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Wing S. Tsang
Edith Cowan University

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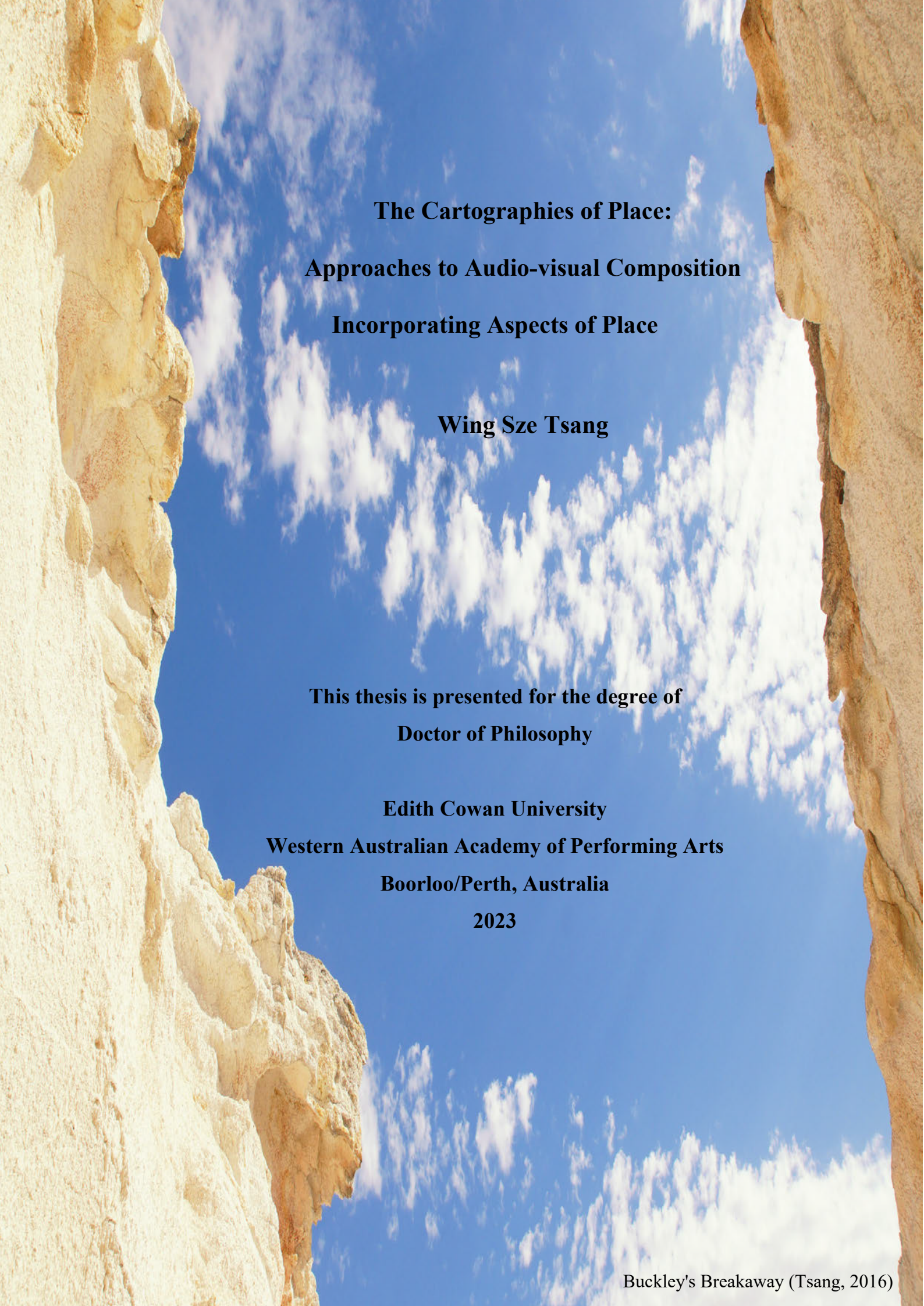


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**The Cartographies of Place:
Approaches to Audio-visual Composition
Incorporating Aspects of Place**

Wing Sze Tsang

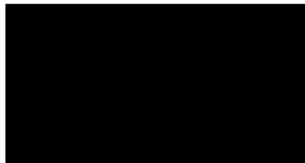
**This thesis is presented for the degree of
Doctor of Philosophy**

**Edith Cowan University
Western Australian Academy of Performing Arts
Boorloo/Perth, Australia
2023**

Declaration

I certify that this thesis does not, to the best of my knowledge and belief:

1. incorporate without acknowledgement any material previously submitted for a degree or diploma in any institution of higher education;
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Signed: Wing Sze Tsang

Date: 1st August 2023

Abstract

Incorporating aural and visual elements of a place in a composition serves as a powerful way of exploring the intersection of time, history and geography associated with a location. The combination of these elements acts as an invitation for deeper engagement by offering multiple perspectives of place. One way of exploring these intersections is through incorporating aspects of place—in the form of field recordings, field footage and cartographical information—into audio and audio-visual work, where spatial and physical information can be situated as a way of representing an individual's surroundings and subjective realities of place. This practice-led exegesis aims to explore how sound and visual elements can combine and resonate with each other, and how such a practice can highlight the connections between artist and place. As part of this exploration, this exegesis discusses a portfolio of works (submitted as part of the examinable thesis) highlighting the connections between artist, history and place, and how these aspects can inform the creation of new work. Methods explored include framing personal and sono-environmental reflections in terms of looking inwards (as a reflection on the self) and looking outwards (as a reflection on the history, cultural significance and geospatial features of place), composition with original and modified field recordings, sonification of maps using graphical sequencing software, and the creation of audio-visual works that additionally combine field footage and music visualisation. These methods for composition provide a powerful way of highlighting personal associations, emotional catharsis and memories of place, by centring personal experience. Through these methods, this exegesis seeks to demonstrate a number of strategies to show how the ephemerality of sound reflects the ephemerality of being, and the fragility inherent in any relationship with place.

