)

“It reminds me of when I used to do a lot of landscape painting so I'd go somewhere and be like all day with my paint and my easel and when I'd leave at the end of the day my senses were heightened. This was like a visual clarity. It's new to me to have that going on with my ears in a really kind of cool way.” (10/09/2010. 1.50pm)

This idea of a residual perceptual legacy being created by the installation can also be seen in the following comment from the Leicester event.

“It’s a different feeling when you take them [headphones] off – when you get used to that sound. That’s an interesting one.” (02/06/2010. 2.43pm)

5.7.3 Soundscape and mood

The above comment from the Leicester installation also proposes the intriguing notion that different perceptual states may have different ‘feelings’, in the same way that emotional moods are observed as having degrees of positive or negative valance. Equally, it may be possible to suggest that mood is influenced by perceptual experience and vice versa. Further art-based sound experiments might be devised to interrogate this.

Anecdotal information concerning the effect of the installation sound on the participants’ mood in Wolverhampton suggests it had a significant influence. Most people indicated some level of affect on their questionnaires. These comments are generally supportive of commonly held views concerning the characters of each location:

- Whitstable (coastal/leisure environment): relaxed, relief, excited, change of pace, happier, calmed
- Leicester (urban environment): loneliness, irritation, relaxed, anxious

There is a level of continuity here that seems highly indicative of the influence of prior associations that are cultural as well as individual. Such comments suggest that it is impossible to assess the experience of the installation without acknowledging the broad base of participant experience.

In all feedback, the role of utterance in the recordings is identified as a significant source of information relating to both the perceived ‘mood’ of the work and the mood of the participant who experiences it. This crossover suggests a degree of empathic transfer between the listener and the work. For example, “group of women chatting friendly”, “young male – informative”, “group of teenagers greeting each other”, “man and woman friendly, laughing – crossing into street” and “man/woman in a hurry – aggressive”, are all comments extracted from Leicester questionnaires. Languages and accents are also identified in utterance content and this provides community related information. However, this does not always accurately inform the listener’s perspective; several

Leicester participants cited non-local accents as the reason why they believed the installation sound was not recorded in Leicester.

26 out of 36 participants at the Goldsmiths/UKISC symposium who returned a questionnaire indicated that the event had had an effect on their mood. Some people (the numbers used below identify the relevant form in the archive) chose to qualify this with a comment, and these are both interesting and diverse:

4. Peaceful and pleasant
5. Piqued my curiosity
9. Made me focus on the moment
10. If listening to the clips with constant awareness then I have to agree that my mood changed to a rather calm one
11. Makes me more aware of the actual soundscape
18. Became more attentive to sound
21. Positive
23. Isolated
24. Relaxed/curiosity
27. Livened up-mildly excited
31. My attention was drawn to the installation, so I did not notice any changes on my mood. Listening critically usually differs my mood
33. Being able to move around improved the experience
35. Quite relaxing
36. I enjoyed the strangeness of the different sounds and space invading my reality

In most cases the work appears to relax people or encourage a focus on the moment or environmental sound. If the work does orient people toward a focus on present-time experience then the calming effect of 'being in the moment' is a well-documented phenomena associated with many traditions of meditative practice. Often referred to as mindfulness it is, for example, a central precept of Buddhist practice (see Janet Gyatso, 1992).

4 out of 9 participants who returned questionnaires at the 2010 Whitstable Biennale event reported that the work influenced their mood. Comments here follow a similar set of themes to those of participants in Leicester:

1. A tendency toward introversion
5. Warmer, calmer
7. Like an affirmation
8. Heightened awareness

6 of the 11 participants who returned questionnaire forms at the WFAE installation reported that the event had an impact on their mood. However, no one chose to add an explanatory comment.

5.7.4 Repetition and rhythm

24 of the 27 questionnaires from the Leicester installation clearly identify incidents of repetition in the installation sound. Likewise all of the forms from Whitstable (9) identify repetition. The rate of reporting drops to 3 out of the 6 forms for the Bournemouth event. While all these samples are too small to propose meaningful results, the level of response does suggest that repetition is a phenomenon that attracts listener attention. Comments focus on the sounds that participants find memorable, intriguing or annoying. This proclivity for pattern and content awareness supports the role of repetition in perpetual learning observed by Clarke (2005), as a mechanism that creates a resonance between perceiver and environment. Bregman (1994) also identifies the role of repetition in learning.

Participants' awareness of rhythm is harder to characterise; even direct questions deliver ambiguous results. It appears that the term rhythm now has a near ubiquitous cultural association with music. Consequently, people respond to questions about rhythm by identifying incidents of songs or performances. The Bournemouth installation output features more percussive elements (resonant sounds from wood and metal) and, as a result, participants are aware of asymmetrical rhythms being generated through random interactions. In Whitstable prominent environmental rhythms, such as waves are noted. In Leicester, the thrum of traffic is identified. However, all these observations need to be teased out of the participants during discussion. This suggests, perhaps, that the

awareness of rhythm in the context of environmental sound operates predominantly at an instinctual, habitual level. One participant at the Bournemouth installation sums up their experience of rhythm in the work quite succinctly:

“Someone yesterday was talking about the idea of rhythm and I think this works really well because it keeps you constantly on the edge. The fades are very abrupt and this is very nice because it works with the rhythms of your body. It keeps you on the edge of awareness. It works especially well with the samples if they are from the space because I was trying to identify (them) and I love the way it bled with the space. So I was just listening – it’s a hard thing but it’s nice. It keeps you aware. It’s really nice – the slow fade in sometimes. Then suddenly a really nice experience. Very physical. I’m aware of the editing thing of sounds so for me it’s like a shock.” (09/09/2010. 11.28am)

One of the principle observations here is the role of rhythm in enabling the embodiment of sound. Both Barthes (1991) and Lefebvre (1992/2010) note the importance of rhythm to processes of orientation and learning. They also suggest its study is integral to an understanding of time and the everyday. Equally, Nancy (2007, p. 17) highlights the importance of rhythm as that which separates the stroke of the present from linear time, giving time its time – facilitating the folding and unfolding which represents an aspect of the taking place of a self. Gilles Deleuze and Félix Guattari (1980/2004, pp. 311-350) observe the importance of sound, both expressed and heard, and rhythm in relation to the formation of territory. They identify “sonorous and vocal components” and the “wall of sound” as important in the demarcation and organization of space: “The refrain is rhythm and melody that have been territorialized because they have become expressive and have become expressive because they are territorializing” (*ibid.*). Birdsong is an example of such a territorial refrain. These observations are echoed in Schafer’s (1994, p.39) assessment of the way the call of a wolf, the huntsman’s horn and the church bell are all territorial claims made using sound.

While Lefebvre (2010, p. 27) listens to the rhythms of a Parisian road junction from a window, my explorations proceed from a ground level engagement. Hence, I do not have the advantage of the technique he creates to situate himself, “simultaneously inside and outside” (*ibid.*) of the situation he seeks to consider. Lefebvre observes that a technique to create a partial separation is essential; this is something I achieve with the use of microphones and headphones. Lefebvre’s (*ibid.*, p.28) position is one, “from which one dominates the road and the passers-by.” Here, through a process of durational listening

the different rhythms of the day become apparent: traffic flows, pedestrian movements, children going to and from school, shops openings and closing and light going on and off. However, he also observes (*ibid.*, p. 33) that, “the window suggests several hypotheses, which wandering the street will confirm or invalidate.” Hence the macro is an expression of the micro – and *vice versa*, so knowledge resides at the interstices between perspectives, not with a specific view.

It is this realization that underscores my belief in the power of good site-specific installation art to function in a research context. As a form of work that is embedded in the place it seeks to critique, it is both connected to, and disconnected from, the prevailing environment. This offers the participant a shift of perspective that highlights the internal, personal experience of the work on the one hand, and the externalized context on the other. Such work aspires to transcend the limits of gallery based practice which, I observe, may suffer the same fate as De Certeau’s voyeur (2011, p.92) who, responding to the scopic drive, ascends to the 110th floor of the World Trade Centre because the ascent, “transforms the bewitching world by which one was ‘possessed’ into a text that lies before one’s eyes.” However, such a person, and in the analogy I create here the work, is trapped by the fact that the, “fiction of knowledge is related to this lust to be a viewpoint and nothing more” (*ibid.*).

Part of my motivation for developing the installation’s sound programme came as a response to assimilating these observations. The audio montage is a way of shifting perspective away from basic ‘street level’ experience. It is also a technique that responds to Nelson’s observation that, “an additional dimension is required to dislocate habitual ways of seeing” (2013, p.45). It takes quotidian sound and structures it around new rhythms and in relation to different cycles of repetition. However, there is a relationship between the installation sound and the prevailing soundscape: the field recordings are related to it; the installation sound has silences during which the live location sound dominates and because the recorded sound never fully masks the quotidian. Hence there is the opportunity for the work and the environment to interact. Both installation time and everyday time are present at the same time and this can be extremely disorienting. Gertrude Stein (1957/1985) talks about this form of temporal syncopation in relation to her experience of traditional theatre; noting how the emotions of the audience and the actors on stage are out of sync. Hence, her intention becomes the development of a form

of theatre that allows the audience to explore the present moment, something she sets out to achieve by abandoning traditional narrative structures (see Ryan, 1984). This temporal schism is exactly what I am referring to as an aspect of the work when I start to explore disorientation, the uncanny and coincidence: it is the location of the sudden break of immersion. I expect the participant to accept the sound world they are being presented with and immersed in and then I undermine it as the sound of the environment leaks through into the work, continuously creating discontinuity. Edits within the work are explicitly making this discontinuity felt on another level; an edit is the embodiment of discontinuity.

5.7.5 Disorientation

Trevor Wishart (1986, p. 44), using the example of electronic music in science fiction films, notes that disorientation is the likely outcome when a link between aural content, environment and source cannot be readily identified. Film also provides us with examples where the superimposition of environmental sound can create an extreme sense of dislocation. For example, in the film *Elephant* by Gus Van Sant (see Jordan, 2007), where Hildegard Westerkamp's soundscape composition *Beneath the Forest Floor* is incorporated into the sound design of the school-shooting scene. This enquiry proposes that the superimposition of recorded environmental sound during the installation has a similar effect. However, this mobile listening experience is substantially different to listening to music 'on the move'. Connor (1996, p. 211) observes that the personal stereo does not remove the user from the environment but deepens the experience of the body in relation to a new, inner soundtrack. He suggests it is not an inwardly focused experience; it promotes a mode of attention focused towards the non-auditory aspects of the environments one passes through. It is my observation that listening to environmental recordings in situ appears to reverse this paradigm: it heightens the awareness of the environment's auditory content. For example, from the Leicester installation recording we have the following comment:

“I felt like disorientation – people were behind me – but not while I was doing the questionnaire because I was too concentrated so I stopped doing it and started going around. There was a girl who I thought was talking to me but there was no one. I got confused with space from behind because this is the best configuration. This space is going into your space when you are walking around – not sitting down because you're kind of distracted ...” (02/06/2010. 3.11pm)

Another participant at the same installation echoes this correlation between movement and disorientation:

“I walked down there and a cyclist came towards me but I heard the sound of a car and thought ‘oh I don’t like this – I want to go and sit down.’” (02/06/2010. 3.15pm)

Two participants in Whitstable made more general comments concerning their experience of disorientation:

“It’s nice but it’s a bit disorientating. You don’t normally have headphones to listen to it.” (04/07/2010. 3pm)

“When I put them [headphones] on here and there was the harmonica player I really thought there was someone there.” (04/07/2010. 2.46pm)

A participant at Bournemouth University made the following insightful comment concerning his experience of disorientation:

“All very odd. Knowing all that was intentional I was not expecting too much because I knew what it was all about. But then you see for yourself and then you think about the building work, which is actually over your right shoulder nevertheless. It’s very, very intriguing. It’s very difficult to relate the noise to something that is here around – there are no cars, there is no building work. As soon as you stop rationalising about it, it is completely ... it is there.” (09/09/2010. 12.13pm)

This comment proposes the necessity for a ‘letting go’ into the installation experience and the need for the suspension of disbelief. This has an obvious adaptive advantage over an attempt to rationalise, control and respond; the quicker a situation is identified as non-threatening, the sooner it can be assimilated. This evidences the adaptive nature of human perception and the relative ease with which transphonic elements of the contemporary soundscape may be processed.

Two participants at the Bournemouth installation noted the ambiguity between recorded and live sound as a cause of disorientation:

“... Where you kick it up then the loud stuff that’s happening now kind of comes in as an under voice and it’s a little more convincing. The ambiguity is there because you can’t tell if you’re stuck in it.” (09/09/2010. 12.23pm)

“I enjoyed that a lot – I also enjoyed the bleeding effect. I kept trying to check out what I was hearing was in the headphones or just right next to me.”
(09/09/2010. 1.50pm)

From the Whitstable event we have:

“It’s quite weird to work out this [recording] and what’s around you.”
(04/07/2010 1.16pm)

This observation supports the connection between listening and orientation and an inclination towards meaning; where there is an inconsistency between events or spatial relationships it immediately leads to heightened attention.

Turning from recorded comments to questionnaire returns, there are many reports of disorientation: 12 out of 27 participants in Leicester; 6 of 9 in Whitstable; 5 of 6 in Bournemouth; 18 of 36 at the Goldsmiths installation and 4 of 11 participants at WFAE in Corfu report the experience. In most cases, this is related to confusion over what is recorded and ‘real’ sound or in relation to the sound of ‘ghost’ objects moving across the stereo image of the recording.

5.7.6 Transphonia and the uncanny

The experience of uncanny sensations is widely reported in questionnaire feedback: 7 of 27 participants in Leicester; 4 of 9 in Whitstable; 5 of 7 in Bournemouth and 15 of 36 at Goldsmiths. In the Wolverhampton questionnaire, which sampled participant experience of non-site specific sound, 3 out of 13 people reported having uncanny sensation in relation to the Leicester recordings; 5 out of 13 in relation to the Whitstable audio programme. While one cannot extrapolate any overall trend from these responses, they do evidence the fact that people experience, to different degrees, uncanny sensations in relation to the different installations.

What is it that people find uncanny about the work? Participant comments from the Goldsmiths questionnaire evidence a wide range of observations:

1. Uncanny in the Lacanian sense of extimate – yes at times
5. Knocks and children were most disconcerting
12. Forgot about wearing the headphones at one point and that created an interesting result
18. Different spatialisations in different ears
27. From the mix/cut juxtapositions

Superficially each commentator appears to highlight a different factor. In terms of an overview, differentiating between what might be an uncanny sensation and what might simply be disorienting is extremely difficult as the ‘shading’ appears closely linked to the individual’s perspective, temperament, prior associations and understanding. However, each is motivated by an underlying experience of a discontinuity: something is perceived that is outside the realm of familiar experience and attention is drawn to it. The reference to Jacques Lacan is interesting and I will deal with this in the correct order; the trajectory of Lacanian thought follows on from that of Freud, which is something I address shortly.

Comments concerning the uncanny in other questionnaires are sparsely distributed. From Leicester participant 10 suggests: “Distortions (of sound)” as a reason for uncanny sensations. Similarly, in the Whitstable document participant 7 suggests, “a sense of listening to another time in the real time.” Finally, participant 1 at the WFAE event makes the following observation: “There were moments that I became unaware of the headset and really thought I was there.” This mirrors the response of participant 12 at the Goldsmiths installation (above). All these comments bring us, again, to the relationship between habituation, syncopated time and discontinuity that I highlight in section 5.7.4.

From the above observations it would appear that any number of individual experiences may lead to a sense of discontinuity that may take on the shade of disorientation or the uncanny. As this enquiry focuses on auditory experience the basic nature of sound needs to be interrogated to take the discussion forward.

“The intangibility of sound is uncanny – a phenomenal presence both in the head, at its point of source and all around, never entirely distinct from auditory hallucinations. The close listener is like a medium who draws out substance from that which is not entirely there.” (David Toop, 2010 [dust jacket])

Toop's observation proposes that sound is, by its very nature, uncanny. Writers as diverse as Nancy (2007), Voegelin (2010) and Robert Spadoni (2007), all highlight the elusive, ephemeral nature of sound. Labelle (2010, p, 24) observes that acousmatic sounds, "that appear beyond reach of a visual source, carry with them an inherent grain of terror." He supports this comment with reference to Michel Chion's (1994, p. 11) observation that the acousmatic voice always creates, "a mystery of the nature of its source, its properties and powers." The fact that sound may be so easily de-coupled from source or visual reference also encourages the development of concepts such as schizophonia and transphonia. Transphonic sounds are not necessarily uncanny, however sounds that promote uncanny sensations may well be transphonic. What, therefore, is the relationship between transphonic sound and uncanny sensations?

Sound can come to us from around the corner, from deep in the undergrowth, as an echo delayed by distance or through the dark void of night. However, this does not automatically make it uncanny – but it may. What is, and what is not uncanny appears to be highly subjective and entirely dependent on the sensibilities of the individual listener. Transphonic sound is easily defined; it is sound separated from source. An uncanny sound is less easily defined. Part of the problem reflects the fact that the term uncanny has entered common usage and become overworked. As I point out (see Street, 2010, p. 31 and Leadley, 2011), it is used as a catchall for a variety of experiences and sensations: unexpected encounters with electronic media in public places; chance encounters with strangers with characteristics that remind us of people we know, and to the experience of apparently portentous events or psychic phenomenon. This lack of specificity appears to have evolved through the conflation of the German word *Unheimliche*, which is used in the writing of Jentsch and Freud, with the English term, uncanny. *Unheimliche* translates more directly as unhomely, the opposite of homely. As Nicholas Royle (2003, p.1) points out, it is, "a particular commingling of the familiar and the unfamiliar. It can take the form of something familiar unexpectedly arising in a strange and unfamiliar context, or of something strange and unfamiliar arising in a familiar context." For the root definition of English term uncanny (*ibid.*, p.9) we need to look to Scottish and northern vernacular where the term, from the 18th Century, refers more exclusively to an aspect of character rather than place: someone who is not to be trusted, a little strange, mysterious and with possibly supernatural aspects. It is also connected to the storyteller and the tale.