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Preface

This exegesis was originally submitted for examination as an interactive document. In this version of the exegesis, the embedded media has been removed and replaced with either screenshots (video) or links to work (audio) to facilitate ease of access. Please refer to Appendix B for direct links to all mentioned works.

Chapter 1: Introduction—Practice in Place

This exegesis centres on practice-led research and investigates how incorporating elements of landscape—field recordings, field footage and cartographical information—can be used to explore experiences of place. Incorporating aural and visual elements of a place in a composition serves as a powerful way of exploring the intersection of time, history and geography associated with a location. The combination of these elements acts as an invitation for deeper engagement by offering multiple perspectives of place. One way of exploring these intersections is through incorporating aspects of place—in the form of field recordings, field footage and cartographical information—into audio and audio-visual work, where spatial and physical information can be situated as a way of representing an individual’s surroundings and their subjective reality of place. This practice-led exegesis aims to explore how sound and visual elements can combine and resonate with each other, and how such a practice can highlight the connections between artist and place. As part of this exploration, this exegesis discusses a portfolio of works (submitted as part of the examinable thesis) highlighting the connections between artist, history and place, and how these aspects can inform the creation of new work. Methods explored include framing personal and sono-environmental reflections in terms of looking inwards (as a reflection on the self) and looking outwards (as a reflection on the history, cultural significance and geospatial features of place), composition of pieces using a combination of original and modified field recordings, sonification of maps using graphical sequencing software, and the creation of audio-visual works that additionally combine field footage and music visualisation. These methods for composition provides a powerful way of highlighting personal associations, emotional catharsis and memories of place, by

centring personal experience. Through these methods, this exegesis seeks to demonstrate a number of strategies to show how the ephemerality of sound reflects the ephemerality of being, and the fragility inherent in any relationship with place.

The origins of this project draw from my fascination with combining the visual and aural, where both aspects are interwoven and influence the process of creating new work. I was drawn to cross-disciplinary practice as it encompasses practices that combine two or more disciplines (Global Arts and Humanities, n.d.), allowing for more integrative methodological approaches that combine theoretical frameworks from different disciplines. During my degree in cross-disciplinary art and design at the University of New South Wales, I began to explore the idea of integrating photographs with music, using photographs as an audio source, and exploring how they could be combined to create multimodal and immersive experiences of place. My practice is now largely cross-disciplinary, drawing from both music and photography, and partly from a long-held interest in landscape.

Working as a photographer for various local events in Perth, I quickly progressed to photographing major festivals for various music publications such as the *Big Day Out*, *West Coast Blues and Roots*, *Laneway*, *Parklife*, *One Movement* and *Southbound*. Live events provide an invaluable training ground for quick photographic reflex skills as one must be constantly vigilant to find the best angles, lighting and positioning for a photograph, and immediately responsive to a situation. Running parallel with my photographic practice was music. I began performing live as a guitarist for a progressive metal band. As it was a two-piece band, there was enough space for me to manipulate my sound and explore sonic textures with guitar pedals (distortion, flange, phaser, delay, chorus and wah-wah). I also began experimenting with making electronic music with digital audio workstation (DAW)

software FL Studio, which represented my first foray into the world of electronic and electroacoustic music, and virtual studio technology (VST).

As my practice developed, I became interested in incorporating the physical aspects of a landscape into sound art as a way of engaging with the environment. I strongly identified with ideas exploring the interplay between sound and aspects of the physical landscape, and using such aspects as a way of generating sound by viewing these physical elements as additional instruments. The wonderful aspect of both photography and music is their ability to invoke immediate and visceral emotions. A photograph can instantly capture a moment in time, whereas music is animated and fluid in its expression of emotions through time. When audio and visual elements are combined, this can become a potent vehicle to engage audiences.

1.1 Context and Background

I use environmental sound and language as my instruments. I want to find the “voices” of a place or situation, voices that can speak most powerfully about a place/situation and about our experience in and with it.

(Westerkamp, 1985, p. 8)

As an artist who derives the source material for their work from ‘place’, I found the above quotation immediately resonated for me. First, Hildegard Westerkamp speaks of *instruments* and ‘voices’ derived from a place—both environmental sound (field recordings) and environmental language. ‘Place’, as noted by John Agnew (2011), incorporates the physicality of place, as well as its relationships to its surrounding areas, and the interactions between people and place. Sound is a powerful medium for artists to reflect upon their impressions of a place—the history, the geography and their own emotive responses. Sound can also be the conduit for mediating knowledge and imagination, where concepts of landscape,

place and meaning are situated together. The contours and resonances of the land can be captured and expressed through field recordings; for example, the rushing cascade of water onto rocks, wind through trees and animal sounds highlighting the land's inhabitants. My own *instruments* are not only field recordings, but involve exploring a variety of aural, visual and spatial aspects of place, through field images and the sonification of image and geospatial data.

This practice-led exegesis examines ways of expressing the relationship between self and place through the creation of digital audio-visual works. My work is based on the experience of walking through and being within place: before in place, being in place and after in place. I discuss the concept of 'place' below. It is enough to say here that I have often found that being in place is a visceral experience, where histories and memories collide, and where my own memories and personal history are engaged in dialogue with place. On a conceptual level, I have been interested in combining reflections on my personal experiences with place in the creation of multi-layered work, to reflect upon multiple narratives of place. In my audio-visual creative works, there is a blurring of boundaries between different temporalities and narratives. I believe this compositional approach offers a holistic view of a place and valuable insight into the internal processes behind the work.