The fact that a single, clear-cut definition of uncanny is hard to pin down is wholly appropriate for a term that must, to some degree, engage with the inexplicable. If, as Royle (*ibid.*, p. 202-204) suggests, the uncanny has simply become the milieu of 20th (and hence 21st) century western living then its occurrence in the everyday becomes harder to identify as a result of familiarity. This is a position supported by Anthony Vidler (1994, p. x), who maps the uncanny onto an interpretation of contemporary building as, “a metaphor for a fundamentally unliveable modern condition.” Equally we have become so familiar with a form of mediatised uncanny as presented, for dramatic effect, through the use of computer graphics, makeup, prosthetics, cinematography and script development in cinema, television, theatre, radio and advertising that the real world has to ‘work quite hard’ to engender a sense of the ‘common all garden’ variety of the uncanny (see Street, 2010, p. 31).

The first paper directly addressing the psychological aspects of the uncanny is *Zur Psychologie Des Unheimlichen* (1906) by Jentsch. This paper subsequently forms the starting point for Freud’s essay on the uncanny, *Das Unheimliche* (1919). Michael Cherlin (2009, pp.173) suggests that the generation of Freud, Arnold Schoenberg and Franz Kafka inherited a fascination for the uncanny from the German romantic literary tradition of writers such as Ernst Hoffmann and Wilhelm and Jacob Grimm and the music of Franz Schubert and Richard Wagner.

Jentsch’s (1906/1995, pp. 6-18) observations are straightforward. The uncanny is, “...comprehensible if a correlation ‘new/foreign/hostile’ corresponds to the psychological association of ‘old/known/familiar.’ In the former case, the emergence of sensations of uncertainty is quite natural, and one’s lack of orientation will then easily be able to take on the shading of the uncanny; in the latter case, disorientation remains concealed for as long as the confusion of ‘known/self-evident’ does not enter the consciousness of the individual.” Following this schema, uncanny sensations are the outcome of a particular manifestation of uncertainty. Indeed, many of my participants’ comments in this chapter appear to support this position. Confusion concerning ‘old/known/familiar’ sounds leads to disorientation, while confusion about ‘new/foreign/hostile’ sounds leads to uncanny impressions. Much of the audio content of my work is familiar everyday sound. Then, by means of editing and treatment some sounds become unfamiliar and ‘other’ and relationships between cause and effect lose their coherence. As a result of an engagement

with this mediation, certain combinations of disorientation and dislocation may promote uncanny sensations in some participants. However, this is a somewhat simplistic explanation because it only proposes the question: is this sound known or is it not? It does not address the issues of why some participants experience uncanny sensations and some do not.

Freud's position is very different to that of Jentsch. He asserts that the uncanny is principally the outcome of familiar, but repressed, unconscious content. Marc Falkenberg (2005, p. 20) suggests Freud overstates this position too forcefully in order to refute Jentsch's argument. Royle suggests that Freud's interest in matters occult runs much deeper than his dispassionate tone suggests. He points to the words of Freud's biographer Ernest Jones (Royle, 2003, p.17) who observes that the psychoanalyst, in late night conversations, evidences a fascination with the more mysterious and uncanny aspects of his patient's experiences.

Both the history of the uncanny and Freud's essay need to be considered in relation to their historical context. Vienna has just become the capital of the First Austrian Republic and he is writing against the backdrop of massive social and technological change. Interest in the uncanny in post war Europe is widespread: Cherlin (2009, pp. 173-178) links Schoenberg's fascination with the uncanny to his exploration of time and rhythm patterns (which, again, leads us back to the relationship between rhythm, temporal syncopation and discontinuity considered in section 5.7.4). The visual aesthetic and narrative sensibilities of German Expressionist filmmakers such as Paul Wegener (*The Golum*) and Robert Wiene (*The Cabinet of Dr. Caligari*) explore the uncanny and influence Fritz Lang (*Weary Death/Destiny*).

It is relevant to note that Freud comes to the contemplation of the uncanny by way of coincidence, walking and urban experience. The personal example he (1959, pp. 778-779) gives takes place in a provincial Italian town. His 'exploratory walk' without planned direction, purpose or map (which prefigures Guy Debord's concept of the *derive* by roughly 20 years) delivers him on three separate occasions into the same red light district. Unnerved, he returns to the piazza (*ibid.*, pp. 372-95).

Freud suggests a number of triggers for uncanny experience:

1. The development of the homely (familiar, comfortable) towards the unhomely (uneasy, eerie) via a degree of ambivalence: the notion of something withheld, hidden or dangerous (*ibid.*, pp. 372-378)
2. Uncertainty between what is alive and what is animated by mechanism (automata), or magic (as in fairy tales) (*ibid.*, p. 378-379)
3. Fear of loosing one's sight or castration (*ibid.*, p. 384)
4. The possibility of encountering one's 'double' (*ibid.*, p. 388)
5. The lure of superstition created by coincidence: repetition in experience mirroring the unconscious principles of repetition-compulsion underlying human instincts (*ibid.*, p. 391)
6. Any occurrence that tests reality, bringing us into contact with repressed infantile complexes or primitive beliefs (*ibid.*, p. 403)
7. Experiences that support the concept of the 'omnipotence of thought', which underlies the power of religion, magic and the projected manifestation of evil (*ibid.*, p. 393)
8. The presence of death and dead bodies and the possibility of reanimation, spirits and ghosts (*ibid.*, p. 395)

In relation to this enquiry I believe points 1, 2, 5 and 6 are highly relevant and that these triggers for uncanny sensations can be observed in the participant comments documented in this chapter.

Mladen Dolar (1991) points out that the French language does not have a direct equivalent to either *unheimliche* or the uncanny. Hence, Lacan coins the term *extimité*. As a psychoanalyst, one of his principal concerns is the clarity of the line between what is internal, and what is external.

“The dimension of the *extimité* blurs this line. It points neither to the interior nor the exterior, but is located where the most intimate interiority coincides with the exterior and becomes threatening, provoking horror and anxiety. The *extimité* is simultaneously the intimate kernel and the foreign body; in a word it is *unheimlich*.” (Dolar, 1991, p.6)

The *extimité* is located at the point where the Lacanian real (an unimaginable emergence beyond language that resists symbolisation, and which can only be experienced as a traumatic interlude when the symbolic order breaks down) collides with the quotidian (see Lacan and Wladimir Granoff, 1956/2003). Like Freud's *unheimlich* the *extimité* may be reached by multiple pathways. However, Lacan's *extimité* is coherently expressed as a rupture – and it is experienced as a form of trauma. Trauma is a scalable phenomenon, hence the participant at the Goldsmiths/UKISC installation who refers to the *extimité* is identifying a degree of personal trauma created when the quotidian is destabilised.

While it is beyond the scope of this thesis I observe that engaging with Lacanian ideas also proposes an exploration of the relationship between the uncanny and the sublime. This, in terms of an historical contextualisation, leads us backwards from Lacan towards the work of Arthur Schopenhauer and forward to that of Slavoj Žižek. Discussions relating to this exegesis are proposed, for future study, in the conclusion to this thesis.

5.7.7 Coincidence

Coincidental interactions between recorded and live audio content and between recorded audio and live visual content are widely reported in both anecdotal feedback from the installations and in the questionnaire returns. For example, here are four comments from the Bournemouth installation:

“It's very nice when there are steps – you see people with all their shoes and they are synchronising with the steps. It's a nice mixture. The most interesting is when there are some sounds of outside mixing up with the recording.” (09/09/2010. 11.21pm)

“Some really fascinating moments. When there was, I think, this suitcase [being dragged]. Exactly on the moment when it came, there was a woman with a child [in a pushchair], which was a very similar sound.” (10/09/2010. 1.30pm)

“So listening to voices that are inside when you are outside, and exactly in the moment there was a group of people who came next to me also talking, and this was very fascinating.” (10/09/2010. 1.35pm)

“I really like that. Funny how things happen. There are those feet marks that are on the [steps] – just down there – I stood on those and as soon as I stood on them the sound cut – what's the chances of that happening!” (09/09/2010. 11.09am)

The aesthetic outcomes of coincidence are highlighted as part of the appeal – as this comment from Leicester suggests:

“I walked out to the street to see how it would sound out there and it was interesting in the tunnel, the archway. That was probably the most effective place, because you had the traffic going by behind you and the recording of traffic in front. The two merged quite well.” (02/06/2010. 3.21pm)

29 out of 36 participants at the Goldsmiths installation indicated that they experienced coincidental interactions during the course of their experience. Supporting comments include:

2. Standing next to automatic doors
5. Made me think a group at the end of the field was playing football
11. Interaction also between ‘real’ environmental sound bleeding through headphones
18. Yes, particularly when people were speaking in both headphones and outside
21. Especially low throbbing bass music from cars etc
31. I believe this was the most important aspect of the installation; structure was influenced and changed depending on relationship between visual/audio
35. Especially near doorways

At the WFAE installation in Corfu, 9 of 11 participants note a coincidental experience. Detailed comments include:

5. After listening for a while I could correlate some of the voices of the installation with the people that were around me
8. Felt as though a trolley was being pushed in an alleyway behind me, where someone was walking

If we look across the broad base of these comments and reflect back on those concerning uncanny sensations, it may be possible to suggest that disorientation, uncanny sensations and an awareness of coincidence are all caused by a similar range of experiences. For example, the confusion between real and recorded sounds, conflicting spatial cues and uncertainty concerning the relationship between sounds and events.

Persi Diaconis and Fredrick Mosteller (1989, p. 853) define coincidence as “...a surprising concurrence of events, perceived as meaningfully related, with no apparent causal connection.” A potential relationship between events, meaning and order has been

a debate since classical antiquity and is deeply inscribed into the oldest extant texts. For example, the relationship between inner and outer forces as expressed in the *I Ching*'s hexagrams, and the hidden harmony of Heraclitus' upward-downward path (see Charles Kahn 1981, p. 291). Equally, it plays a part in medieval thought – as evidenced by Agrippa von Nettesheim's concept of quintessence or fifth element, which Jung (1952/1972, p. 107) equates with the unconscious. Mystical relationships between events and meaning are explored in Renaissance literature: Johannes Kepler's (1610/2006) defence of astrology in *Tertius Interveniens* or Gottfried Wilhelm von Leibniz's (1695/2004) concept of pre-established harmony as discussed in *A New System of the Nature and Communication of Substances, and also of the Union that Exists Between the Soul and the Body*, being examples.

Despite the potentially secularising influence of the scientific revolution of the early modern period, the persistent allure of an underlying cosmic order has retained a degree of currency into the present era. It is possible to follow a trajectory which begins with Schopenhauer's (1850/1913) consideration of simultaneity and chance and Friedrich Nietzsche's (1883-1891/2003) fictionalised thought experiment concerning eternal recurrence (time as cyclic as opposed to linear), *Thus Spake Zarathustra*, to contemporary new age thought where coincidence becomes a guiding principle on the path to enlightenment (Redfield, 1993).

To some extent, removing the role of a pre-established order in the unfolding and interrelation of events can be seen as creating a vast array of problematics. As John Townley and Robert Schmidt (1994) point out, some form of *a priori* organising principle, which is essentially beyond analysis, enables one to dismiss unusual events or combinations of events as simply inexplicable coincidences. They take up the case of Paul Kammerer (1919) whose development of the 'law of seriality' was one of the first attempts to explain coincidence in terms of causal principles and locate the meaningfulness of the coincidence with the event itself, rather than explain it simply as a numinous phenomenon.

Kammerer defines 13 categories of serial events and, using copious examples drawn from his own observations, outlines three principles that govern coincidence. The first, persistence, (see Jung, 1972, p. 12) is the product of inertia, but seen as operating at a

system level, in what Kammerer refers to as complexes of “bodies and forces” (1919, p.117). Examples include corporate structures, ships and societies: any model of a bureaucracy that appears to be self-sustaining beyond the associations of particular members. Kammerer argues that over time the complex’s environment, physical and information networks take on the character of the complex. The influence of the complex may be easy to identify while it is still in operation. However, following the break up of such a system, individual elements continue to evolve. Inertia carries the different trajectories forward through time. Unexplained coincidences can occur when, for whatever reason, the vectors of the now separate trajectories intersect. An apparent mystery is in fact a product of an invisible complexity, however, such events are causally connected. Persistence is supported by imitation, the tendency of neighbouring phenomenon to interact and become more self-similar over time, and Attraction, a tendency of similar forms and processes towards clustering. While Kammerer’s framing of coincidence and the law of seriality has a certain novelty, the basic idea of causal complexity is not new – as evidenced by Schopenhauer’s monograph *Transcendent Speculations on the Apparent Deliberateness in the Fate of the Individual*¹².

Jung (1972, pp. 12-13) is a forceful critic of Kammerer who suggests the law of seriality achieves nothing beyond demonstrating the existence of probability and chance. Tomasz Downarowicz (2011) observes that it is necessary to distinguish between what may simple be identified as serial events that are related even though the cause may not be immediately apparent (for example, an increase in volcanic activity in different locations during the movement of tectonic plates) and the apparently unrelated coincidences Kammerer creates the law of seriality to explain. He goes on (*ibid.*, p. 133) to suggest that Kammerer’s observations concerning clustering, “merely noted the perfectly normal spontaneous clustering of signals in the Poisson process.” This is a stochastic process for a given time interval, where,

12 “But nothing is absolutely accidental; on the contrary, even the most accidental is only something necessary that has come to us on a more distant path, since definite causes lying high up in the causal chain have been long ago necessarily determined that something was bound to occur precisely at this moment, and, therefore, simultaneously with something else. Thus every event is the particular link in a chain of cause and effect which proceeds in the direction of time. But in virtue of space, there are numberless such chains side by side; yet they are not entirely foreign to one another and without any interconnections ... all those causal chains, that move forward in the direction of time, now form a large, common, much interwoven net which, with its whole breadth likewise moves forward in the direction of time and constitutes the course of the world.” (Schopenhauer, 1913, pp. 214-215)

“...the distribution of signals along the time axis is far from being uniform; the gaps between signals are sometimes bigger, sometimes smaller. Places where several smaller gaps accumulate (which obviously happens here and there along the time axis) can be interpreted as “spontaneous clusters” of signals. It is nothing but these natural clusters that are being observed and over-interpreted as the mysterious “series”. (Downarowicz, 2011, p. 3)

If spontaneous, unrelated clustering can create the appearance of significance, attitude and expectation may serve to enhance the experience of coincidence further.

Psychologists Thomas Griffiths and Joshua Tenenbaum (2001, pp. 370-375) observe that there is often a major inconsistency between the general awareness of the potential for events to coincide and the actual statistical probability – with occurrence often being far more likely than anticipated.

If we take these observations and consider the comments made by people who have attended my sound installation, then the influence of spontaneous clustering created through the randomised interaction of sound files with each other, with the prevailing soundscape and with objects and events can be identified. The mechanism by which the work is generated, and the relationship between recorded sound and the acoustic environment of the site conspire to create a set of causal connections. However, these connections are not immediately apparent. For example, hearing the sound of recorded footsteps ascending a staircase at the same time as one is descending the same flight is extremely likely. Griffiths (2001, p. 46) observes that coincidence’s ability to surprise is what makes it both significant and memorable. This reaction is largely rooted in the fact we do not consider the event in relation to the broader set of possibilities: the times when concurrences fail to occur. Raymond Nickerson (2004, p. 86) also observes that it is the surprise element that makes coincidence memorable and it remains surprising only until the cause is identified.

Is it therefore reasonable to extrapolate from the above comments and observations to propose that what we are observing in the proclivity for coincidence-awareness is the operation of a mechanism embedded within the perceptual learning process, one engaged with cognition in the process of making sense of the world we inhabit? Contemporary psychology has certainly considered the experience of identifying meaningful patterns and connections where they do not exist. From the perspective of aberration we have Klaus Conrad’s (1958) term apophenia, which applies to such a process – as part of a pre-

schizophrenic state and; following Peter Brugger's (2001) looser redefinition of the same term, to a more general experience of seeing apparently meaningful patterns. In a similar vein we have Michael Schemer's (2008) popular science term, patternicity, which identifies the "tendency to find meaningful patterns in meaningless noise." He suggests that the phenomenon has traditionally been treated as an error in cognition, and argues that it is a functional aspect of the associative learning process for all species; pattern recognition is fundamental to survival and making and recognising incorrect associations helps to scale those that are correct and essential. Pareidolia (*ibid.*) is a form of apophenia where the experience of random sounds and images may lead to the perception of recognisable patterns. This accounts for seeing faces in the clouds or on the surface of celestial bodies (such as the man in the moon), electronic voice phenomena and the identification of hidden messages in music recordings. Pareidolia is employed in projective psychological assessments such as the Rorschach inkblot tests.

If the perception of coincidence is an aspect of a broader tendency towards pattern recognition, one aided by memory and past experience, reviewing artists' documentation should generate some useful perspectives.

5.7.7.1 John Cage and William Burroughs: chance, contingency and coincidence

"It's marvellous when we're surprised by coincidences of light or sound, in our presence. That's one of the beautiful things about hunting mushrooms – is that they grow up and are fresh at just a particular moment, and our lives are actually characterized by moments." (Cage, 1982)

Here, in a radio interview with Terry Gross, Cage identifies coincidence as a device through which the moment becomes memorable. This definition places the emphasis on the lasting effect of such moments and indeed, gestures towards their role in the personal narrative we construct in order to frame our sense of self in relation to our own expectations, family, peers and society.

What exactly are "coincidences of light or sound" in this context? Cage is commenting on our ability to tune our senses in or out depending on circumstance: how we approach a concert with an opening up of expectation and perception, and a subway commute to

work with a closing down of the senses in response to negative expectations. Again, as with Nickerson's (2004, p. 86) observation, the element of surprise has a key role to play in what makes the coincidence memorable for Cage. His coincidence of light or sound is something that draws us out of ourselves unexpectedly – thus showing us the world anew. It is something unfamiliar or memorable emerging from background familiarity. Presented in this way, coincidence evidences many similar attributes to the uncanny experiences documented earlier in this chapter.

For Cage, the freshness of coincidence underscores many of his concerns in this interview with Gross. He problematizes both memory and taste (preference) as things that generate assumptions and, subsequently, limitations. In support of his argument he paraphrases the French poet René Char (1956, p. 10), “each act is virgin, even the repeated one”, and notes Erik Satie's observation that experience is a form of paralysis.

A more general review of both Cage's own writing and related commentaries reveals very little discussion of coincidence. On first inspection this seems perplexing; given that the application of random processes and chance procedures leads directly to a degree of unplanned contingency in his output, the perception of meaningful coincidences might appear likely. However, Cage does not find such interactions surprising; to an extent he absorbs the notion of coincidence into his application of the Zen concepts of interpenetration and unimpededness (1961, pp. 36-37) to composition. With reference to Morton Feldman's *Intersection 3 For Piano* and the idea of compositional structure he observes a, “multiplicity of centers in a state of non-obstruction and interpenetration”. This evolves as a consequence of the interaction of both indeterminate and determinate means where, “an interpenetration of these opposites obtains which is more characteristic than either” (*ibid.*). Unimpededness (James Pritchett, 1996. pp. 75-76) emerges from the recognition that every thing (including sound) or being in the world has an individuality that places it at the centre. At the same time, each thing or being is a reflection of the universal: there is a seamless interpenetration whereby everything is related. Hence Cage arrives to a non-dualistic version of reality.

While Cage rarely discusses coincidence William Burroughs is, at times, obsessed by it. During his time in Paris and then London in the period roughly 1961-1973, he experiences a series of key interactions and collaborations with the painter and poet Brion

Gysin and the sound engineer Ian Sommerville (see Gysin, 1982, pp. 39-44). In parallel with heavily processed text-based cutup experiments, Burroughs develops a phonographic technique designed to “discommode or destroy” (Burroughs, 1970/2005, p.10) a location that has, for whatever reason, attracted his ire. For its effect the work the technique relies upon in situ playback¹³. Burroughs claims successful ‘operations’ against the Church of Scientology, which moves premises, and The Moka Bar, a Soho café, which closes shortly after his intervention. Gysin (1982, p.41) suggests that Burroughs believes that one of his earliest operations in Paris leads to the spontaneous combustion of a newspaper kiosk proprietress.

Stepping forward to embrace what Terry Wilson (*ibid.*) observes as Burroughs’ obsession with exorcism and the magical potential of cutups, there is a clear awareness in his writing on sonic process of some underlying, yet observable, force operating through playback that exerts an influence. Like Cage, Burroughs is aware of his process – but rather than the awareness of the causal factor demystifying coincidence, it serves to enhance its power. In this respect, he proposes a particularly arcane scheme.

“Now to apply the 3 tape recorder analogy to this simple operation. Tape recorder 1 is the Moka Bar itself in its pristine condition. Tape recorder 2 is MY RECORDINGS of the Moka Bar vicinity. These recordings are ACCESS. Tape recorder 2 in the Garden of Eden was Eve made from Adam. So a recording made from the Moka Bar is a piece of the Moka Bar. The recording once made, this piece becomes autonomous and out of their control. Tape recorder 3 is PLAYBACK. Adam experiences shame when his DISGRACEFUL BEHAVIOR IS PLAYED BACK TO HIM BY tape recorder 3 which is God. By playing back my recordings to the Moka Bar when I want and with any changes I wish to make in the recordings, I become God for this local. I effect them. They cannot effect me.” (Burroughs, 2005, p 11)

Does Burroughs believe this explanation or is he simply being the arch wordsmith? Unlike Jung who might invoke the discussion of archetypes in a broader analytical scheme, Burroughs does not unpack his own words into a potential analogy. Taken at face value his operation is a form of ‘casting out’ which operates by the same process as

13 “He (Sommerville) had discovered that playback on location can produce definite effects. Playing back recordings of an accident can produce another accident. In 1966 I was staying at the Rushmore Hotel, 11 Trebovir Road, Earl’s Court, and we carried out a number of these operations: street recordings, cut in of other material, playback in the streets ... (I recall I had cut in fire engines and while playing this tape back in the street fire engines passed.) [...] Anybody who carries out similar experiments over a period of time will turn up more ‘coincidences’ than the law of averages allows.” (Burroughs, 2005, p.10)

any magical or religious practice where, gestures, artefacts and rituals are combined to create mystical charge and subsequent influence (see Franz Bardon 1962, pp. 101-102). From a Freudian perspective, he is becoming ensnared by the allure of mysticism. If we de-couple the biblical aspect of Burroughs' analogy we have a fairly straightforward three stage process: the notion of access to a location as afforded by the exploratory, documentary recording process; a scheme of manipulation, editing and augmentation in which he seeks to amplify some hidden aspect and a delivery phase in which in situ playback has an influence. At no point does Burroughs specify an intended outcome; rather he observes and then claims ownership of the results of coincidence as his own.

If we engage with the biblical aspect of Burroughs' scheme, we come to the issue of shame. While the emotional emphasis may be quite different, Schaub (see section 2.3) also notes this importance of feelings at the core of the cognitive affect of the auditory experience. If someone who listens to Cardiff's work experiences pleasure and Burroughs' victim experiences shame, we are nonetheless dealing with the same mechanism: an interpretation of the products of perception through the medium of feelings. However, individual perspectives informed by differing memories, experiences and expectations lead to a difference in valence characteristic. What both Burroughs' and Cardiff's work has in common is that they successfully target the participants' (or victims') emotions and, through an engagement with personal memory, exert an influence.

5.7.8 Coincidence and synchronicity

Elizabeth Biggs (2009, p. 84) in her consideration of the temporal interplay in Cardiff's output suggests that, "When during this oscillation layers of the spatiotemporal palimpsest line up with here and now like moiré patterns, the listener experiences transformative moments of synchronicity." The application of the concept of the palimpsest is intriguing as it proposes the layering of texts, readings and unplanned interactions. Biggs' awareness of temporal interplay shares a degree of a synergy with Stein's perspective as outlined in section 5.7.4. There is also an apparent similarity between her observation of the moment of synchronicity as transformative and the effect of Cage's coincidence of light or sound discussed above. Biggs instance of synchronicity

might also be considered in relation to the configuration of interactions and interpenetrations that precipitate the Lacanian *extimité* and Freud's *unheimlich*.

Jung (1972) argues that not all coincidences are memorable; synchronistic events evidence a far greater level of significance that is suggestive of an underlying pattern. For example, the apparent reinforcement of some core principle when multiple, seemingly related, coincidences occur over time (possibly years) or when actual events closely mirror dream imagery. Jung (*ibid.*, p.10) proposes chance as the “counterbalance” to the “domain of causality” and equates chance with coincidence: because in both cases the causal factor has not been identified. However, this only holds true if we assume the “absolute validity of causal law” – and he observes that the physics of the 20th century problematizes such certainties and identifies that, what may be taken as absolute truth for the macro-physical world, does not necessarily apply in the realm of very small quantities. By admitting relativity to the framework of the discussion the potential for acausal events must be considered. Here, Jung is not simply playing artfully with the physics of his day; much of the work on synchronicity is carried out in collaboration with the physicist Wolfgang Pauli.

Jung (*ibid.*, pp.14-15) comments on a particular experience of encountering fish or fish imagery on no less than seven occasions in 24 hours at a time when he is studying the fish symbol in history. He observes that it is hard not to consider the significance of this and project a sense of meaningfulness onto such multiple occurrences. Not only do such series of events often appear to have a numinous quality, this numinous charge increases each time a new coincidence is added to the series. Numinosity, he suggests is a form of affect arising from the expression of archetypes, the “formal factors responsible for the organisation of unconscious psychological processes which are patterns of behaviour” (*ibid.*, p.29). However, he is drawn to conclude that the impression that a series of events has been ‘caused’ is related to the constellated nature of unconscious content which makes the content itself appear responsible for its own causation. It is this apparent impossibility, and the absence of an obvious causal factor, that leads people to consider the influence of magic.

To some extent this foregrounds Griffiths and Tenenbaum's (2001, pp. 370-375) observations concerning the inconsistency between the general awareness of the potential

for events to coincide and the actual statistical probability – where the likelihood of concurrence is higher than anticipated.

Jung (1972, pp. 27-28) observes that the apparent meaningfulness of coincidences cannot have a causal explanation because this implies transmission, which in turn requires energy – and none is apparent. Rather, with coincidence there is a, “falling together in time.” (*ibid.*) Jung’s term for this simultaneity is synchronicity. Therefore, two further Jungian definitions of synchronicity are: “a hypothetical factor equal in rank to causality as a principle of explanation,” and, “a psychically conditioned relativity of space and time.” (*ibid.*) Space and time however cannot be considered as fixed concepts as they are only, “hypostatized concepts born of the discriminating activity of the conscious mind, and they form the indispensable coordinates for describing the behaviour of bodies in motion” (*ibid.*). Psychically, time and space are reducible to nothing. Thus the definition of synchronicity evolves to, “the simultaneous occurrence of a certain psychic state with one or more external events which appear as meaningful parallels to the momentary subjective state” (*ibid.*, p. 36). And alternatively, “an unexpected content which is directly or indirectly connected with some objective external event coincides with the ordinary psychic state” (*ibid.*, p. 41). In other words, the meaningfulness of coincidental events is a property of the observer, not the chain of events, and as such any form of *a priori* order is an aspect of the observer’s psychic state, and not linked to the coincidence via causal principals.

Jung (*ibid.*, p. 49) observes that the activation of these principles of acausal or synchronistic mental connectivity are central to all methods of divination. This expands the understanding of, for example, the *I Ching* or astrology: oracular devices with the potential for harnessing the “the irrational functions of consciousness” (*ibid.*). Thus the powers of sensation and intuition are indirectly focussed for the purpose of identifying detail – as an aspect of the total situation. Perhaps effective artwork shares a similar ability to engage sensation and intuition? Ultimately, Jung is less concerned with the possible acausal connection of chains of events than he is with the fact that people experience something that may be called synchronicity. This is very much the perspective adopted by this thesis.

Since Jung, the principle authors on the subjects of coincidence and synchronicity have either observed them through the lens of probability and statistical analysis in relation to psychology or cognitive studies (Diaconis, Mosteller, Griffiths, Tenenbaum) or within a framework of psychic, astrological or occult research (Townley, Schmidt, Koestler). Gibbs Williams (2010, p.16) is a notable exception who succeeds in creating a mixed method approach to the interpretation of meaningful coincidence by, “deliberately changing the first assumption about the nature of reality and the acquisition of knowledge followed by revising and creating new organising concepts to make sense out of the apparent non sense that synchronicities present.” His process, which he refers to as Rashomonising, is named with reference to Akira Kurosawa’s film *Rashomon* (1950) where multiple interpretations of the same basic events are provided in sequence so that the audience may consider the film’s ‘truth’ as a multiplexed phenomenon. The approach allows equal validity for psychological, occult, spiritual and scientific perspectives so as to deliver an overall explanation¹⁴.

If we look back towards the installation experience and principle subjects of this chapter – disorientation, uncanny sensations, coincidence and synchronicity – and apply William’s perspective to the consideration of these trajectories, then each might be seen as pathways where the consideration of the same set of causal agents and perceptual experiences leads to a different outcome. However, each outcome is situated at the same nexus: a point where the perception of space and time briefly coalesces around a discontinuity. This discontinuity proposes a challenge to the sensing of the quotidian and blurs the distinction between what is inside and outside the experience of the work, internal and external to the participant’s mental framework and what is a property of either the subject or the object. The consideration of this discontinuity forms a significant aspect of my next chapter.

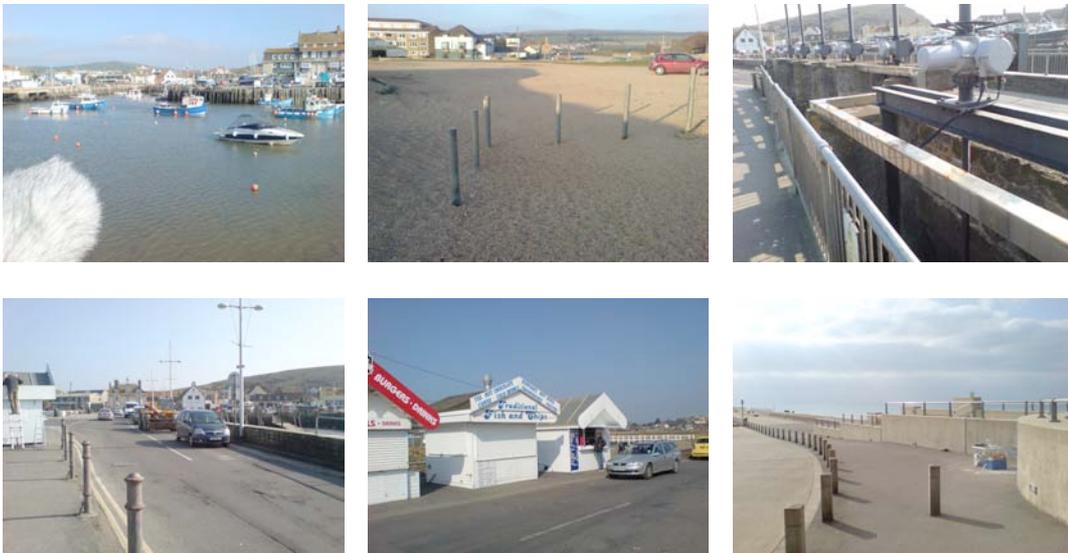
14 “Ultimately it is the individual’s choice as to which perspective feels most resonant with his or her direct experience. What is the issue here is that preference be made with the understanding that there are at least two radically different perspectives to choose: a partially naturalist and partially supernatural theory of synchronicities or a purely naturalistic theory of synchronicities.” (Williams, 2010, p.16).

6. Site and Time

In chapter 5 I focus on the first phase of development and delivery of a programme of site-specific headphone based installations and the phenomena of disorientation, uncanny sensations and the awareness of coincidence. A further investigation of soundscape, site and time is also proposed. Chapter 6 pursues these themes. In order to focus on these issues I concentrate more on my personal observations of the site investigation process and the work, and less on participant response. The first part of this chapter documents the six installations that took place during the second phase of the research. In order to create a degree of continuity across this thesis as a whole this documentation adheres to the same schema employed in chapter 5: the content is organised using the same headings and subheadings. Much of the work in this chapter expands on issues I address in the paper, *Where is the Soundscape? Landscape and Site: Reconsidering Location* (2013). This was delivered at the Symposium on Acoustic Ecology, hosted by the University of Kent's School of Music and Fine Art in November 2013.

6.1 AudioLab 11.1: Language of Place, West Bay, Dorset (March 2011)

6.1.1 Site, listening and production



West Bay is a port settlement on Dorset's Jurassic Coast at the mouth of the river Brit, approximately two miles from the market town of Bridport. Centred around a busy harbour which was completed in 1883, there is a small parade of shops, three public houses, a number of cafés and restaurants and at least six fish and chip kiosks. These open during the summer months to service what can be a considerable number of day visitors. George Street runs next to the harbour and this minor road can become quite

congested, especially on a Sunday when a local motorbike club descends on the location. Hence, there are times when traffic noise, or more accurately, the sound of idling vehicles, is a very present aspect of the soundscape. However, this is relatively easy to get away from, as the sound tends not to travel across the harbour. There are two piers one can walk onto and access points onto sandy beaches on both sides of the harbour.

In the same way that my investigation of the De Montfort and Bournemouth University campuses resulted in significantly different experiences, so too did my explorations of Whitstable and West Bay. While Whitstable represented a considerably larger community than West Bay, the larger scale of the harbour at West Bay and presence of traffic on the seafront created a very different sonic environment, albeit one with similar characteristics. On the day of my visit in March there were few visitors. However, there was considerable activity on boats and around the harbour: both nautical and general municipal maintenance. Hence the soundscape had a purposeful character.

(03/03/2011. 9.30pm) I can hear the sounds of drills, sanding and welding equipment, petrol and diesel engines, sweeping and voices. There are some very specific coastal sound signals, such as the hauling of chains and wind in rigging. I also notice the way in which the presence of many seabirds, which call constantly while in flight, adds a sense of height to the soundscape.

On the far side of the harbour, where there is some shelter from the stiff breeze, a kiosk and café are open and servicing a small number of visitors. The relationship between these seaside businesses and their environment is quite different from their urban equivalents. Lightly constructed from wood and partially open to the elements, the sound of cooking and food preparation fills the air. Moving further round the harbour and onto one of the piers I become aware of how different these structures can be. In West Bay they function as an integrated part of the sea defences. You can walk onto them, but there's no commercial infrastructure. With the exception of the occasional person fishing, they are transitional places for walkers.

This sense of transit continues in relation to beach access: this part of the harbour forms an integrated aspect of the coastal walk. Hence, the presence of pedestrian traffic on the various surfaces provides much of the sound content. As in Whitstable,

the lack of background noise means that these ‘small’ sounds are clearly audible and one can tell much about the people moving about. Unlike the situation in Whitstable where people are strolling and talking, the pace in West Bay is more strident and purposeful.

Moving to the other side of the harbour and crossing to the beach via a car park I become aware of a particular sound I cannot identify. Eventually I reach a group of six metal posts, placed so as to restrict vehicle access onto the beach. Wind in these pipes is creating a set of distinct tones. Each pipe had a different resonance and the direction and the intensity of the wind are influencing the sound of this unintentional aeolian sculpture¹⁵.

The contextual study I was undertaking at the time of my visit encourage me to engage with the soundscape in new ways. I did more unmediated listening: trying to identify patterns of rhythm and flow and subtle changes throughout the day. This is reflected in the content of my sound diary. I spent more time simply being in the environment and revisited a number of zones at different times. I was able to hear how the acoustic horizon of the harbour seemed to expand and contract depending on the intensity of noise making activity. This functioned inversely to what I had expected; rather than more noise creating a ‘bigger’ soundscape, the scale expanded at quieter times when distant sounds were no longer masked.