Prior to this research, there was a time when my artistic practice focussed almost exclusively on photography. After a period of immersion in photography, I became keen to incorporate my musical background into my work. After five years, I moved from live music photography to landscape photography, where I found those skills acquired as a live music photographer equally valuable for documenting place. Most importantly, in both spheres I learnt to adapt to the environment, have an awareness of my surroundings and find the best ways to compose and frame my

photographs to create a sense of narrative. As a live music photographer, I was used to standing for long periods—sometimes even running from set to set to capture as many performances as possible. As a landscape photographer, I found myself doing much the same. As a live music photographer, sometimes I would contort my body to reach around monitors and the corners of the stage for a shot. As a landscape photographer, I found myself contorting around trees and rocks.

My movement towards landscape photography was also inspired by how a photograph could also be used as a form of internal dialogue between artist and place during the creation of new work. I was particularly struck by the richness of narratives that accompany a place. From that starting point, I sought methods of sharing my reflections with audiences. This approach to photography is reflected in United States (US) modernist photographer Minor White's work. For White, a photograph serves as both a visual experience—a dialogue within the viewer themselves while viewing a photograph—and a reflection of inward experience and memory (see Bunnell, 1989; White, 1963).

I experienced this power of photography while making an early photographic work, *Time* (2012; Figure 1). I wanted to incorporate elements of landscape to drive the narrative of the work—in this case, the dislocation created in being forced to leave a place. The work features a Maoist-era clock drifting in the ocean and was my way of expressing a part of my family history: members of the family were forced to flee Communist China by sea to Hong Kong during the Great Leap Forward; and my family subsequently moved again in the 1980s because of Hong Kong's impending return to China. For this work, the ocean waves were an important element of expressing this dislocation, as my family literally travelled over the ocean to another

place. The clock was another symbol of this dislocation, as it expressed the idea of losing time and having part of my family history swept away.

Figure 1

Time (2012)



Much of my work since then has involved visiting places and developing works based on such visits. Many of my pieces have been based around Western Australia, particularly the Wheatbelt region. In the earlier stages of the project, I found myself drawn to relatively remote locales as they provided a greater sense of being able to connect with my own internal narrative. One of my observations from my time at Wongan Hills, around two-hours' drive east of Perth, was that I had to learn how to listen; I found that the less I felt distracted by other narratives (such as the anthropophony of built-up areas), the more I could engage with inward experience (see autoethnographic transcription in Section 2.1.1). As my work progressed, I also found myself wanting to explore how I could bring attention to some of the areas visited, particularly those places most impacted by climate change.

The sense of vastness in the landscape—one where human dwellings are few and far between—can be both freeing and frightening. That type of landscape is also a reminder of the fragility of an individual in these places—one misstep can have dire consequences because of the relative isolation.

What underpins my practice is exploring the visceral relationship between observer and landscape, and how to express personal narratives formed during my time in a place to an audience. While landscape is experienced through multiple sensory modes (for most of us, this typically involves sight and sound), the mind then subjectively interprets these sensations. The prisms of memories can have a bearing on how personal meaning is attributed to current experiences. Therefore the immersive experience of a place cannot be separated from the observer—our personal experiences will filter and colour our experience of place.

1.2 Research Questions, Aims and Rationale

When I began this doctorate in 2016, much of my focus was on the translation of data contained in digital photographs into music. The intention was to explore a method of incorporating music and images together into a work. I was primarily interested in the synthesis of sound and image, the *sonification* process—aka the act of rendering non-sound or non-musical information into sound—of photographs into sound. As my doctorate progressed, I continually questioned *why* I was undertaking this process. While I found the concepts around sonification interesting, I also realised it was becoming too confined to one specific method, and that it was ultimately too process driven for my purposes.

After some reconsideration, and in the spirit of cross-disciplinary practice, the project expanded to become more encompassing of various methods, and primarily shifted from exploring sound and image to the interactions between artist and place.

In exploring how to incorporate the landscape into the creation of new audio-visual work, I have sought to explore a methodology where geography, culture and self could meet. Ultimately, my work is about reflection, acknowledgement and catharsis.

The primary research questions that drove this exegesis therefore became:

1. How can a sound art or audio-visual work portray the dialogues occurring between self and place?
2. How could the composition process incorporate elements (what I am calling a ‘cartography of place’) of the landscape as a way of meaningfully interrogating this relationship?

So what is cartography of place? It is:

- traversing the terrain in place (the physical terrain of the environment) to explore the inner psyche (the terrain of self) through walking and soundwalking, field recording, photography and videography
- traversing the cartographies of embedded knowledge of place (the history and stories of place)
- traversing the cartographies of images, sounds and maps of place (sound mapping, the sonification of images, the sonification of maps and sonic manipulations associated with soundscape composition).

To answer these questions, this project draws on methods of soundscape composition, particularly those artists who manipulate field recordings in their work (Hildegard Westerkamp, Barry Truax, Joanna Bailie, Maggie Payne, Luc Ferrari, Iain Findlay-Walsh), and use sound mapping (Isobel Anderson) and psychogeography (Drew Mulholland).

These questions underpin the creative outcomes presented as part of this project, alongside methods such as reflexive journaling, experimentation with

different compositional techniques (data sonification, time stretching and use of effects such as delay, distortion and reverb), and working with different presentation formats (e.g., audio-visual works featuring music visualisation, field footage and autonomous digital music instruments based on photographs and maps that serve both a sonic and visual purpose).