(03/03/2011. 10.30pm) Over time I become aware of regular and periodic recurrences: the slow looping of traffic around the bay and the consistent change of tone as each vehicle engages with the same bends; the deeper, bass-rich sound of the half-hourly bus when it pulls into its stop and then departs again; and the background constancy of seabirds as they circle overhead. The busy boatyard atmosphere of the morning gives way to the relative calm of lunchtime. In the afternoon, the sounds of cars and tourism become more prominent. As the scene progresses towards early evening the sound of voices starts to drift across the car park from the small, but growing, smokers’ club forming outside the pub – the voices change regularly as members came and go. The flicks and clicks of cigarette lighters and the clink of

¹⁵ A local resident I encounter later mentions this feature of the beach. Seemingly it is a well-known local sound mark, but one only heard on certain particularly windy days.

glasses are clearly audible. Time progresses via such moments and episodes; each leading onto the next with a slow but inevitable momentum. This accumulation of cycles is punctuated by less common occurrences such as the passing of a motorised wheelchair or a police car's siren. Gradually, my initial awareness of the location settles into the longer march of durational experience: a featureless aggregate of such moments and movements bound into the framework of my memory.

I imagine myself processing time from one form to another, gradually embodying it: from fluid to fixed, the kinetic energy becoming encoded trace. This is accompanied by the abstract promise of retrieval through recollection; as something to be emotionally experienced rather than heard. At the same time as accumulating time in this personal, internal way I am aware of the more tangible form of documentary trace accumulating on my recorder's memory card. I can identify the fact that replay is not simply the reactivation of a memory. Rather, it is the reactivation of one present in another; a fixed aspect of a past time being reanimated by the release of the trace into the medium of 'fresh' time.

Due to practical constraints my field trip and installation took place during the same visit. The editing was done in a studio in Bridport, so the only continuity of monitoring I could achieve was to use my own headphones. I used the same recording equipment as in Bournemouth. The binaural recordings proved especially difficult to work with due to the amount of wind noise.

By this point in my programme (but prior to the development of a universal text score for the Goldsmiths installation in July 2011: see 5.5) I was beginning to consider the development of individual scores for each Max/MSP patch to be unnecessary. In the process of fine-tuning the Bournemouth installation to create a more ambiguous mix between naturalism and manipulation I had thinned out the number sound file triggers so the overall timing aspect of the script's delivery was becoming less important. The early scripts had been useful as the writing gave me a personal way into the relationship with site; by the time I reached West Bay I had a practiced method. As a consequence, I ran the installation using the underlying script from the previous Bournemouth installation. However, I still classified the freshly recorded sounds using my pre-established technique of separating people and place sounds, and curated mono and binaural files into specific

libraries. At this point, I was also quite interested to see if using the same score for two different sets of sounds might generated any form of familiar cycle or character.

6.1.2 Installation delivery



The work was installed on the morning of March 5th 2011 at the entrance to one of the harbour piers. I chose this location because of the relatively quiet sound environment and because I hoped to engage with a wider audience than the one created by the focus of an environmental sound symposium. In the end, I had very few visitors. In the afternoon I moved my equipment to the Salt House on George Street where the symposium was being held. This turned out to be fortuitous and this became the first installation where I had a large group of simultaneous participants to interact with.

6.1.3 Observations and outcomes

(05/03/2011. 5pm) This time I decide to take a more relaxed attitude to the delivery of the installation; I am getting used to operating within its framework and my focus is in the process of changing. As a result, I've not prepared a questionnaire and I don't attempt to record comments. By eliminating these elements I find invigilating a more pleasant experience and am able to engage with participants in a more informal way. This approach, combined with the group participation creates a notably different installation experience. People stay with the work for far longer, sometimes listening, sometimes removing their headsets to chat. I think it is fair to suggest that a form of acoustic community forms around the work. The fact that everyone is hearing the same thing at the same time creates some interesting interactions. For example,

people turning round at the same time because of the sound of a tractor, or trying to identify the make of a particular motorbike. These interactions prompt both consideration and amusement. People discuss various sounds and also wander off on their own for a more focussed experience. I find it easier to interact with the group and to be a listener myself in this context.

6.1.4 Critical listening and reflection

(03/08/2012. 5pm) Certain things are particularly noticeable: the quality of the recordings and a particular musicality. The latter is partly created by the tonal presence of the resonant metal pipes and the general movement of wind through structures: the soundscape seems very animated. The cry of birds provides a distinct voice and the action of waves, a definite rhythmic presence. The more gently lapping sounds of water from around the harbour adds to this sense of vibrancy and pulsation. Nature in this particular work seems quite wild, but not in an extreme sense. Although West Bay seemed quite quiet on the day of the recordings there is a lot of activity. Voices are more common than I expected and there is some very clear spoken content. There is quite a bit of laughter. The detail in the recordings is evocative, adding to the overall richness of the construct. There is much less of a sense of inside and outside to this work, with more sounds I would associate with indoor spaces (café and kitchen noise for example) being part of the whole.

6.2 Ceramic House, Brighton (May 2011)

6.2.1 Site, listening and production



Ceramic House in Brighton functions as both a domestic residence and a gallery for the architectural ceramicist J. Kay Aplin. During Artists' Open Houses, her collaborator Joseph Young curates a programme of performances and sound works in the space. The house itself is a three-bedroom terrace with two reception rooms on the ground floor and

a small kitchen leading out into a courtyard garden. From the garden there is access to a cellar below the house. Aplin's ceramic reliefs can be seen on many of the walls, and works by other artists are displayed throughout the house. 1930s houses with similar proportions are very common in the United Kingdom and the atmosphere and containment feels immediately familiar. The house is on a relatively quiet street and the combination of bare floorboards and double-glazing creates a quiet, bright, slightly reflective environment. The presence of so much ceramic material creates some unusual sound reflections.

(28/05/2011, 11pm) I arrive at the site in the morning with the intention of recording into the afternoon and then preparing the materials for an early evening session. I had been under the impression that the house would be relatively empty. However, Artists' Open Houses turns out to be a very popular event and Ceramic House has a constant stream of visitors. This makes my task both easier and harder. On one hand, the place is acoustical spatialised by the many voices and actions of visitors. On the other, it's difficult to engage with the fabric of the house and record sounds in isolation. This leads me to consider the need for contact microphones¹⁶.

In order to reduce production time I use my technique of recording many short sound files and I explore each room in sequence. Of particular sonic interest is the Llambradach Spires bathroom, which features surplus tiles from Aplin's 2009 commission; the space is extremely reverberant. Likewise the stairwell delivers unusual ambiences when sound from around the house becomes contained and filtered. As an older property with many original features the noises associated with floorboards, door hinges and handles create a specific ambience. In the garden, where visitors are gathering, I find myself working in something of a party atmosphere. This spatialises the environment. The changing sound of conversation as one descends into the basement (where there are further ceramics), is apparent. The low ceiling creates a strong sense of containment and isolation from external sounds and, as a consequence, voices become quieter and actions more distinct.

¹⁶ These are subsequently introduced into my recording kit for the second Whitstable Biennale of my programme.

I audition recordings, make some rough groupings and load them directly into the Max/MPS patch I used for the Bournemouth and West Bay installation. Then, in the half hour that remains before the installation I set the output in motion and swap out a number of files where there is too much repetition of content or recording artefacts. I leave the output rolling and continue to modify and refine it once the audience is engaged.

6.2.2 Installation delivery



Photograph: Joseph Young

The Ceramic House installation took place at around 8pm on the evening of May 28th 2011. The evening featured works from two other sound artists and due to its timed slot my installation felt more like a performance. This effect was enhanced by the fact that people gathered in the main room to listen using a wired headphone network provided by the gallery. Due to the nature of the environment there was very little interaction with the prevailing soundscape. These factors encouraged a very focussed listening experience over the course of approximately 20 minutes.

6.2.3 Observations and outcomes

At this point in my programme of work I was beginning to consider the issue of scale. All of my installations up to this point addressed soundscape and listening in relation to outdoor space and the relatively fixed point created by the installation ‘zone’: a space defined by the limit of the broadcast system’s capability and the participants’ willingness to explore the location. Into each zone I transphonically relocated sound from the immediate environment, neighbouring areas and buildings. The human scale of my own deambulations defined these areas: places one might easily engage with during a day’s walking and exploring. My locations were thematically defined by use, for example: the campuses of De Montfort University and the University of Bournemouth or a certain sense of containment created by geography such as Whitstable seafront and the neighbouring high street or the harbour at West Bay. Thus the research question that

emerged prior to the Ceramic House installation was: what happens to the work, and by extension the listening experience, if I change the scale and explore smaller or larger sites? The Ceramic House installation was my attempt at engaging with a much smaller site. The installation that followed at the WFAE conference in Corfu in October 2011 (see section 5.6) extended the scale in the other direction to the exploration of an extended urban site featuring many different environments and soundscape zones. The subsequent Kingcombe Centre installation (see section 6.3) was an attempt at engaging with an extended rural/campestral site.

At the same time all of my installations, with the exception of the one in Wolverhampton, which took place in the foyer of the Art and Design building, were sited in outdoor locations and all the installations featured predominantly outdoor sound. With Ceramic House there was the opportunity to explore an indoor, domestic soundscape and to site an installation accordingly.

As with the Whitstable Biennale 2010 installation there was a sense of connection between the work and the listener at Ceramic House.

(28/05/2011. 11pm) Those who have been in the house for some time find traces of their own speech embedded in the work. This causes both amusement and introspection. While the human content attracts attention, most people seem oblivious to the sounds emanating from the house itself. This might suggest that in a comfortable domestic environment where people feel at ease, the focus of listening shifts toward community and away from environment and issues of safety and orientation. People comment on the outdoor garden recording and note the difference, but my overall impression is that they are experiencing the work as a piece of sound art or a music composition. Several people reference the Pink Floyd track Alan's Psychedelic Breakfast, (1970) in relation to the work. This lead me to observe that the whole experience of environmental sound I'm attempting to create through the work is, to a degree, being subverted by the location and the presence of so much human content in the recordings. Hence, to engage successfully with an event-based context I will need a different approach. I therefore conclude that, in relation to the PhD enquiry, I should limit my investigation to outdoor locations where the extant method is working effectively and where I feel there are still issues to explore.

6.2.4. Critical listening and reflection

(15/11/2012. 4pm) *Compared to the other installations the Max/MSP output is quite messy and rough. There are more pronounced incidents of repetition, filtering and speed change due to the fact I was not able to fine tune the audio over time. However, the work has an appealingly vibrant quality. The amount, and nature, of speech content makes it feel celebratory. The fact that people are often talking about their impression of artwork, asking for tea or commenting on cake makes it seem all the more surreal. This effect is enhanced by percussive elements and asymmetrical rhythms created by my interaction with objects and the various surfaces around the house. Sound from the garden and the cellar have a very distinct quality as compared to the general ambience of recordings from inside the house. Where the layering of atmospheres occurs the work closely resembles the audio from other installations; there is no immediate sense that the sound is all sourced from a much smaller site as there are considerable spatial differences between rooms. There is a sense that the work continues to provide multiple perspectives and to syncopate different timelines. However, without the same degree of interaction with a prevailing soundscape the work is far less ambiguous and more self-contained.*

6.3 AudioLab 12.1: Language of Place. The Kingcombe Centre, Dorset (March 2012)

6.3.1 Site, listening and production



The Kingcombe Centre is owed and run by the Dorset Wildlife Trust. A former dairy farm, it is set within the Kingcombe Meadows nature reserve. This occupies a 460 acre

site in the valley of the river Hooke. The landscape has not been significantly altered since the 1840s and the use of artificial fertilizers and pesticides has been minimal. The reserve, which has been owned by the Trust since the mid 1980s, continues to operate as a working farm, supporting cattle and sheep. Fields for livestock are interspersed with open grasslands and traditional hedgerows and country lanes separate the wooded areas.

The Kingcombe site represented a completely new type of environment for me to explore. Again, the production and delivery of the installation needed to be condensed into a single visit – and I had access to the same basic editing studio in Bridport. My recording equipment this time included a Marantz PDM661 recorder with a blimp-mounted Sennheiser AT835ST stereo shotgun microphone. I also used the same Rode NT2A short monophonic shotgun and the Soundman OKM binaural microphones deployed on previous field trips. Some advance research concerning the location indicated that there would be relatively little human activity on site, so I anticipated the need to interact with materials and objects in order to ‘sound’ potentials. As a result, I packed a number of different beaters with felt or solid heads. As I was happy with the flexibility of the Max/MSP patch developed for the Goldsmiths SPR installation and used at WFAE in Corfu (the one with the underlying universal text score documented in section 5.5), I did not feel the need to make any further revisions.

(01/03/2012. 7pm) Standing in front of the Centre in the off-road car park the absence of noise is apparent. With the exception of the very occasional movement of farm vehicles or a car travelling between Upper Kingcombe and Toller Porcorum, the Kingcombe road is essentially deserted. The soundscape itself is dominated by the sound of native birds: the mistle thrush, goldfinch, blackbird, and robin. The sound of cows off in the middle distance is a frequent interjection. There are few mechanical sounds and these are brief and, again, mostly off in the distance: the sound of a chainsaw or the sudden rush of a motorbike. And then there is the periodic buzzing of a small propeller-driven plane circling somewhere above but out of sight, which smears its oscillating drone into the vacant upper-mid range of the frequency spectrum. While the acoustic environment does not lack activity it is not dominated by any one particular element and the absence of continuous mechanical sounds creates a very open listening experience in which distance, scale and direction are apparent.

It's also possible to hear the sound of the River Hooke, whose course runs close by the Centre's main building. The river at this point is narrow, slow moving and shallow and generates little more than a faint babbling. This is the first of many encounters with the type of 'small' sounds I first identified at West Bay – sounds that are easily audible from some considerable distance despite being very quiet.

Given that the weather, especially the absence of wind, is so conducive to recording I start recording straight away and use the microphone to lead my movements. I must remember to stop and allow for extended periods of unmediated listening in which to reflect and observe.

While I have encounter localised soundscapes before there are very few incidents of the obvious, rapid transitions from one sound-space to another of the type that I encountered in the more urban environments. There are relatively few occasions when I experience a significant masking or tunnelling effect. While proximity to a field of cows creates a soundscape dominated by bovine sounds, this is always arrived to as a gradual transition. The same is true on approaching a house where sounds of activity can be heard. The gradual emergence of sonic content from the overall background of sound is a district characteristic of the location.

I have not travelled far before I become aware of the absence of voices or other signs of human presence – despite passing a reasonable number of dwellings¹⁷. Moving along the Kingcombe road I soon start to encounter smaller lanes leading off. In most cases, tarmac soon gives way to gravel and grit that scrunches beneath my feet and I am soon walking between high, dense hedgerows.

With sightlines completely obstructed to left and right most of the information about my surroundings comes from audio cues and, as a result, my hearing seems to become more acute. As the visual became less significant, the auditory takes on far greater importance, with the sounds of horses, cattle and sheep or the density of wildlife sounds suggesting what might lie beyond each hedge. Then, on occasion, there is a gap that allows a visual to form in relation to the sonic presence: an open field

¹⁷ Later, in conversation with a member of the Centre's staff, I'm informed that perhaps three-quarters of local properties are second homes and are rarely used except at weekends.

surrounded by dense woodland, a paddock with a seemingly deserted barn or some damp corner containing assorted rural detritus such as old tractor tyres, broken fence palings and jumbled barbed wire. Sound can easily be coaxed from such materials. Here, in the stillness of an early spring day, it is possible to record the tiniest sounds in isolation: the rubbing and crackling of undergrowth under the influence of a light breeze, flies clustering upon a sun-warmed rock or the departure of some small, unseen mammal in response to my arrival.

The area is also criss-crossed by walking tracks. One particular circuit takes me through a landscape of coppiced willow that chatters in the light breeze and up onto higher ground from where much of the valley is visible. Here, the solid sound of my footsteps on gravel is replaced by the rhythmic swishing of long grass. On descending via a different route I find myself again on the Kingcombe road, but higher up where it flattens out, running lazily between open grassland on one side and pasture for sheep on the other. Here, the road is lined, not with hedges, but with long post-and-wire fences. The tension of each run yields a surprising array of tones – some short and sharp, others deeper and extended and sometimes dull and uninteresting – with no visual suggestion of which lengths might be resonant or lifeless.

Walking back down the hill I encounter another small sound; the thinnest trickle of water in a plastic pipe. However, it is audible all the way down the road. Eventually the sound is masked by the emergence of more water sounds, a trickle of only marginally greater magnitude, from an open drain cover. Splashing through a deep puddle that extends across the whole road at its lowest point, I find myself back at the Kingcombe Centre, with the familiar rasp of gravel beneath my feet.

(02/03/2012. 4pm) Today I take a different route and head left, rather than right from the Centre's main gate. I go across the road and into an area of unrefined pasture: land, I'm told, that has not been turned for some considerable time, possibly as much as 50 years. I notice a number of substantial anthills as I move forward; these will have taken more than a decade to form. I search for insect activity to record, but it is too early in the year. Moving further into the pasture, any sound from the Centre is soon lost and the soundscape is given over almost entirely to birds. Approaching a heavily wooded area I'm able to record the sound of their movement through the air as well as their cries.

I spend a lot of time in this location just listening, considering the relationship between soundscape and landscape and the extended nature of the site I'm exploring. I set up a microphone and retreat to a good distance so as to record the woodland without any human presence.

6.3.2 Installation delivery



The installation took place on the 3rd March 2012 between 2pm-3pm on the afternoon of another fine day. I was able to set up in an open fronted barn adjacent to the main Centre. The event attracted a relatively small group of participants, about 20, but the nature of the sound symposium provided a dedicated group of field recordists who were happy to engage with the work and the concepts behind it.