One of the primary aims of this research is expression. I wish to be less focussed on the technicalities of the *how* and the *what* behind the creation of new work, and renew my focus on the *why* of my processes. One artist whose work spoke to me during this time was Ros Bandt, who wrote a reflection on two of her works for the Australasian Computer Music Conference in 2015. In the conference proceedings, Bandt writes about technology as being a tool in the process of creating a work, rather than being the goal of a work itself. For Bandt, exploring the ‘Why?’ behind the creation of a work arguably creates a more compelling result, regardless of its refinement:

Computers are helpful tools ... but the presets of the softwares should never and will not dominate or create great sonic art. It's the service to which they are put through the design of the why? Factor and the technique through which it is rendered that will make a work inspirational, refined or not. It has to be more than technical display. (Bandt, 2015, p. 12)

While this project draws on technological practice, the focus is not on the use of the technology itself, but rather how technology can be used as a tool for artistic expression and personal reflection.

One of the aims of my research is to draw attention to a place, and to have the work act as a springboard for discussion about aspects of place, such as the embedded knowledge of history or the ecological fragility of place. Through this, I

aim to create a compositional process that incorporates multiple aspects of landscape—from a place’s historical, cultural and ecological significance, to its physical attributes such as the contours of the landscape, its location relative to other places via geospatial coordinates, and the textures of the sonic landscape.

The rationale for this research is to explore the embeddedness of an artist while working in place and, by extension, the connectedness between self and place. Traversing through the landscape also leads us to overlay our internal, imagined experiences over geographical features—place becomes experienced subjectively through our minds, as well as objectively through our bodies.

1.3 Significance, Summary of Methodology and Structure of Exegesis

The significance of this exegesis is its ability to enrich understanding of both self and place through finding emotional connections and acknowledging the embeddedness of humans with the land. The combination of sound and image can also offer new perspectives of places. Incorporating aural and visual elements into a composition can open a dialogue about the history and meaning of a place.

Two media I use in expressing these complexities are aspects of sound art and audio-visual practice. Through both mediums, the sound and structure can be deeply intertwined within a composition. I believe that this approach to composition, where multiple elements of place are incorporated into a work—and particularly where the physicality of place can be incorporated as an active part in the creation of the soundscape—can be a valuable way of exploring history and geographical and personal connections to place.

The structure of the thesis is both narrative and thematic, with the longest section (Chapter 4) introducing and discussing the portfolio of original works (see

below). Prior to this, Chapter 2 describes my methodology towards composition and introduces the conceptual underpinnings of my practice—autoethnography, walking within the landscape—and my approach to recording and composition while in place, and in the studio. The examination of the self through autoethnography is an important part of my compositional process as it situates my personal experiences, history and self-reflection as a central component of my creative practice. This self-reflection details choice of location, my approach to field recordings while out in the field, and how I frame my field recordings and materials into a completed work.

Chapter 3 discusses further conceptual influences and artistic precedents that have informed my practice. I discuss how ‘place’ can be conceptualised and how connections are forged between individual and place. The exploration of these connections focusses on self-reflexive practices. From there, I move onto a discussion of field recording and soundscape composition, and compositional methods such as psychogeography (describing the effect of a location on the emotions and behaviours of individuals), sound mapping (utilising sound as a way of exploring the interactions between place and inhabitants) and sonification (the practice of turning non-auditory information into sound).

Chapter 4 (the longest section) presents a description of my creative journey, showcasing various completed works. The chapter begins with a summary of works, grouping them thematically into works arising out of personal history, experience of place, history of place and responding to climate and ecology. The chapter then describes my journey chronologically, showing my internal processes and how they have influenced my compositional approach through autographical snippets and my experimentations with sound and visualisations.

Through this exegesis, I intend to demonstrate how the combination of sound, visual and geospatial aspects of place in creative work can be powerful methods of conveying narrative. The deep embedding of place in work acts as a way to explore the multi-layered relationships between place and artist, by highlighting how multiple temporalities and histories can co-exist. The combination of sound, visual and geospatial elements also encourages alternative perspectives to place, and for both artist and viewers to approach the boundaries between landscape and culture, internal narratives and external experiences, as permeable.

Chapter 2: Methodology

In this section, I explain the approaches to my research. As practice-led research, its outcomes are presented through creative works with the significance and context of said outcomes supported by text. To situate how my personal experiences have shaped my work, I turn to autoethnography, a practice that positions the personal experiences of the researcher as central to the research. I then discuss the compositional process and the key tenets that underpin my compositional process—field recording and sonification—before ending with a discussion about methods for performing my material live. Quotations from my autoethnographic notes are given in the section on specific creative outputs or works in the exegesis below.

Through the course of my research, I incorporated compositional techniques such as data sonification and soundscape composition. I drew heavily on the emerging field of sound mapping, and the re-emerging field of psychogeography, since both practices emphasise the representation of personal associations, memories and emotions of place, in relation to a place's physical (topographical) and spatial (geospatial) features. Media captured from the field during my time in place was at the core of my creative process. I expressed engagement *with* and *in* place through a combined practice of field recording (**Figure 2**) field footage (in the form of both video and photographic work), sound mapping (the combination of sound and cartographical practices), sonic manipulation and processing (through the use of DAWs) and music visualisation. This engagement reflects the intersecting narratives and multiplicity of experiences when within place.

Figure 2

In the Process of Field Recording (Photo credit: Claire Pannell)



Note. Using a Zoom H5 while recording a Sheoak at Mandjoogoordap (Mandurah Estuary).

2.1 Practice-led Research

Practice-led research is broadly defined as, “an original investigation undertaken in order to gain new knowledge partly by means of practice and the outcomes of practice” (Candy, 2006, p. 1). More specifically to creative practice, practice-led research can be characterised as:

research which is initiated in practice, where questions, problems, challenges are identified and formed by the needs of practice and practitioners; and second, that the research strategy is carried out through practice, using predominantly methodologies and specific methods familiar to us as practitioners. (Gray, 1996, p. 3)

The practice becomes a way of both identifying researchable problems and formulating responses through acknowledging the practitioner as both the *generator*

of material through the articulation of the creative process and the resultant work, and as *observer*—of self-in-action. This form of research acknowledges the importance of subjectivity and reflexivity in creative practice, where decisions are often subject to change depending on subjective responses to the environment. In practice-led research, “practitioner-researcher subjectivity, involvement, reflexivity is acknowledged; the interaction of the researcher with the research material is recognised. Knowledge is negotiated ... context bound, and is a result of personal construction” (Gray, 1996, p. 13).

Practice-led research also acknowledges the non-linearity of the creative process. Breakthroughs during my research did not stem from carefully planned ideas but rather from open-ended experimentations, such as improvising with combinations of sound effects and changing their parameters until a suitable sound emerges. Some other breakthroughs came from reflecting on past life experiences, and drawing from what I had learnt in the process. This embedding of artist within the research itself was therefore an important part of my methodology.

2.1.1 Autoethnography

This exegesis is a personal self-reflection of the challenges and the processes behind the creation of works, whose intention is to highlight the evolution of my practice. I have chosen to present my exegesis in an autoethnographic format to highlight the importance of self-reflective practices during the compositional process. In its most general definition, autoethnography is the study and critique of culture by examining the self, and is achieved through the merging of autobiographical practice (writing about the self) and ethnography (the study of and writing about culture; Holman Jones, 2018, p. 4). Self-reflection is an important aspect of this project, as this practice-led research situates the researcher both as a

producer of knowledge and as presenting an element of their identity as part of this production of knowledge (Holman Jones, 2018, p. 5).

In my explorations of self-reflexive practice in relation to place, I sought to find methods of articulating—in both my compositional practice and in my writing—both the external research surrounding my practice, and the internal processes that inform my approach to composition. Autoethnography piqued my interest as instead of separating researcher from material, autoethnography acknowledges and embraces the embedding of the researcher into the overall narrative. The autoethnographer becomes the central subject of study, through which socio-cultural concerns and issues are interrogated. This entangling of first-person perspectives alongside theoretical text often creates ambiguities that invite readers to disentangle, and this engagement is intended by autoethnographers to involve readers in the research process.

These sentiments are also reflected by Tom Reeves, who noted:

Learning-in-action demands heightened self-awareness. As well as reflecting on events—before, during and after, you need to be aware of your “surreptitious agenda”. By this is meant those inner, not always conscious, forces that cause us to handle situations in ways that accord more with the needs of our ego than the needs of the circumstances ... It is not always easy to be fully conscious of all the nuances of our motives. (Reeves, 1994, p. 104)

Stacey Holman Jones, who has written extensively about autoethnography, describes the process as a way for practitioners to create, “‘living bodies of thought’—work that uses story to bring theory alive and shows us how stories are embodiments of knowledges that can and do create movement and change in the world” (Holman Jones, 2018, p. 7). Through this ‘practice’, autoethnographers can

situate their positions and perspectives through the frames of personal experience, and to create interwoven self-narratives as a framework for exploring methods of understanding cultural issues and concerns. As explained by Tony E. Adams, Stacy Holman Jones and Carolyn Ellis in their book, *Autoethnography*:

When we do autoethnography, we study and write culture from the perspective of the self. When we do autoethnography, we look inward—into our identities, thoughts, feelings and experiences—and outward—into our relationships, communities, and cultures. As researchers, we try to take readers/audiences through the same process, back and forth, inside and out. (Adams et al., 2015, p. 46)

Holman Jones explains further about the importance of intertwining theory and personal experience, noting that the combination of both equally enhances each. By speaking through the prism of personal experience, practitioners are taking readers on a mutual journey of discovery:

Theory asks about and explains the nuances of an experience and the happenings of a culture; story is the mechanism for illustrating and embodying these nuances and happenings. Because theory and story exist in a mutually influential relationship, theory is not an add-on to story. We cannot write our stories and then begin the search for a theory to “fit” them, outside of cultures and politics and contexts. Instead, theory is a language for thinking with and through, asking questions about, and acting on—the experiences and happenings in our stories. (Holman Jones, 2016, p. 229)

Holman Jones was particularly relevant for me, as was her article in which she describes alternating between theoretical discussions on autoethnography with personal writings about her experiences with her queer identity. I found this

alternating of texts pertinent to my research, which is similarly personal in that many of my compositions (and subsequent reflections on their creation) have been based on personal experiences. Holman Jones structures her article through reflections on the power of storytelling in research, with examples from her own life. She notes the importance of storytelling, as this helps illuminate, “The insights of theory ... only become useful to us when they are presented in context, in practice, and performance, in people’s lives” (Holman Jones, 2016, p. 232).

Researcher and autoethnographer Lorelai Carpenter interrogates her experience of writing about retirement in a similar style. In her article co-authored by Emerald, “The Scholar Retires: An Embodied Identity Journey”, Carpenter intersperses commentary with personal reflections about her experiences post-retirement. This pairing of the personal and the theoretical is Carpenter’s way of describing her insights. Emerald notes that this pairing was, “to be interrogative and revelatory. For her, her story provides a means to explore an unknown state of being and in so doing, hopefully, arrive at some beneficial insights” (Emerald & Carpenter, 2014, p. 1142).