6.3.3 Observations and outcomes

(03/03/2012. 5pm) People move about the site quite freely while listening and also take the headphones into the café with them. Due to the low level of ambient noise I am able to set the volume at a relatively low level and still create a blend between the recorded sound and the prevailing soundscape. This reduces the signal to noise ratio slightly, with a result that the audio quality is particularly good. Several people comment on the fact that they often cannot tell the difference between the recorded and the live sound, especially the individual sounds. There are many comments concerning how people find themselves physically responding to recorded sound cues, such as the sound of a vehicle, passing footsteps or a rustling in the grass. Binaural sound, that gives the impression of events happening behind the listener, is identified as particularly notable, and in some cases, quite disturbing. This prompts discussion of how sound from behind may indicate a more potent source of danger. The doubling of birdsong content is noted as something that creates a surreal effect, but one subtle enough not to be immediately obvious – more like something that worries at the edges of perception rather than having an obvious impact.

There is significant discussion about how the work creates uncanny sensations. The consensus is that the effect seems most likely at times when the relationship between the work and the environment is at its most ambiguous. There is also discussion of the uncanny in relationship to control; it is noted that in the urban environment sound is almost entirely produced by humans or by humans interacting with machines. In this setting the paradigm is completely reversed with the majority of sound being made by wildlife, livestock or the elements; something that might be perceived as unsettling or threatening to anyone not familiar with the environment.

6.3.4 Critical listening and reflection

(15/06/2012. 6pm) Sounds made by interacting with natural materials are far more common in the Kingcombe installation than in previous works. Footsteps in particular reflect a relationship to surfaces: a gravel road and a muddy field offer very different sonic experiences. Also the nature of enclosure creates a different sense of the site and scale; climbing stiles and clattering through metal gates indicates transition. I also find that the clarity and definition of the audio creates a much more detailed mental impression of the visual landscape.

With the majority of human-made sounds off in the distance my role in the recordings is far more evident. Intended or otherwise, the sound I make becomes a focal point. There are many different sounding footsteps and, as a listener, I get the impression that I am accompanying myself on a walk. A close listening reveals the fact that, while the sound of cows or sheep gives the impression of a rural setting, there is actually less of this content than expected. Horses and dogs are more common, so we are in an environment with a high density of animals that are essentially pets, rather than livestock.

The work has a life of its own in so much that it creates a place of its own in the imagination. The collating process brings different sonic elements into the same space and the resulting 'life' of this newly defined acoustic environment unfolds around the listener. Again, there is a sense of multiple perspectives, but the background acoustic space sounds similar on most recordings so sound from different locations blends easily. Of all the works, this one seems most coherently to possess a unified character and, despite the scale of the territory I range over, does not feel disjointed. Individual

sounds have a hi-fidelity clarity and the absence of background noise means that the hard cut aesthetic of the city-based works yields to a much more fluid set of sonic interrelationships.

6.4 Whitstable Biennale, Kent (August 2012)



6.4.1 Site, listening and production

The second Whitstable Biennale installation presented an opportunity to revisit a site from earlier in my practical programme. In considering how I might take the work further I decided to extend the type of sounds I would record. I felt this would enable me to listen to the site in a fresh way. As well as stereo, binaural and monophonic approaches I spent an additional day exploring the location with hydrophones, contact and induction coil microphones. The results were fascinating and did indeed create an entirely new focus.

(18/08/2012. 9pm) The hydrophones especially reveal a whole new set of soundscapes and relationships. The open water recordings show a clear relationship to the above-water stereo recordings of the same locations in as much as one can still hear the same boat engines or children playing in the water. However, there is an additional level of marine detail to all these events, which appears to collapse distance. The harbour itself reveals an intimate array of clicking and scraping sounds and the muffled mechanical activity from within the hulls of boats. Getting interesting results with contact microphones is difficult. I had hoped to find a rich world of vibration within structures but some prove dull and lifeless. It is possible however to get a good quality, noise free recording of the sound made by boat rigging on a windy day or the ringing tone of a metal handrail. However, the marching of pedestrians on a heavy wooden jetty generates little more than the occasional muffled thud. The recordings made with the coil microphone are much more interesting, especially on the High Street where the electromagnetic output of cash machines, games arcades, LED lighting and under-street cables creates many varied tones and repetitive sequences.

However, I'm aware that these are not strictly environment sounds I'm hearing, but the results of a conversion process.

The electronic nature of these sounds became very apparent in the studio when a good deal of creative de-noising was needed to separate out specific sounds from an overall background of noise.

By this point in the research I was aware that my programme of work was drawing to a close. I reviewed the Max/MSP programming and decided to rework the Whitstable 2010 patch again. I retained the original score as this felt appropriate, but added volume controls to the mixer outputs. I also added three additional mono sound file players (bringing the total sound file archive up to 42) in order to manage the coil and contact microphone recordings.

6.4.2 Installation delivery



The installation took place on Saturday 1st September 2012 between 1pm and 4pm. The same beachfront location near Keam's Yard was used. The day was warm but overcast. I had a good range of participants including local people and biennale visitors, and participants of different ages successfully engaged with the work.

6.4.3 Observations and outcomes

(18/08/2012. 7pm) Shifting the thematic emphasis away from broader soundscape issues and adding the dimension of 'hidden sounds' (electrical, underwater etc) to the installation output seems to have created a very successful intervention in terms of the public art outcome. People are intrigued by the sounds they hear and are keen to discuss the experience. Previously, during the course of my installation programme, I have had encounters with members of the public who find the basic premise of

soundscape studies quite hard to engage with – here, the hidden sound agenda is self-explanatory.

At the same time, I'm inclined to feel that I've once again reached the limit of the work in terms of my original questions. The idea of revealing hidden sounds creates a new theme, but one that changes the emphasis of the enquiry, aligning it more closely with the work of an artist such as Christina Kubisch. The lack of familiarity with the content caused people to ask questions about sources and also turns the focus back towards the technology, as many think I must be generating sounds using software.

6.4.4 Critical listening and reflection

(15/11/2012. 4.30pm) I feel that the Whitstable installation has the most 'musical' aesthetic of all of the works, largely because of the range of tonal and rhythmic content introduced by the de-noised and processed coil microphone recordings. The hydrophone recordings add some interesting filtering effects and general watery sounds. As a result I find the overall output is quite intriguing to listen to. As a soundscape it has a distinctly mediated character but it is not especially representative of what one hears at the actual site. In consequence, the work once again feels to be approaching the limits of the enquiry's scope.

The installation sound works very well when translated into the acousmatic listening situation here in the studio because the range of content and the different sonic relationships allow the listener more freedom in terms of purely imaginative engagement. To an extent, real-world associations and connections take second place to the sensual impact and richness of the mediated sonic elements¹⁸. In this new context I am aware of the body of acousmatic theory that could be applied to a discussion of the work. For example, it could be addressed from the perspective of Smalley's (1986) consideration of spectro-morphology; or the model of mimetic and aural musical discourse proposed by Simon Emmerson (1986). The perspective of Monty Adkins and Hali Santamas (2014)¹⁹ would also be pertinent to consider²⁰.

18 As a consequence of these observations I spatialised a recording of the output and included it in the diffusion programme of the SHO-ZYG/SPR Showcase at St. James's Hatcham Church in New Cross in September of 2012 (see Appendix A).

19 Adkins and Santamas apply the concept of psychosonography, an 'expressionistic' approach to compositional practice, that, "requires sonic intervention to express a sense of experience or 'otherness'"(ibid.). This intervention is motivated by the consideration

6.5 Symposium on Acoustic Ecology, University of Kent (November 2013)



6.5.1 Site, listening and production

The dockyard site at Chatham has been associated with naval engineering since the sixteenth century. It eventually closed in 1984 and an 80-acre site at its core was designated as the Chatham Historic Dockyards and transferred to the operation of a charitable trust. The area is now open to the public and is currently under consideration as a world heritage site. As well as numerous Georgian buildings, including a fully functional ropery and the Anchor Wharf Storehouses (the largest wooden structures of their type ever built), there are well-preserved buildings dating from every era of occupancy. There are two warships and a submarine on display. As well as a tourist site the Historic Dockyard has both residential and commercial activity. It is also the home of the Music Department of the University of Kent.

The opportunity to deliver an installation at the Symposium on Acoustic Ecology came at the very end of my programme of research, a full 20 months after the Kingcombe installation, which I regarded at the time as last primary work of the series. However, the chance to run the site investigation and installation process one last time felt appropriate as both a post-script and as a final opportunity to refresh my engagement with practical methods during the intensely theoretical period of writing up and documenting the work. The site was also quite unique, and as an environment I was keen to explore it; I felt it would offer a new set of listening possibilities and relationships. I visited the dockyard in late October 2013.

(24/10/2013. 9pm) the soundscape here is extraordinary: the product of a set of unique environmental features one would be unlikely to encounter elsewhere. The

of atmosphere rather than the direct use of field recordings and encapsulates, “a full range of sounds and instrumentation as well as image to evoke sense of place” (ibid.).

20 A focus on atmosphere would also lead to the consideration of the writings of Gernot Böhme (1993).

extended site occupies approximately 300 acres and this is located in the greater magnitude of the valley of the River Medway – enjoying a direct relationship with an expanse of open water. Despite the proximity to the Medway Bridge and the Rochester/Gillingham/ Chatham conurbation, there is very little evidence of any sound on site other than that being generated locally. There is, however, some light aircraft activity. The site itself certainly isn't quiet, but the overall effect is a balance between intense sound and the relative silence of the environs. In particular the absence of background traffic noise allows direction and distance cues to be heard clearly. Voices can be heard over considerable distances and content is clearly audible. There are many unique mechanical sounds and the movement of individual vehicles, especially the converted milk floats used by maintenance staff, inscribe a very particular sense of spatial geometry into the acoustic environment. As well as large open spaces there are narrow streets between former industrial buildings, sheds, workshops, museum spaces, and vessels to explore.

As the day progresses and visitor activity becomes more apparent I became aware of the amount of on-site sound design that is in operation. This is especially noticeable near the semi-open space of the RNLi Historic Lifeboat collection. A rich blend of maritime sound signals, narrative content and extreme weather recordings fill the space and bleed into the external soundscape. A number of wartime-themed displays are also in operation in the vicinity of the warships, which adds a particular narrative sentiment to the overall experience. The relationship between this electroacoustic ephemera and the site is interesting to observe as it fulfils a complex role within the overall acoustic ecology. It is a ubiquitous background element for both workers and tourists. In time, it became repetitive and annoying – and then one starts to 'tune out' to its presence. Thankfully, its cycles are quite long and this content ceases to be audible once one has moved away from the main dockside.

The range and type of metalwork distributed around the site initially proposes the opportunity for performances and interventions. However, it soon becomes apparent that the large cast or wrought iron structures require a lot of energy to activate their sonic potential. The many and varied forms of pipe work can be made to deliver ringing tones, but the overall effect is similar to that encountered previously at other sites.

6.5.2 Installation delivery

The installation took place on November 9th and 10th 2013. My initial session, which was planned for 5pm, was supposed to take place close to the centre of the site near the dry docks. Unfortunately heavy rain set in and I relocated to the Engineering Workshop. By this time night had fallen. The weather continued to be somewhat unpredictable on the second day and my eventual solution was to set the equipment up in the Galvanising Shop, which was the venue for many of the symposium's talks, and to leave it running. People were able to engage with the work during their breaks and go outside when the weather permitted. This was a successful approach and many people experienced the work, however it meant I had fewer opportunities to engage with participants.

6.5.3 Observations and outcomes

(09/11/2013. 8pm) Participants are able to go outside the building with the audio - many comment on how disorienting they find the experience. People find listening in the dark to the sound of vehicles they cannot see quite unnerving. This points towards a heightened acuity after dark, when listening becomes a more essential life preserving skill. Some also observe that the temporal difference between the time when the recordings were made, and when they are played back, adds to the sense of dislocation.

This was an installation where I feel I gained more from the experience of engaging with the site through listening and recording than by installing the finished work. This was mainly due to the challenging nature of the weather during its presentation. I do however believe the installation functioned well as an overall aspect of conference programming and I received many positive comments. The work fulfilled the function of focussing delegates listening, for a time at least, on the acoustical environment of the location they were in. Given the amount of content that addressed other sonic environments, this felt like a good outcome.

6.5.4 Critical listening and reflection

(04/12/2013. 11am) One of the more surprising aspects of the work is the absence of bird sounds on the recordings, given the proximity to the river. This absence helps to reinforce the sense of isolation. The periodic rumble of the wartime V2 recordings and related explosions from the sound design adds a nervous element, but not one that

seems especially real; the sounds are heavily processed, with a clearly electroacoustic signature. The ringing of a vintage telephone adds another retro-sound signal into the mix; it is as if a number of ghost sounds have been put back into the space to evoke memory. However, the original wartime references would be lost on anyone under the age of 80 – so for most people, the sonic past to which it alludes is an imaginary one created by the experience of film or television. Hence there is, to a degree, the feeling that one is listening to a confection. The voices of German tourists and the sound of a propeller driven aircraft unintentionally adds to the sonic impression that we are caught in some form of bizarre wartime radio drama. The sound design for the RNLi display contributes to what feels like an increasingly chaotic soundscape.

The more general field recording content reflects the scale of the site well. The sound of vehicles, especially the distinctive character of the milk floats can clearly be heard as they circumnavigate the site. This contributes to the sense of scale, and their slow journeying creates a sense of time passing. There are many different footsteps, either close up or off in the distance. This is an accurate reflection of the amount of on-site pedestrian traffic. The presence of the dockyard clock chiming regularly in the mix fixes the work in time – but is this 19th, 20th or 21st century time? Today, a chiming clock feels like an anachronism.

6.6 Reconciling practice and theory

While the same methods of site investigation and installation delivery were used in the second phase of my research, the contextualisation of the practice flowed from an entirely different starting point. This created a radical shift of perspective that changed many aspects of the doing and making. In the next section of this chapter I explore underlying relationships between the soundscape, location and time.

6.6.1 Soundscape and landscape

Landscape, location, environment, space, place, area, territory, site, field, zone, spot, scene, region, tract, expanse, terrain and territory: a plethora of terms for establishing the macro characteristics of a ‘somewhere’. Each term gestures towards a specificity of focus (topographic, political, economic etc) that enables it to find a comfortable home in the parlance of a native English speaker. How best, then, to identify and conceptualize the

‘somewhere’ of a soundscape? Landscape would appear an appropriate starting point, especially as Schafer’s term soundscape creates a direct relationship:

“We can isolate an acoustic environment as a field of study just as we can study the characteristics of a given landscape. However it is less easy to formulate an exact impression of a soundscape than of a landscape. There is nothing in sonography corresponding to the instantaneous impression which a photograph can create. With a camera it is possible to catch the salient features of a visual panorama to create an impression that is immediately evident.” (Schafer, 1994, p.7)

Schafer focus here on the scopic aspect of landscape is inherently problematic. As Tim Ingold (2007, p. 010) points out, -scape as a suffix is incorrectly associated with vista: “‘scape’ is actually derived from the Dutch *schap*, cognate with the English suffix -ship’, referring to fellowship or community of persons with a commonality of land, law and custom.” Thus the term landscape, most accurately, connotes a relationship between people and place (see also Tuan 1974, p. 133). The association between the term landscape and scenery entered popular thought in the 16th century when it came to refer to a painterly genre (Jala Makhzoumi & Gloria Pungetti, 2005, p. 3). The geographer Johannes Gabriel Granö defines landscape as “a visible distant environment, or distant field of vision” (1929/1997, p. 49). For Granö, landscape is a container of classifiable forms and features. In his understanding the outer boundary of a landscape is defined by the range of vision of the observer. Its inner boundary is a point at around 100-200 meters where landscape collapses into proximity²¹. Richard Hartshorne (1939/1961) defines landscape as relating to purely visible and tactile surface phenomena. Makhzoumi & Pungetti (2005) observe that the term now has at least four potential meanings: landscape as scenery, as a specific place, as an expression of culture and as a holistic entity.

Although Schafer, in the quote on the previous page, appears to give primacy to the populist definition of landscape as scenery, he is acknowledging the fact that the soundscape cannot exist as a ‘snapshot’ and therefore must be explored and documented

21 The investigation of proximity is, perhaps, Granö’s primary contribution due to the precedent it sets as one of the first attempts to approach environment from a mutisensory perspective: “proximity is that part of the environment that is perceivable with all the senses and is situated between the observer and the landscape” (1997, p.108).

using more complex and diverse approaches. This serves to extend and strengthen the definition. The importance he places on earwitness accounts (1994, p. 8) through history opens the study to the personal, the poetic and the interpretive. The focus on soundscape aesthetics as a classification for analysis first employed by the World Soundscape Project (*ibid.*, p,146) allows for multiple perspectives and community engagement. So too does the identification of soundmarks (*ibid.*, p. 177): sounds of importance to the people of a given community. Truax's (2001, p.11) acoustic communication model more directly states the association between soundscape and fellowship in order, "to put the emphasis on how that environment is understood by those living within it – the people who are in fact creating it."

If we seek to further explore the conceptualization of the soundscape in relation to landscape then Christopher Fitter's contemporary definition shifts the paradigm away from surfaces and forms, and back towards the human and the social.

"...Landscape, no less than a text is 'read' by mutable 'interpretive communities', each with its distinct 'horizons of expectations'. Historical communities and individuals, intimately conditioned by social, economical and ideological forces will project varied structures of attention onto external nature, thereby actualizing different configurations of feature and meaning. No landscape can ever thus be 'autotelic' – bearing a perennial and 'objective' appearance and significance independent of its 'reader'..." (Fitter, 1995, p.8)

If we substitute the term soundscape for landscape in the above, all of Fitter's observations still stand. Thus we arrive at a point where soundscape and landscape may be reconciled: not in the specificity of forms, relationships, inclusions or exclusions, but in relation to the listener's subjectivity. This definition also serves to reinforce the observation that both soundscape and landscape are intimately related to human experience and perception, and no single reading may claim primacy.

6.6.2 Soundscape, site and installation

Location is a key concern for soundscape researchers. Many classic and contemporary studies evidence a strong affinity for place. Cusack's work, for example, remains intrigued with the incidence of sound at the same time as using the sonic as a starting

point for social, geo-political and environmental discussions. Drever's discussion of the soundscape of contemporary Hong Kong is as sociological as it is sonorous.

Site is a particularly useful concept if our goal is to simultaneously explore soundscape and location. The term does not play a defined role in the lexicon of either soundscape studies or acoustic communication and is therefore open to fresh interpretation. At the same time, there is an adequate intellectual heritage to allow for the assimilation of concepts and approaches from art and design. I believe that locating this enquiry at the interstices between site, place and space – while using the terminology and approaches of soundscape studies and acoustic communication within a mixed methodology – offers a unique perspective for considering the aural aspects of quotidian experience and the development of sound art practice.

Conceptually, I believe site affords us the opportunity to bring together documentary practice, social and ecological enquiry and the creative aspects of soundscape composition. On the one hand, site may simply represent the location of study, on the other, it may represent the space of an intervention. This is particularly useful for me as my practice embraces both perspectives. I investigate sites and soundscapes and then, using my own composition techniques, create mediated phonographic montages that are designed to be experienced in situ. This is a use of transphonic sound to influence and shift the focus of attention.

Site is a highly appropriate perspective from which to consider sound because all sound is, or becomes, situated. Following Gibson's (1968) observations concerning the relationship between sound and affordance and Clarke's (2005) concerning sound and perceptual learning, it is reasonable to propose that the ultimate situation of sound – the sound we experience as sound and not as a compound pressure wave – lies within the listener's field of consciousness. As we journey outwards from this core of experience, it may be observed that every audible sound has its own acoustic space within the overall situation of the soundscape (See Schafer, 1994). Each sound is shaped on its journey to the ear by the characteristics of the site; diffused sound, unless experienced in the treated environment of the anechoic chamber, is always heard as the relationship of sound to space.

In section 1.2.8 I discuss the ongoing, but problematic, relationship between sound art and the site represented by gallery space. Issues relating to both reverberation and isolation are identified, as well as those relating to sound's ability to mix with external sources (see Connor 2005). I also note how the established tradition of creating or adapting sound art for specific spaces and contexts has generated a particular focus on site-specificity within research methodology. In relation to sound art, gallery space is essentially porous; sound brings the outside into the gallery and it potentially extends the art experience into the world beyond. Thus, gallery space becomes both fluid and malleable and its boundaries become harder to define or delimit. In order to explore this porosity further it will be necessary to place this discussion of site-specificity and sound art installation into the broader context of site as it is explored in general art theory.

Erika Suderburg (2000, pp. 2-5) observes that defining site-specific artworks in relation to form or content is impossible as they exist in a “zone of maximum hybridity”, that started to coalesce in the early 1960's as a result of the ongoing dematerialisation of the art object and a desire among many artists to dispense with accepted art-form boundaries. However, at the intersection of many practices, “the site of the installation becomes a primary part of the content of the work itself” (*ibid.*). According to Suderburg, installation is, “the art form that takes note of the parameters of that space and reconfigures it” (*ibid.*). This taking note may take many forms, for example, the augmentation, configuration or negation of physical factors, or a focus on historical, political, gender or psycho-geographical profiles. Collectively there is a focus on the, “aural, spatial, visual, and environmental planes of perception and interpretation” (*ibid.*).

James Meyer (2000, pp. 24-27) defines two types of site. The first is the literal site. This is the actual site we have already been introduced to by Suderburg, where the artist's work, “conforms to the physical constraints of its situation.” The work is defined by, and experienced in relation to, the site. Sound works, such as Henning Christiansen's (2006) multichannel *Symphony Natura* for Rome Zoo and the *Davos Soundscape* (2007) are both examples. Despite their differing realization, experiencing these works requires one to be physically present. Meyer (2000, pp. 24-27) points out that such works encourage an awareness of the body and criticality. Emerging from the 1960s, he also identifies this form of site specificity as a manifestation of the desire for authenticity and as offering an aesthetic of presence.

The soundscape is intimately connected with site, however it remains fluid, responding to local conditions and the movement of the listener. Throughout my experience of site investigation I have been constantly aware of sound from around the corner, over the hill and from behind closed doors. As David Toop (2010, p.30) points out, “sound is the medium that outreaches the known and negotiable world.”

The separation of sound from source by distance or visual occlusion is an everyday experience that does not require electroacoustic process. This reinforces the suggestion I made earlier that the final specificity of the site for sound is the point of comprehension: the consciousness of the individual listener. Consequently, there is nothing strange about the experience of moving with, and through, sound; it is a part of us – something both intrinsic and extrinsic at the same time. I have observed that this is a factor exploited by works designed for mobile listening technologies. This observation renders Mayer’s (2000, p. 24) second form of site, the functional site, highly significant. The functional site may be a physical place but it can also be, “a process, an operation occurring between sites, a mapping of institutional and textural filiations and the bodies that move between them. It is an informational site, a palimpsest of text, photographs and video recordings, physical places, and things: an allegorical site.” Sound, by its nature, is easily transplanted and the experience of relocated sound is ubiquitous in our culture.

Miwon Kwon identifies the functional site (2000, p. 44) as a discursively determined site: one that is, “delineated as a field of knowledge, intellectual exchange, or cultural debate.” If, as he suggests, the initial move towards literal site specificity in the 1960s defeats the nomadic capacity of an earlier generation of modernist artworks that did not respond to site, then the emergence of a functional approach confers a form of “nomadic subjectivity” (*ibid.*, p. 32) on the artist. This may be focused towards the critique of site and authorship. Work may deal with journeys and events or political and environmental issues.

Sound is fluid, comparatively easy to manipulate and easily transplanted. Hence there is a scalable and controllable degree of slippage between the literal and the functional site for sound-based work. For example, Janet Cardiff’s audio works which are originally designed to be experienced in situ and then ‘relocated’ to a functional site created by Mirjam Schaub’s *Walks Book*; Udo Noll’s *Aporee* project where recordings may be

experienced on location using a GPS enabled mobile device or away from the site using the web interface. This thesis is also an example of the process by which the literal is progressively converted into functional form.

Viewed from this perspective there is a vast archive of sound works that operate as site critique. Part of this critique is the awareness that the mediatisation of the soundscape through electroacoustic processes changes the very nature of site. The direct relationship between sound and source that went unquestioned before the introduction of recording, reproduction and broadcast technologies is subverted to the extent that the ‘authenticity’ of the literal site cannot be taken for granted. Site potentially becomes a mobile, multidimensional, polyvalent and multi-temporal potential that may be intentionally reconfigured. At the same time site is place, and as I discuss in the next section of this chapter, it cannot be entirely disassociated from its concrete aspects. Hence site acquires both fixed and fluid attributes. This is a useful perspective for the soundscape researcher, phonographer or sound artist because it creates a flexible, scalable relationship to location, one that may be closely aligned with the specifics of place and community or abstracted away towards critique and sonic intervention.

6.6.3 Place and space

Having established the idea of site as mobile and malleable within the context of contemporary sound art practice it becomes possible to structure an interrogation of the relationship between site, place and space. The order of concepts here is quite specific; due to the complexity of the debate the initial task is to identify a trajectory that is appropriate for this investigation and then valorise this path through the intellectual territory – with reference to the alternative routes that might be considered. One of the key problematics, the differentiation between place and space, is that the interrogation of space (see Lefebvre, 1974/2007, pp. 1-16) has fractured into multiple trajectories. Its contemplation continues to expand beyond its traditional boundaries, as a subject of importance for Cartesian (space = the absolute: containing all senses and all bodies) and Kantian (space = category: an *a priori* attribute of consciousness), philosophy and mathematics (Euclidian, curved, isotopic, etc) and into a more general realm defined as epistemology (linguistics, semiotics, social science, etc).

There has been a proliferation of qualified spaces, for example: social space, political space, dream space, urban space, architectural space and pictorial space. The only thing these sets of spaces have in common is that they are all mental spaces associated with the acquisition of knowledge. Indeed, Lefebvre (*ibid.*, p. 4) points out that Michel Foucault identifies knowledge itself as a space.

One of the outcomes of segmenting the study of space into what Lefebvre refers to as cross sections of an overall science of space (an idealized unity capable of reconciling physical, mental and social fields) is that locations that were not formerly ‘spatialised’ have become so. Lefebvre himself continues this trajectory by identifying common-all-garden locations such as a room, corner and a marketplace as spaces. He observes (*ibid.*, p. 16) that, “They correspond to a specific use of space, and hence to a spatial practice that they express and constitute.” Thinking, in terms of spatial practice, requires a specific form of mental projection in which elements are assembled as separate, distinct aspects of social practice located in an abstract field. For Lefebvre, this ongoing tendency towards fractionalization reflects the dominant mode of production under contemporary capitalism. Hence sets of spaces become produced under the same conditions.

Place on the other hand, in terms of its contemporary definition, emerges from human geography and as Tim Creswell (1996, p.13) notes, the concept has been rejuvenated through a radical reaction to the form of spatial abstraction I have just been discussing. He goes on to observe that,

“Humanistic geography’s most important reminder has been that we do not live in an abstract framework of geometric spatial relationships; we live in a world of meaning. We exist in and are surrounded by places – centres and meanings. Places are neither totally material nor completely mental; they are a combination of the material and the mental and cannot be reduced to either,” (Creswell, 1996, p.23)

This subsequently leads to a definition of place as:

“A phenomenological-experiential entity combining elements of nature (elemental forces) social relationships (class, gender and so on) and meaning (the mind, ideas, symbols). Experience of place, from a phenomenological perspective is always an experience of all three realm, each of which affects our actions in place.” (*ibid.*, p. 157)

However, as Creswell (*ibid.*, p. 161) also concludes, place is a form of classification and hence a basic ideological mechanism. Therefore place also contributes to the formation of beliefs, self and other. The material nature of place also serves to concretise beliefs and actions in such a way that they acquire the “aura of nature” (*ibid.*), and may become the justification for what is seen as “good, just and appropriate” (*ibid.*). This renders place a highly subjective concept, which, in a similar way to landscape, cannot exist in an autotelic form.

De Certeau, in observing the mathematical nature of space, locates it as a phenomenon that emerges from place:

“In short, space is a practiced place. Thus the street geometrically defined by urban planning is transformed into space by walkers. In the same way, an act of reading is the space produced by the practice of a particular place: a written text, i.e., a place constructed by a system of signs.” (de Certeau, 1988, p. 117)

Place, on the other hand is,

“the order (of whatever kind) in accord with which elements are distributed in relationships of coexistence. It thus excludes the possibility of two things being in the same location (place). The law of the ‘proper’ rules the place: the elements taken into consideration are beside one another, each situated in its own ‘proper’ and distinct location, a location it defines. A place is thus an instantaneous configuration of positions. It implies an indication of stability.” (*ibid.*)

It is from de Certeau’s conceptualization of space as an emergent, dynamic aspect of place that I derive the order of concepts in the subheading of this section. This, I feel represents the most appropriate trajectory for this investigation; it initially grounds the process of practice-led enquiry in the physical encounter with site/location before moving to spatialise place through investigative methods and encounters with sound that fulfil de Certeau’s observation that space exists,

“when one takes into consideration vectors of direction, velocities, and time variables. This space is composed of intersections of mobile elements. It is in a sense actuated by the ensemble of movements deployed within it. Space occurs as the effect produced by the operations that orient it, situate it, temporalize it, and make it function in a polyvalent unity of conflictual programs or contractual proximities.” (*ibid.*)

This framework allows for the development of practical strategies and tactics for spatially engaging with place.

This conceptualisation of space and spatial practice as emerging from the experience of place fits coherently with my experience of environmental sound – as an essentially spatialising phenomena – during my site investigations. At a fundamental level, “sound is produced when an object (the source) vibrates and causes the air around it to move” (Rumsey & McCormick 2006, p.1). The effect of individual compressions and rarefactions and the interaction of sounds from individual sources create a compound pressure wave that must be decoded by the mechanisms of auditory perception (the ear), and spatial perception (binaural hearing) and interpreted within consciousness. Sound emerges as a consequence of the interactions of forces with sources that are located in place; where these elements have their anthrophonic, biophonic and geophonic roots. Qualified listening informs the acoustically spatialised experience of place; qualification, in this context, is based upon the prior experiences, memories and awarenesses of the individual listener.

6.6.4 Time

So far, I have discussed sound and listening in relation to site, place and space. This leaves the temporal axis to consider; as Smalley notes (1986, p.65), “spectra are perceived through time and time is perceived in spectral motion.” listening, as Ulric Neisser observes, cannot be considered independently of time:

“Listening is a temporally extended activity. Sound waves exist only in time; there is normally no single moment at which one hears. An initial burst of sound pressure can be detected, but we cannot listen to it. At the end of an acoustic sequence such as a train of footsteps or a spoken word, the listener has already been hearing it for some time; at the beginning he was not hearing it at all.” (Neisser, 1976, p. 27)

Following Nancy’s observations (2007, and see also section 5.7.2) it is possible to argue the case for a static, timeless visual presence (albeit an appearance only) that is available to be seen before it is viewed. However, all sound unfolds in time. Thus the concept of listening, aural perception and the human timeframe are inextricably linked; there can be nothing for the listener to hear without time. Equally essential is the mechanical transfer

of energy to the medium as a consequence of a process over time (see Rumsey & McCormick 2006, pp. 1-6). As Lefebvre observes,

“When we evoke ‘energy’ we must immediately note that energy has to be deployed within a space. When we evoke ‘space’, we must immediately indicate what occupies that space and how it does so; the deployment of energy in relation to ‘points’ and within a time frame. When we evoke ‘time’ we must immediately say what it is that moves or changes therein.” (Lefebvre, 2007, p.12)

Hearing enables us to sense space, exist in time and engage with the flow of energy. Listening enables us to extrapolate from content towards meaning and orient ourselves in relation to both place and space. How then, should we conceptualize time in relation to listening and this enquiry? Rather than attempt to consider it as an abstract mathematical entity it is more useful, I believe, to observe time from the perspective of lived experience. This may usefully be approached via the contemplation of duration, memory, rhythm and an embodied practice such as walking.

Like Nancy, Bergson uses the static visual image as a starting point, this time for the consideration of duration. However, he observes that the image of an object changes continuously:

“The vision I now have of it differs from that which I have just had, even if only because the one is an instant older than the other. My memory is there, which conveys something of the past into the present. My mental state, as it advances on the road of time, is continuously swelling with the duration which it accumulates.” (Bergson, 1907/1912, p. 2)

Bergson suggests that change is the cornerstone of human existence and that the process of change resided in the continuous transition of mental states (e.g., merry – sad; work – leisure; focus – distraction), both internally, and from one state to another. Unceasing variation is the norm and the separateness of states is only an illusion created by the punctuating effects of, “the best illuminated point” (*ibid.*, p.3). Without this variance, the flow of personal duration would cease. Duration is an aspect of being, it is, “the continuous progress of the past which gnaws into the future and which swells as it advances. And as the past grows without ceasing, so also there is no limit to its preservation” (*ibid.*, p. 5).

Bergson (*ibid.*, p. 10) proposes that the whole of this past is preserved, automatically, in its entirety, in the unconscious. Memory itself is access; only that which “can give useful work” (*ibid.*) is admitted back past the threshold of the unconscious. The condensation of duration in the unconscious becomes personal history and this is presented to the world in various guises that may be identified as aspects of character, personality or demeanour. Patients suffering from amnesias or loss of memory often have problems in these areas. Duration is irreversible and cannot be erased; it is unique and individual. This is not to suggest that succession does not happen in the material world; Bergson (*ibid.*) observes that when the time inherent in process (his example, the melting of sugar in a glass of water) coincides with, “a certain portion of my own duration,” abstract time is converted into lived experience. When personal duration coincides with abstract time, time becomes absolute.

If Bergson were to conclude his theorizing at this point it would be possible to propose that duration resides entirely with the perceiver and not with objects, processes or events. Hence it would not be an aspect of a work, or the result of deliberate attention; duration would be a purely experiential, cumulative and human phenomena. However, he goes on to propose that duration may be attributed to systems and objects – if one is able to identify such parts as aspects of a greater whole. This aspect of a universal integration he observes as self evident, as a consequence of the fact that the universe endures. In consequence, he (*ibid.*, p.11) proposes that, “duration means invention, the creation of forms, the continual elaboration of the absolutely new.”

By assigning duration to systems and objects and allowing for the absorption of individuality into a form of universal framework, Bergson creates the model for his version of reality. However, it should be noted that Bergson’s viewpoint on the interconnectivity of all things is reflective of the intellectual trajectory I identify in section 5.7.7, which leads us back, via Schopenhauer, to ideas that first express themselves in classical antiquity. Equally, Kammerer’s ideas concerning causal interconnectivity emerge during a time when Bergson’s philosophical viewpoint represents a dominant paradigm. Any detailed assessment of the zeitgeist of early 20th century’s philosophical thought is beyond the requirements or scope of this thesis. However, it is not unreasonable to observe that this intellectual milieu emerges in the European context of an era still under the influence of Christian religious thought, one

that is also responding to developments in contemporary physics, and major industrial, social and geopolitical change. Hence, Bergson's proposed model might be seen as a manifestation of an underlying desire to escape the control of a purely transcendental order and embrace change – without entirely letting go of the idea of some form of organising principle. This observation does not render Bergson's position on the human-centred aspect of duration untenable, however it may partly account for both the intense support for the broader aspects of his philosophy at the time, and the subsequent assault on its tenets. As Stuart Elden notes in the introduction to *Rhythmanalysis* (2010: *x*) much of the work of Lefebvre and his compatriots in the 1920s was aimed at overthrowing the then dominant Bergsonian paradigm.