One artist to whom I looked for inspiration on embedding myself into compositions was United Kingdom (UK)-based composer Iain Findlay-Walsh, who draws on autoethnography in his compositional practice. I first encountered Findlay-Walsh’s work at the 2016 Sound Thought Festival in Glasgow, where I attended his talk on his compositional approach, at which he described how he recorded himself amid composing a sound piece. Findlay-Walsh describes his practice as a form of sonic autoethnography, where soundscape composition is explored as a form of self-narrative. I was particularly struck by his approach—which often layers levels of self-referentiality—because of his deep awareness of embedding the self in sonic,

spatial and social environments. In Findlay-Walsh's work, he simultaneously becomes the composer and the listener by layering multiple field recordings, and invites listeners to become observers in this process.

Findlay-Walsh's *The Closing Ceremony* (2015) is an example of his autoethnographic approach to composition. The work is a 5.1 multichannel soundscape combining field recordings with found recordings of the 2014 Commonwealth Games open-air closing concert. Findlay-Walsh intended to, "explore my listening and recording as subject-positioning activities" (Findlay-Walsh, 2017, p. 124), using reflexive recording, editing and presentation methods. To fully capture the range of listening perspectives that occurred during the concert, Findlay-Walsh made a series of recordings: a stereo recording of the official TV broadcast, as though it was being broadcast into his living room; audio taken from smartphone-shot digital videos from audience members; and field recordings from soundwalks taken around the stadium during the concert.

This reflexive practice extended beyond the audio material to Findlay-Walsh's approach to recording. He chose to directly carry or wear the microphones during the recording process, eschewing the standard practice of monitoring levels via headphones. By not actively monitoring his recording, the microphones instead became, "additional attendant ears, extending from my body and 'doubling' my listening activity as I engaged with the environment" (Findlay-Walsh, 2017, p. 124). I found this technique interesting as it mirrored my own recording techniques in the field, where I also eschewed headphones but instead viewed the recording device as an extension of my own hearing.

The most striking element of *The Closing Ceremony* is how embedded Findlay-Walsh is in the composition: throughout the work, there are sounds from

Findlay-Walsh as he edits the work—the sounds of typing, mouse clicking and seat shifting—as well as the sounds of the field recordings and found recordings as they are played out of the studio monitors into the studio space. There are multiple edits of the work—and therefore multiple layering of the editing process—which essentially creates the experience of listening to Findlay-Walsh, listening to himself editing.

This method of recording is similar to autoethnography in that the process of writing—or, for Findlay-Walsh, recording—is used to continually reflect on research during various moments of the research process. In essence, there is a sense of authoring, and re-authoring the work as it progresses. For Findlay-Walsh, incorporating autoethnography practices into his work has been beneficial, in allowing multiple perspectives to exist in the same space, and for new knowledge and ideas to emerge from these multiple layers:

(An autoethnographic approach) has resulted in a focus on some aspects which are not usually emphasized in electroacoustic practice or the discourse around it. These include attending to the situational aspects of sound recording, pursuing extremes of self-reference, developing layered spatial narratives, oscillating between documentary and aesthetic aims and functions, and producing rhetorical reception situations which conflate recording, composing and listening roles. (Findlay-Walsh, 2017, p. 121)

Another field recordist, Steven Feld, expresses a similar sentiment about his work. For Feld, every recording features an element of his presence as both recordist and listener, even if his presence is not immediately audible for the listener. In an interview, Feld explains:

I am always part of my recordings. I can always listen to my recordings and recover my breath, my bodily presence ... the recording is always the audible trace of my presence as a listener. My recordings are always an archive of my history of listening and of the history of listening that is being recorded. You could say that my field-recording praxis is to listen to histories of listening. That is why I am always part of the recording, always present in some way even if that presence is not audibly legible to the listener (Feld, in Carlyle & Lane, 2013, p. 209).

Feld's physical presence not only acts as documentation regarding his own presence in place, but is a way to connect to listeners. For Feld, field recording is an act of "enhanced sociality, an enhanced conviviality, an enhanced way of engaging with listening to people ... including the sound of myself breathing, myself walking, the sound of my heartbeat, the sound of myself recording" (Feld, in Carlyle & Lane, 2013, p. 209). This form of communication includes how Feld also engages with place because during the recording process, his own sounds are also included in the soundscape.

The autoethnographic approach I have adopted in documenting and recording this exegesis and my impressions therefore accords very closely with my aesthetic methods and intentions. The works discussed here are not only analysed and discussed in an autoethnographic fashion; they were composed in an autoethnographic fashion, through a process of self-reflection in site and sounds.

2.1.2 Walking the Landscape

When visiting a place, I traversed my surroundings by foot. The act of walking can be a powerful tool for understanding place because the motion of walking calls for a level of physical dedication and mental concentration (Thurgill,

2016). I find that while walking through place, the lay of the land with all its objects, rises and falls, are moved through and simultaneously felt around the body. During this process, my perception of place widens, as I can observe the scale of geographical features (such as rocks, and undulations of the ground) and the biota of my surroundings. I am made aware not only of the physicality of place, but of the interactions within this natural soundscape. There are different reverberations depending on a place's geography, such as the shape and positioning of rocks; the sounds of moving water and wind; and the location of buildings. Depending on my location, certain intersections of sounds become very clear, from the changing sound of footsteps across varying terrain, to the sound of the natural inhabitants of the place—birds, trees, animals—interacting with each other. Much of my work has come from prior readings about the history of a place, traversing on foot while recording sounds and taking photographs and videos, and documenting the ways in which I relate to the place (Figure 3). As part of my approach to place, I am mindful of minimising my interference with the landscape during documentation. I see myself as primarily an observer and a guest on the land. I want to work *with* the land and to listen and document what the land will offer me.