If I concentrate on the personal, experimental aspect of Bergsonian duration, how does this influence my consideration of hearing and listening? While I can choose to shut my eyes I cannot, without some form of intervention, shut my ears. I may fail to listen, but I continue to hear. Masking one sound with another does not isolate me from sound, it simply changes the sound and replaces one form of content with another. Even in the 'sound proof' environment of the anechoic chamber I cannot escape from sound – as Cage's awareness of the sound of his own nervous system and blood flow (see Pritchett, 1996, p. 75) illustrates. Hence, complete silence is impossible.

Whether awake or asleep, the mechanism of the ear is always actively engaged with sound waves – even if consciousness is not engaging directly with content. Jerry Northern and Marion Downs (2002, p. 131) note that the ear of the developing foetus can detect the frequencies of the mother's voice from the fourth month of gestation and, as time passes, a baby becomes aware of sound from beyond the womb. Brain-stem stroke survivors, who are completely paralyzed, remain connected to the outside world via their hearing (see Shawn Jennings, 2002, pp. 40-42). There is a growing body of research (see Pierre Morin and Gary Reiss, 2010, p. 127) that suggests that a significant proportion of coma patients also retain a level of auditory awareness and in exceptional cases auditory perception is heightened. It is a widely held belief that hearing is the last sense to cease functioning when someone dies (see Tim Brooks 2010, p. 226).

Hearing, then, might be considered a close analogue of duration – unlike the eye, which may rest, the ear is in a permanently receptive state for almost the entirety of the human

lifespan. It is, perhaps, the principle sense through which we assimilate time. This is not to suggest that the remaining senses do not play their part (otherwise a hearing impaired person would be adrift in time), measuring time in different ways. If hearing is durational, then we might suggest that the potential for interruption renders seeing an episodic recorder of time. Time may be sensed in the envelope of an odour and the rhythms, repetitions and extensions of tactile encounter. One of the benefits of multi-modality is that we cannot entirely lose track of our time, and thus we remain grounded in our own experience. Listening, be it in the unconscious, latent form (e.g., Barthes' alert listening or Truax's listening in readiness) or any one of the more developed listening practices is, as Nancy (2007, p. 7) observes, always an inclination towards meaning. Hence listening is synonymous with focus and might usefully be thought of as a direct analogue of meaning itself.

It should be noted that there has, in recent years, been something of a reappraisal of Bergson's philosophy. Firstly by Gilles Deleuze who assimilates his notions of difference (Deleuze, 1968/2004) and intuition (Mary Ann Gillies, 1996, p.44); and by Elizabeth Grosz who uses Bergson to underscore her own understanding of time.

Time splits into two trajectories, one virtual, the other actual. One which makes the present pass, and the other which preserves it in the past. One forms perception, the other memory; one opens onto anticipation and the unknowable future, the other onto reminiscence and the past. Time functions 'simultaneously' as present and the past of that present. The future, which has no existence in the present, is generated through the untimely reactivation of the virtuality of the past which has been unactualized in the present. (Grosz, 2005, p.3)

This schema represents both a contraction and a paraphrasing of many of the currents within Bergson's writing. Grosz's model of the future here confines itself to an actualization of Bergson's (1912, p. 6) notion of foreseeing, which takes place in the present, and the assimilation of a projective human capacity to effect change: "to foresee consists of projecting into the future what has been perceived in the past, or of imagining for a later time a new grouping, in a new order, of elements already perceived." Grosz does not appear to incorporate Bergson's observation concerning how that which has not been perceived cannot be foreseen. This includes our own passage through time because the transition from state-to-state, "concentrates in its own indivisibility all that has been perceived and what the present is adding to it besides" (*ibid.*, p. 7). In her assimilation of

Bergson, one that locates the present as the site of duration, Grosz is able to formulate a working relationship that identifies elements of both past and future as attributes of the present²².

If I consider her observations in relation to the in situ listening experience of monitoring field recordings during a site visit, I find many potential correlations. I live and act in the present. A past that no longer acts, but one that is recorded, is re-actualised in the present. No longer simply a recollection, it is a manifestation of sense-memory, which becomes a condition of the present – one that functions as the echo of duration. This trace mingles with the sound of the prevailing acoustic environment and, in becoming an aspect of the present, this auditory past gains a time-shifted orientation to the immediate future. All of this takes place within the theatre of listening where it places considerable demands upon aural perception and cognition as I struggle to engage with a continuity that is being disrupted. Unlike memory, which Grosz suggests has no special link to the body, the re-actualised, sensual aspect of duration – which the recording represents – becomes embodied as the sound waves re-engage with the ear once more. Sonic trace becomes contemporaneous lived experience and the formulation of the present is thus re-imagined. At the same time, the discontinuity between aspects of the sound and the image further nuances the experience.

Both the sensory experience and the symbolic order are further disrupted when the basic in situ monitoring experience of the field recordist is developed into the mediatised soundscape of the installation. Here, the internal relationships of a recent, linear auditory past, as represented by the unedited field recording, are shifted further away from their relationship to a present time. At the same time, editing and layering techniques disrupt the internal temporal and spatial relationships. This fragmented re-imagining of an

22“*The present is that which acts and lives, which functions to anticipate an immediate future in action. The present is a form of impending action. The past is that which no longer acts, although in a sense it lives a shadowy and fleeting existence; it still is, it is real. It’s reality is virtual, for it exerts its influence indirectly, only through its capacity to link to and thus to inform the present. The past remains accessible in the form of recollections, either as motor mechanisms in the form of habit-memory, or more accurately in the form of image memories. These memories are the condition of the present. Whereas the past in itself is powerless, if it can link to the present it is not purely in itself, self-contained; it straddles both past and present, requiring the past as its precondition, while being oriented towards the immediate future. Perception is a measure of our virtual action upon things. The present, as that which is oriented to both perception and action, is the threshold of their interaction, and thus the site of duration. The present consists of the consciousness I have of my body. Memory, the past, has no special link with or proximity to my body.*” (Grosz, 2005, p. 102)

auditory past mingles again with the prevailing soundscape. However, to the ear of the listener, it defies easy assimilation as an aspect of present time experience; it neither presents a coherent alternative time with which to syncopate or a reliable virtual past on which to base the imagined becoming of a future. It unfolds through a series of transitional states that reflect the underlying compositional method and the internal timelines of each sound file, but the overall chimera does not reference a single time frame. It is a multi-temporal acoustic environment that draws from the everyday and gestures towards it, but which deliberately lacks the grounding attribute of a continuous, linear first-person perspective. There are many brief narratives, but there is no overall narrative arc. It has an overall form that may be grasped for, but not acquired. As a result, the work can only ever exist as a sequence of transitions. Certain figures or phrases, for reasons of content, coincidence or affect, or because of their relationship to the quotidian environment, stand out from this sequence. These occurrences have their own time; they start and they end. Things happen; there is a story. Meaning may appear embedded or implied, notable sonic or temporal interactions take place – before the apparent internal logic of the soundscape is subverted by further incidence of discontinuity.

According to Lefebvre (1961/2008, p. 342), it is during such moments that we encounter the alternative to Bergson's continuum; the moment reinstates discontinuity. The moment is where past and future co-exist, where order and belief are challenged (see, Lefebvre, 2010, p. x). This is where he locates significance and the realisation of possibility. This moment seeks to endure but cannot and it is this tension between desire and failure (see Lefebvre 2008, p. 345) that I believe is played out in the work. If a figure, phrase or transition may be interpreted as an attempt to embody Lefebvre's concept of the moment, then here too perhaps the listener is drawn to seek a presence. It is this embodiment of presence that Andy Merrifield (2006, p. 29) suggests is signified by the Lefebvrian moment; it is "a fullness, alive and connected." Thus the moment is durable and it stands out from the continuum.

"All the content of moments comes from everyday life and yet every moment emerges from the everyday life in which it gathers its material or the material it needs. The originality of the moment comes partly – and only partly – from its circumstantial content. Rather than tearing it, it weaves itself into the fabric of the everyday and transforms it (partially and 'momentarily', like art, like the figure in a carpet). In this way it uses something it is not: something happening close by, something contingent and accidental" (Lefebvre, 2008, p. 346)

It is my belief that my installation succeeds in partially disrupting, or at last challenging, the participant's experience of linear time and spatial relationships. This creates a greater focus on the moment and the specifics of content. If I consider this belief in relation to the interplay between duration and the 'spatialised' moment discussed above, then the reported incidence of disorientation, uncanny sensations and coincidence, may be seen as evidence that the installation has the ability to engage with the temporal, as well as the spatial, dimension of experience.

Conclusion

As an artist engaged with a practice as research enquiry, one rooted in, and informed by, the underlying framework of autoethnographic method I have been deeply engaged in the investigating of my own subjectivity. In order to deliver an insightful analysis a rigorously underpinning of the critique has been required whereby, my voice, as the practitioner, may function effectively to evidence the claims that I believe represent a contribution to knowledge. This I have done in a number of ways, and it is the particularity of my approach that gives this enquiry its distinctive character.

I have formulated and mobilises creative writing elements, such as journals and sound diaries, and used the reflective consideration of these resources to anatomise my installation practice and inform the development and delivery of twelve site-specific installations. These creative writing entries have allowed me to pursue certain autobiographical possibilities, and here I make a methodological claim: this reflective consideration of sound diaries and installation practice is pulled out and made as a series of evidential statements. In order to make the best of this unique primary material I have provided the dates and times for journal entries so as to draw this aspect of the research together as an indicative cluster. I quote extensively from these resources in chapters 5 and 6 and in order to maintain clarity and differentiate between my roles as the embedded speaker in diary entries and as the overall author of the thesis I have created separate formatting and layout conventions for these distinct 'voices'. During the course of the investigation I also invigilated installations in order to administer participant questionnaires and recorded interviews and comments. Extracts from these resources, again, accompanied by dates and times, are used extensively in chapter 5 to support and challenge my own observations and the assertions proposed by a wide-ranging and inclusive review of theoretical materials.

In terms of my contribution to knowledge I would also like to highlight my consideration of sonic experience in relation to my conceptualisation of in situ listening. During the early part of my research I was looking for a way to sum up my experience of hearing environmental sound recordings at the location where they were made. This is where the term in situ listening emerged. It was useful as a shorthand way to group my personal experiences with those of a cohort of practitioners including Noll, Schacher, Maeder, Huijsman, Simpson and Cusack. I spent a lot of time trying to come up with alternative

terms, but returned back to in situ listening eventually as the one that sat best for me as being the easiest way of expressing and qualifying what I was attempting to look at and how the experience physically and emotionally impacted on the listener. My initial experience was not so different from that of Cardiff in Banff in 1991 when she heard her own recorded voice and footsteps in a cemetery. However, it was the narrativization of the location that captivated her attention. For me, it was the re-enactment of my own tracing of the space in sound as a disembodied journey that attracted my attention. As the research progressed I was also able to identify the frisson created by temporal layering and the role of discontinuity as particular mechanisms that created a sudden break in emersion leading to disorientation and the awareness of coincidence and uncanny sensations. The exploration and contextualisation of these issues can also be found in chapter 5 and 6 of this thesis.

In essence, in situ listening is a framework that allows me to address my own listening practice - initially as a field recordist, then as a listener and then as someone who is considering mediating the sound and presenting it. This, I believe is a unique approach, one that represents an appropriate frame for my research and a contribution to the field of enquiry.

I also assert that the work that accompanies this thesis, both its development and delivery, as a distinct contribution to knowledge itself. Chapter 4 documents the initial development phase which, born out of the listening practice evidenced in chapter 3, outlines my compositional approach to working with environmental sound recordings and the development of bespoke software for the enquiry.

As well as document the arc of the research that engages with my contribution to knowledge, the question arises as to what I, as the practitioner and the researcher, have personally learned as a consequence of undertaking this programme of research. This is not such an easy question to answer. As Schön points out in relation to tacit knowledge (2011, p. 49), knowing what we know is not always obvious; the knowledge we have acquired incrementally manifests itself through action in ways that become spontaneous, intuitive performances. However, it is as a result of working back into these unconscious structures through an interrogative process of reflection-in-action that we break away from delivering routinized and predictable outcomes and learn to deal with situations of,

“uncertainty, instability, uniqueness, and value conflict, (*ibid.*, p.50). This is central to the ‘art’ of the practitioner. One aspect of the research process I document in chapters 5 and 6 is the realisation that the development of long-term subjective processes are driven by moments of insight and that the effect of these is cumulative. While insights cannot be presented as objective truths, they none-the-less underpin my process and contribute to the development of work and the application of method. In essence, they are conclusions I draw from my own, emergent, listening practice that I come to as a consequence of undertaking the research, and they are there to be ‘read’ from the text. They also have the potential to resonate with the experience of others and therefore represent a contribution. The key insights embedded in the documentation of the different installations are presented below in the journal form in which they were extracted. Page numbers in the thesis are provided in brackets.

(01/04/2015. 12.21pm) **Leicester.** *Where people operate technology or machines the acoustic signature displays a rhythm that has a human characteristic that reflects individualism (77). Foot traffic reveals a narrative of surfaces and can provide information about gender age and disposition. Rain in the urban environment reveals the acoustical aspect of surfaces and material. Utterance content helps to spatialize place, both in terms of the way it functions as an impulse archetype and in the way it may be read as a text to reveal function and use. Contemporary architecture, when experience from within, is often less porous to sound (79) than similar buildings of previous eras – spaces become more internalised and focussed; there is less of a connection to the world beyond. The mechanisation of entries and exits creates a more defined sense of transition between inside and outside.*

Whitstable 2010

Vehicle noise in the urban environment is one of the key factors that limits the directional sense of sound (84). In a low noise environment such as this sounds are highly directional. The coastal leisure environment is redolent with rhythms that have a defining role: The sea, foot traffic. The quieter sound environment allows more community sounds to come to the fore. There is a greater variety of utterance content – children and old people especially. Localised soundscapes (85) emerge gradually as one moves through areas where the built environment doesn’t contain the sound and there is less ambient noise. There is a greater sense of the journey rather than the

more episodic transitions of the urban. Sound also departs more gradually. Clarity in the sound environment leads to an enhanced sense of background and foreground awareness). Local residents are far more likely to be aware of specific sound signals that repeat and be attached to particular sound marks. The interaction between music and voices in the soundscape can create a sense of drama. Music can define episodes, so too can the boundaries created by silence. Relative silence (quite episodes) allow a more naturalistic sense of transition to emerge in situations where sound is layered – this applies to the installation sound but also when moving from one sound environment to another (indoor/outdoor etc) as there are less obvious incidents of the hard cuts and juxtapositions. Motion events are also more noticeable in quieter environments so there is a greater sense of the dynamic narrative. The greater the variety and content of utterance (90), the more overall emotional depth the work reveals. Juxtaposing content activates different internal mechanism in the same way that listening to content engages with stored memory to inform meaning: it can increase the appearance of danger (traffic sounds and children’s voices) or enhance the comedic. Reoccurring sound events can have a similar effect to punctuation. They also reinforce apparent subtexts or messages.

Wolverhampton

Hearing outdoor environmental field recordings in the acousmatic situation creates a very different listening experience to that of being with the recordings in an open-air environment – even if this is quite different from the arena of the original recording (91). Overlaying one environmental recording with another can be extremely disorienting as it interferes with the spatial cues that enable one to negotiate the physical attributes of the place one is in.

Bournemouth

In quieter environments, detail is revealed by extended or durational listening (94). Things happen, it is the periodicity that is affected. The quietness of a built environment may be a reflection of containment and access limitations. Sounds are actually present, but off in the distance. A density of building means that you often do not see the source of a sound, so there is a greater degree of disassociation. In quieter environments the search for sound content takes one towards the incidence of the micro rather than the macro – small events that generate sonic outputs. In a quiet

environment where there are many hard surfaces one's own progress becomes a principle source of information about the environment. Footsteps on different surfaces and sound reflections convey knowledge. From this point of bodily awareness the move to intervention is a relatively minor step. Surface and fixtures become the unintentional instruments of sound design – when they are activated by the passage of people. In an inactivated form these sounds remain potentials – and therefore latent in the environment. In terms of installation practice the interaction between the work and the prevailing soundscape appears more evident in the quieter environments. There are more observations concerning coincidence for example (97). Overlaying one environmental recording on another it is the miss-matched spaitailasation that people notice first – not the difference in content (98). The more different the environments are the more the degree of dislocation is felt. Hence masking an urban environment with another urban environment feels less confusing than mixing urban and rural soundscapes for example.

New Cross

A playing field is a unique acoustic environment in as much as it is constituted as a void - into which everything - activity from near of far must be introduced (100). Resonance from within structures reveals a set of sound spaces that are nested within the overall situation of the soundscape. They are not always apparent, but become activated under certain conditions, such as impacts (101). Reverberation operates in the environment as one expression of time – a time that equates to distances and boundaries. It also provides a medium through which motion events become situated in relation to place. There is a relationship between large-scale motions and human gesture that is not always apparent – yet the two are often related and the former often represents an amplification of the latter. In a field, sound arrives from a distance and often presents the appearance of representing aerial events. Sound is also more likely to be affected by wind and this impacts on directionality. Sound becomes very uniform and flat as a consequence that all sound is travelling a considerable distance to the point of reception. There is also a greater sense of ebb and flow. The soundscape of interior spaces can become dominated by single sounds such as a coffee machine or electrical interference. This can create a sense of alienation if one's purpose is other than engaging with the dominant environmental sound cues. Solutions and practices

that encourage people to stay focussed on sound in the moment appear to have a calming effect on overall mood.

Corfu

A 'Mediterranean' urban soundscape often contains a greater incidence of insect sound. This can both mask some sound signals and aid in the characteristic spaitialisation of a location (106). Bird sounds (in Corfu especially the swallows) play a key role in signalling time of day. The emergence of cicadas indicates both nightfall and season. The sound containment created by architecture that has a military role can be very intense - due the mass, very little sound transits from one zone to another (106).

Climate promotes outdoor community activity so there is less the sense of division between interior and exterior sounds. Small streets between high buildings create a very particular form of containment that is quite reverberant. Sound is channelled through these conduits and there are strong directional flows at intersections. Localised sound tends to be amplified so there can be a strong sense of transition as one moves though the environment. The soundscape can appear quite episodic. However, due to the repeat nature of the provision (shops, cafes etc) there is a good deal of iteration. Not knowing a language creates a specific form of reduced listening where one is more aware of the musicality of a language. In the Mediterranean urban environment the presence of open windows allows much more of the internal life to play a part in the overall soundscape. Hence the presence of transphonic sound from broadcasts plays a major role in the overall sound environment. From the feedback to the installation comes the intriguing notion that shared electroacoustic listening experiences, which are not connected to musical materials, also choreography participants (111).

West Bay

Industrial sound (like a harbour) is a very potent ingredient in spatialising place in relation to function. The purposefulness of human intent is part of the impact (143). The relatively intense nature of elemental forces in the coastal environment creates a very specific character. This can relate to both the rhythmic cycles of the elements themselves or the interaction of quite intense planetary forces with materials and

forms – such as generating tones, the banging of structures or rustling materials (145). The cycles of activity are also easier to observe in an environment where there are dominant sound signals and keynote sounds. The aggregated sound of the harbour tells one that the business day is in progress. Relative calm extends us into different times of day. If the environment is relatively free from noise, the emergence of lower level sound signals can also tell much – such as the clinking of glasses outside a pub. This leads to an enhanced awareness of time passing (146). High levels of noise do not create a bigger soundscape; scale seems to expand at quieter times when distant sounds can be heard more easily. Shared listening makes the awareness of the role of hearing more apparent; the response of a group of people to a sound cue makes it stand out (146).

Brighton

Where listening is less focussed on orientation, coping and spatial issues there is a heightened focus on content. Human utterance becomes a primary subject rather than a minor element and humour and mood become key players. There seems to be an inevitable drift towards the acousmatic (150).

Kingcombe

The absence of continuous mechanical sounds creates a very open listening experience (152). Nature provides a background tonality that helps situate the listener. Sounds from both great distance and close up are audible – this increases the sense of scale almost to the point of sensing a magnitude beyond human scale – in which our part becomes embarrassing small. Again there is a sense of slow transition from one soundscape zone to another rather than the hard cut aesthetic of the urban. The absence of voices in the contemporary campestral gives the impression that the landscape has been deserted. Hence there is a sense of absence embedded in the engagement. The presence of hedgerows that obscure sight lines makes listening a more important sense. Sound from beyond reaches the ear and is generally the only indication of what is going on (155). One takes a walking journey therefore partly in the imagination. The sound of surfaces as you move over them provides a lot of information about the terrain being encountered. Grass, mud and tarmac all have very different sonic properties. The nature of enclosure marks one's passage in terms of definite sound signals – gates, stiles etc. While bird song is a present sonic aspect in

many locations it is only in the rural or county environment that we really get to encounter the sounds of their passage through the air – beating wings, resistance etc. This adds a sense of height extension to the soundscape, again locating the immediate human perspective in the framework of a larger space. The introduction of transphonic sounds in the form of the playback of the prevailing soundscape in a rural, low-noise setting creates a more ambiguous experience that is less obvious and therefore a little mysterious (156), especially when contrasted with the more immediate assault of cut and juxtaposed audio in the urban; things are not changing so radically (156). There seems to be a greater awareness of the uncanny sensations - perhaps partly due to the ambiguity about what one is actually hearing. The presence of sounds from behind seems to have more of an impact. Perhaps there is a kind of animal empathy that aligns to the possibility of danger (156)?

Whitstable 2012

The use of hydrophone, coil mics and contact mics reveals a new set of sound worlds that can help inform our understanding and awareness of the environment.

Underwater recording in particular reveal new soundscapes that are not as dissociated from airborne soundscapes as one might expect (159). Coil mics sonify a set of signals that we do not hear, but which flow around us. These electronic sounds however, because they are mostly unfamiliar, connect to a more intellectual aspect of listening and an agenda opens up around the notion of hidden sounds. This also leads towards musical aesthetics (159).

Chatham

As with West Bay harbour the use of the space here sets the location's character and helps to give me a sense of scale (162). However there is a greater sense of containment due to the isolated location. The absence of traffic noise makes all the other sound signals appear distinctly directional. The presence of elements of sound design (in the soundscape) has the effect of creating a narrative overlay. In time this ceases to be the object of attention. It also creates a different form of temporal syncopation which is quite intentional as it attempts to locate the visitor in another, usually, historic, relation to the site. It proposes sound as a means of time travel that opens one to an awareness of past events.

For me, these observations represent the future of research in a way that is far more visceral than the seeking and citing of expert voices. They represent aspects of what I have learned. How I mobilise them is part of the challenge of future research.

I am interested in developing new forms of sound work in order to further explore the relationship between sound and site. It is my observation that locative media technology has reached a level of functionality where it is possible to structure subtle interventions with place. New work could build upon approaches pioneered by artists such as Duncan Speakman, Blast Theory, Micha Cárdenas, Bill Psarras, Simon Poulter and Sophie Mellor. To this end, I am in the process of developing new work with the visual artist Bettina Furnee, in relation to the Woodside Link road construction site in Houghton Regis, Bedfordshire. This project, a commission from Central Bedfordshire Council, extends my practice into new, collaborative territories and embraces a much deeper level of on-going community engagement.

This enquiry has also proposed a number of areas where there is ample scope for further academic research. Exploring the relationship between Freud's notion of the uncanny and the Lacanian *extimité* has opened up the potential for investigating a possible relationship between these concepts and ideas concerning beauty and the sublime. This would need to be contextualised in relation to the work of philosophers such as Kant, Schopenhauer and Georg Hegel and a review of the contemporary positions of Žižek and Mario Costa, especially in relation to digital technologies. The interplay between coincidence, synchronicity and the uncanny might also be reframed in relations to Deleuzian notions of difference and repetition, and explored from the position of intuition as method. This exegesis could subsequently be applied to extend the discussion of time and temporal syncopation I have been pursuing in this thesis.

Following Norman's comments about my installation at the WFAE conference in Corfu, concerning its choreographic effect on participants, I have become intrigued by the ways in which environments and technologies influence spatial practices such as architecture, design and performance. I believe there is considerable work that could still be done to interrogate how shared listening experiences synchronise and influence populations. This might encompass further studies of urbanism (Le Corbusier, Agouyard, Dabord), movement (Rudolf Laban, Merce Cunningham, Michael Clarke, Lea Anderson) and the

work of artists such as Andy Warhol, Charles Atlas, Leigh Bowery, Shaun Caton, Brown Sierra (Paddy Collins and Pia Gambardella) and Atau Tanaka. I believe such an enquiry could successfully engage sound installation, performance and choreography within its framework.

On a final note I am drawn back into the fabric of my journals. Shortly before the Bournemouth installation, outside the framework of event documentation, but well within the on-going experiential framework, I made the following observations. Over the course of this enquiry I have filled five A4 notebooks with personal thoughts and observations similar to these. Much is about sonic experience but, inevitably, process bleeds through fissures and coalesces in the endless void of the imagination. I am not done mining this material. And while the exact research destination remains an undifferentiated potential, there is a self-actualising pathway that begins with first steps: trust, reflect, then question.

(12/08/2010. 4.25 pm) Taking my perception for a walk – this is something I just did. I cannot hear my noise in the thrum of the traffic – the urban everyday. I move quietly. I do not have jangly keys, hard-healed shoes, friends to be in conversation with, or a desire to sing or whistle. The sound around me envelops my sound leaving only the thoughts and movements. And the texts embedded into the environment shout through my eyes and into my inner ear: FISH AND CHIPS, NAIL SALON, BICYCLE REPAIRS... what would happen if I made more sound? On the side street my sound becomes more audible, but to a degree this feels exposing. I can be heard and therefore can attract attention – the potential for communication, but also danger.

Consciousness as a membrane – stretched tightly across the field of perceptual possibility. It is produced by the potential – a cumulative organ of experience. If I possessed other senses they would inform a different story. Like any surface the membrane has a tension. As with water when drips fall there is a rippling and a transmission across and into the medium. Like any fabric it has a memory; the dips and peaks of impacts, the knots of repetition, forgotten areas, redundant, dusty dry expanses and fresh horizons waiting to be inscribed. And all of this takes place in a permanent, perceptual now. Everything is simultaneous, all expressions – here is experience. Nothing more is required.

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Appendix A.

Other works

During the course of my enquiry I focussed on site-specific installation as a means of advancing and addressing research questions. However, I also took part in two gallery shows, producing work based on my field recordings and the mediated outputs created during the installation process. These works were created as a counter balance to the processes of active site-specificity and as a means to create an externalised listening position from which to ‘listen back’ into the materials and the experience of location-based relationships. They also allowed me to consider the nature of mediatisation and the transphonic process from another perspective. While their execution came to inform my overall process, they were essentially conducted as self-contained sub-projects.

As a result, I have appended the documentation of these events rather than include it in the body of this thesis. While I believe the material here is relevant and interesting, its assimilation is not essential to the flow of the primary research.

Sound Proof 5, Carter Presents



Photographs: Brian Reed

The first gallery installation took place as part of *Sound Proof 5* at Carter Presents in Bethnal Green, London. My objective was a further interrogation of the relationship between sound and site. However, rather than embed the work entirely within its environmental context or fully separate the soundscape from a location, I decided to experiment with the staging of a familiar listening experience: hearing sound from outside via an open window. This struck me as an appropriate frame for environmental

sound – one that might encourage people to listen in an open and engaged way rather than adopt the more detached perspective associated with the experience of listening to sound work in a gallery. The work was inspired by a particular quote from Marcel Proust²³.

A self-contained environment was built for the delivery of the work: a room was constructed inside the gallery and a false window installed. This was curtained and artificially lit to simulate daylight beyond. Edited versions of the installation sound from Leicester, Bournemouth, Corfu Old Town, Goldsmiths, Kingcombe and West Bay were defused into the space from behind the curtain. After listening to the programme for some considerable time I decided to remove the Corfu recordings. All the other soundscapes felt like they might, conceivably, represent the auditory aspect of a scene beyond the window. The Greek recordings however appeared to strain this illusion too far. As a result I felt that the ‘listening contract’ I was trying to establish with the audience might break down and, in consequence, the experience might become more stereotypically acousmatic.

On a quiet afternoon the work successfully mimicked the transmission of environmental sound from outside into a room. It was hard for me to experience the work as it was intended because I was aware of the artifice, however I felt that, objectively, the quality of both the sound and setting was such that the scenario might be believable for someone unaware of the underlying production method. The work was less effective if the gallery was busy (the enclosure was not especially sound proof) as it became necessary to lift the volume of the work to make it audible, and this broke the illusion. As a result, it was difficult to engage with people about their experience at the open view. Subsequently I had reports that people found the work quite relaxing and enjoyed being in the space I

23 “On certain fine days the weather was so cold, one was in such full communication with the street that it seemed as though a breach had been made in the outer walls of the house, and, whenever a tramcar passed, the sound of its bell throbbed like that of a silver knife striking a wall of glass. But it was most of all in myself that I heard, with intoxication, a new sound rendered by the hidden violin. Its strings are tightened or relaxed by mere changes of temperature, of light, in the world outside. In our person, an instrument which the uniformity of habit has rendered silent, song is born of these digressions, these variations, the source of all music: the change of climate on certain days makes us pass at once from one note to another. We recapture the forgotten air the mathematical inevitability of which we might have deduced, and which for the first few moments we sing without recognising it. By themselves these modifications (which, albeit coming from without, were internal) refashioned for me the world outside. Communicating doors, long barred, opened themselves in my brain. The life of certain towns, the gaiety of certain expeditions resumed their place in my consciousness. All athrob in harmony with the vibrating string, I would have sacrificed my dull life in the past, and all my life to come, erased with the india-rubber of habit, for one of these special, unique moments.” (Proust, 1999, pp. 23-24)

had created. Several reported that the sound element served to make the relatively cramped space of the installation seem much larger due to the extension beyond the space it seemed to create.

This gallery show also afforded an interesting opportunity to reveal another aspect of the overall work. While the principle function of the Max/MSP patch was to create a continuously evolving soundscape montage, the fact that this was achieved using a cyclic text-score function meant that a short form of the work could be generated by a single iteration of the score. As this was triggered by the words in the spoken text the generated soundscape functioned as a synchronized accompaniment to this spoken word. As an exploration of the narrative or poetic potential of the work was outside the scope of my enquiry, it was not something I needed to explore in depth. However, it felt appropriate to create an opportunity to personally encounter this aspect of the work and to gesture towards this future potential.

Producing the work was fairly straightforward. Although the actual audio recording of the score was not embedded in the Max/MSP patch it was simply a case of taking the recording used to establish timing and synchronising this with the output of the patch. I produced a number of versions and burned these to CD. I also recorded short versions without the spoken score to create comparison. These recordings were loaded into media players located behind the false wall of the enclosure and people could listen, outside the enclosure, using headphones – see picture at the top of his section.

The experiment with the short narrative works was interesting. I felt it served to reveal a hidden mechanism at play within the site-specific installation work and staging the exercise in public felt appropriate for the sake of completeness. The interplay between the different elements was apparent and, to a degree, I was reminded of the interaction between words and sonic elements encountered in John Cage's Work *Roaratorio*. There was no real opportunity to gather critical feedback about these works during the course of the show, but their inclusion made me feel there was a potential for future artwork and research.

SHO-ZYG/SPR Showcase, St. James Hatcham Church

As a final engagement with the installation sound materials I decided to produce a multichannel soundscape composition using material recorded for the West Bay installation. I chose this particular set of audio files because I was particularly happy with the range and variety of recorded material, and the underlying sound quality. This was both an artistic experiment designed to approach existing materials from a different perspective and an opportunity to present a research installation in a spatialised multichannel format. The 8-channel work was constructed in Pro Tools. In line with my general compositional aesthetic I avoided any significant level of sound manipulation and concentrated on layering and juxtaposing content and context. Due to the many sounds that were created by wind I was able to use this element as a thematic in the work to explore motion, and sound was allowed to move around the array quite freely. The multichannel format was especially good for this; I feel the work successfully recreated the sensation of listening to sound that appeared to change direction in relation to the wind.

The work, under the title *Memories of Place*, was installed at St. James Hatcham Church in New Cross as part of the SHO-ZYG/SPR Showcase event associated with the Goldsmiths/UKISC Symposium in September 2012. As part of a rolling programme of curated works it felt to me like a successful composition exercise, and I received some positive comments. Possibly the main benefit of producing the work was the intense focus on individual sounds and atmospheres it required. Hence, I feel the work was as much a listening exercise as a compositional one.

For the same show I also created an edited version of the 2-track Max/MPS output from the second Whitstable Biennale installation and spatialised it for 8-channel diffusion. I chose this particular output as the content generated by hydrophones, contact and coil microphones offered more tonal colour and many sounds that did not have an obvious origin. Hence, the output had a more composed, musical aesthetic. I was interested to see how people would respond to the software-generated soundscape if it were presented away from its environmental context. In order to differentiate this edit from other installation recordings it was entitled *Inside Out/Outside In*.

I found the experience of listening to the work interesting. In the studio I had been pleased with the basic spatialisation created using the ERCAM SPAT plugin within Pro Tool. However, in the diffusion environment I found that the work did not interact well with the room acoustics. Rather than create an enhanced sense of sound separation, the work seemed more closed in and contained. It was only at the very centre of the circular 8-speaker array that the effect I was aiming to create felt believable. I feel the effect might have been quite different had it been possible to rearrange the speaker setup, but this was not possible. Alternatively, I reasoned that I would have to develop the Max/MSP patch to have multiple output capability or multitrack and edit individual tracks. While both approaches were possible, the experiment was not a core necessity for the research, so I decided to leave further compositional experiments for a later date.

Appendix B

Portfolio of work (on USB flash drive)

Programme notes

The material presented here is divided into two sections:

- **Installations**

This archive contains the Max/MSP patches and original sound files for each of the ten installations that generated new work (the Wolverhampton installation used pre-existing work, and the UKISC Symposium installation in 2012 was a re-presentation of the same installation first presented at Goldsmiths in 2011). Each event folder contains a sub folder designated 'fixed media output' which contains a stereo recording of the audio. Each of these was produced by recording an hour of the Max/MSP output direct to Pro Tools. A representative section of roughly 20 minutes was then chosen (the length of each varies slightly as I deliberately took advantage of natural gaps in the audio to start and end the extracts). Please note, there are silent passages in the works. These gaps range from a few seconds to about a minute, and were part of the mechanism by which the work interacted with the prevailing soundscape by allowing space for the latter to bleed into the work. Similarly there are some very quiet passages where the recording and

quotidian soundscape could intermingle. This work is designed for in situ listening using headphones. The best way to experience the work, other than to visit the original location to listen, is to take headphones and a mobile media player into a quiet, neutral open air space. When the work is experienced in the studio environment headphone listening remains preferable due to the amount of binaural content.

While I have provided 20 minutes of sound for each installation, listening duration is a matter of personal choice. While invigilating installations I noted that people tended to stay with the work for between 5 and 15 minutes, hence I have provided enough content to support this range of engagement. In its original form there is no set beginning or end to the work and, while fixed by necessity, these recordings should be considered as an embodiment of the same form of fluidity.

- **Other works**

This archive contains two files:

Carter Presents – here you will find a series of sound edits based on the Max/MSP output for the different installations. These are between five and six minutes in length and were diffused into the installation space (see Appendix A). A series of short, single iterations of the score are also provided, both with and without a verbal realisation of the underlying text.

SHO ZYG – this contains two files, *Inside Out*, *Outside In* and *Memories of Place*. Each contains eight separate audio files. These are synchronous audio files and may be loaded into any audio system capable of supporting 8-channel diffusion. Speaker output for each is indicated 1-8, with 1 being the left hand speaker directly in front of the listening position, with numbers increasing in a clockwise fashion around the array.