Figure 3

Walking Around Wongan Hills, Western Australia



Traversing the terrain as a way of forming a relationship with place is also evident in John Wylie's description of his walk along England's South West Coast Path in 2002 (Wylie, 2005, p. 234). I found his description resonated with my own experiences of traversing the landscape. Making his way around the path, Wylie observed the interactions between the sound of his body with the earth, noting this, "visual, tactile and sonorous relation with the earth, the ground, mud, stinging vegetation" (Wylie, 2005, p. 239). The combination of these sensations felt to Wylie, "as if the pre-established boundary between self and landscape, subject and object, could become soluble, osmotic, in the engaged, involved practice of walking" (Wylie, 2005, p. 239). Writing in a similar vein is David Crouch, who has written widely on the relationships between landscape and individuals. Crouch (2010) notes that new ways of thinking, feeling and moving become highlighted when a person is engaged with a landscape. Therefore, the act of walking through a place is not only about learning about how to navigate physically, but is a process on how to navigate

a person's internal terrain. By knowing and feeling the land, with its various undulations, the surrounding landscape can be used as a method of mapping the inner psyche. In this internal terrain, there are emotional boulders and mental valleys; there are rivers of feeling, clouds of doubt, winds of certainty.

For artists such as Westerkamp (2006), Richard Long (Dallas Museum of Art, 1984) and Perdita Phillips (2006, p. 11), the act of walking is part of their artistic practice, either through the walking (their own, or the walking of participants) as being part of the artwork, or where the practice of walking is a source of inspiration or material for their practice. Walking becomes a form of dialogue between artist and place, and the meeting ground between practices such as acoustic ecology, psychogeography, sound mapping and soundscape composition. A way for artists to combine sound with walking is through *soundwalking*, where listening to the environment is the focus of a walk. For Perdita Phillips, the act of walking is part of her work in creating immersive soundwalks that link place, artist and listener. Soundwalking is an important part of her artistic practice as, "We are not simply objects (or subjects!) in a spatial world. The body is spatial, and through moving and inhabiting space we can articulate it" (Phillips, 2006, p. 10). The history of a place can be alluded to through use of fragments of historical texts, or by manipulating field recordings to evoke the past. These aspects can then be incorporated into the creation of artefacts that channel these emotions and memories.

Jane Rendell echoes a similar sentiment about the act of walking, emphasising the connections formed between walker and place. Rendell notes that, "through the act of walking, new connections are made and remade, physically and conceptually, over time and through space" (Rendell, 2006, p. 191). These connections encourage a feeling of becoming embedded in place, and new

knowledge can be gathered through an experience of immersion and a growing sense of belonging.

UK-based sculptor and photographer Richard Long provides another example of this dialogue occurring between landscape and artist through walking. Long describes his creative process as an “artist who makes walks ... I have made walks within a place as opposed to a linear journey; walking without travelling ... my art is the essence of my experience, not a representation of it” (Dallas Museum of Art, 1984). His ethos of leaving minimally invasive, ephemeral works resonates with my own practice, where I view my being as temporarily documenting my experiences. For Long, his work is also a commentary on transience. This idea can be seen in works such as his breakthrough piece, *A Line Made by Walking* (1967)—a photograph of a clearing Long had worn into a field of grass by repeatedly walking from one point to another. The combination of the work’s impermanence and the use of Long’s body alongside found materials (such as stones, soil, and sticks) is intended to draw attention to the aesthetics of the land, while also expressing Long’s experience while within a place.

In Long’s practice, walking becomes not just a way of exploring the landscape, but also a way of returning to the act of line marking—one of the simplest, but also important, elements of art. Long creates ephemeral works within landscapes, often using his body—by walking repeatedly from one point to another or using found objects—and documenting the result with his still camera. In an interview with the Dallas Museum of Art, Long elaborated on his process:

I too wanted to make nature the subject of my work, but in new ways. I started working outside using natural materials like grass and water, and this evolved into the idea of making a sculpture by walking ... My first work

made by walking, in 1967, was a straight line in a grass field, which was also my own path, going “nowhere”. In the subsequent early map works, recording very simple but precise walks on Exmoor and Dartmoor, my intention was to make a new art which was also a new way of walking: walking as art (Long, in Tufnell 2007, p. 39).

In photographs of his works, Long himself is rarely shown. Most images feature the stark paradox of his piece against the surrounding landscape. For example, another work of Long’s, *A Line in Scotland* (1981), shows a line of neatly-raised rocks placed against a backdrop of a rocky cliff, with mountains in the distance, with the deliberate line in clear juxtaposition to the angles and edges of the land. In the photograph, there is a palpable sense of a ghostly presence who had created the works but is just out of the viewer’s frame of reference. The effect of the photographs is, as Robert Macfarlane succinctly notes, that, “you develop an almost sinister sense of time lag. Someone has been hard at work, rearranging the world—but has disappeared before you arrive” (Macfarlane, 2009).

Despite the sometimes-spectral photographs and abstract minimalism of Long’s work, there is a sense of pragmatism where he describes his work as, “being a human being living on this planet and using nature as its source. I enjoy the simple pleasures of ... passing through the land and sometimes leaving (memorable) traces along the way ... And then moving on” (Long, in Macfarlane, 2009).

2.1.3 Sound Artists in the Landscape

Sound artists such as Westerkamp, Pauline Oliveros and Thembi Soddell have also experienced the power of sound as a conveyer of experiences and emotions. Soddell, whose work explores themes such as mental illness and trauma through abstracted, acousmatic sound art, notes in their doctoral thesis that, “As I

composed, I would also often experience a felt sense of connection between sounds, emotion, memory, narrative and psychological experience” (Soddell, 2019, p. 9). For Soddell, sound can project a profound, emotional intensity—one that can transcend words alone. While my project is less concerned with mental illness and trauma, the project does explore connections between sounds drawn from place and aspects of self, such as emotion, memory, narrative and psychological experience. To further explore the relationships between artist and place, I turned to theories of landscape and psychogeography—theories that encourage the intertwining of self and place, and the interrogation of the nature of these relationships. Spending time in place also made me consider the emotive effects a place had while in its presence.

My explorations of sound, emotion, memory and narrative led me to explore psychogeography and sound mapping, as both practices are focussed on the emotive nature of place. While its origins are not sound based, psychogeography has increasingly been used by soundscape artists to inform their practices, particularly to interrogate the interpersonal connections that can develop from being in, and exploring place. I was also drawn to psychogeography by its emphasis on walking (or ‘drift’) to understand the psychological effects a place can have on people. Sound mapping is a practice that utilises sound—most commonly in the form of field recordings—as a way of weaving a commentary about the physicality and cultural associations of a place.

With sound, I found that the more I listened, the more I noticed the layers of complexity contained within recorded sounds. I became intrigued about how manipulating sounds through the use of effects such as time stretching, their time and asynchronicity, conceiving of these multiple layers as waves hitting and bumping into each other. I also pondered which other methods could be used to layer these

manipulated sounds and whether they could be rearranged to reflect my experiences in the landscape. The act of listening in of itself is a powerful factor in working with place and sound, particularly with finding connections between self and place. Oliveros (2005) advocates for the concept of *deep listening* to foster greater connection between self and place, through an attention towards the sound. The concept of listening does not always equate to merely hearing a sound. Oliveros differentiates between listening—active, intentional alertness to sound—and hearing, which for her is a passive activity, as she explains:

Listening is not the same as hearing and hearing is not the same as listening. The ear is constantly gathering and transmitting information—however attention to the auditory cortex can be tuned out. Very little of the information transmitted to the brain by the sense organs is perceived at a conscious level. (Oliveros, 2005, p. 1)

For Oliveros, listening implies a sense of intentionality on the part of self—the person must want to seek these sounds and then choose to pay attention to them. Listening encompasses both the physical (i.e., turning frequencies into information) and the psychological (i.e., the effect of sound on an individual) aspects of hearing. There is a sense of embodiment within the process of listening, as well as an active reflection on the part of the artist in regard to how these aspects of listening impact on interactions with place.

I have found my practice to be invaluable as a form of catharsis, particularly regarding major life events, and as a way of expressing my anxieties and concerns around the environment. My work is ultimately about the release of emotional self—abstracted works where the real and imaginary sit together. This practice has allowed me to both articulate *how* I feel and convey the *intensity* of my emotions. I have also

found the creation of abstracted soundscapes—one of the focal points of this research—to be useful in engaging with audiences. My audio-visual work maintains a liminal space allowing audiences to place their personal interpretations and experiences into their overall listening (and viewing) experiences.

2.1.3.1 Sound Elongation/Sound Freezing

Barry Truax's compositional practice often involves the use of sampled environmental sounds processed through time-stretching techniques, which was influential in my own manipulations of field recordings. Through the process of time stretching of field recordings, the perceived volume or magnitude of the sound is increased, allowing the inner 'voices' of the sounds to be heard and explored. These inner 'voices', or the sonic character of the sounds, become the driving features of Truax's compositions: for him, "instead of 'using' the sound, one is 'used by them', in the sense that their inner character informs the resulting music" (Truax, 1992, p. 40).

Manipulation of the temporalities within recordings themselves is another way in which composers can use field recordings as self-reflexive narration. There is a sense of suspension within the elongation of a sound, which invites both Truax and listeners to enter the sound itself to reflect on their relationship with the sound source. Truax explains his technique as a way of revealing, "the inner harmonics within familiar sound signals ... My intent was to use the suspension of these sounds to give listeners the space in which to explore their own inner associations" (Truax, 1992, p. 38).

One example of Truax's explorations in elongation is his *Pacific* (1990). The first movement of the work, *Ocean*, is based on a recording of waves crashing on a sandy beach. *Ocean* begins with the waves played at normal speed, but as the piece

progresses, the sound is gradually stretched until it gives the listener the sensation of a “gradual submersion beneath the waves as their inner timbre is revealed” (Truax, 1992, p. 38). The elongation of the piece invites listeners to, in essence, enter the sound of the wave itself and contemplate the experience from within the wave. This process of submersion, as Truax explains, “is accompanied by the loss of the rhythmic pattern of the waves, which further heightens the illusion of entering a normally hidden realm” (Truax, 1992, p. 38).

For Truax, time manipulation offers composers an avenue by which field recordings can be used as a form of self-reflexive narration. As part of his practice, Truax begins each piece with a soundwalk in which he is actively listening to the soundscape, without necessarily using a recording device. For Truax, this act of listening is arguably the most important part of the composition, as it is a moment where he can engage with the soundscape. In one article, Truax notes:

My own practical suggestion with regard to soundscape recording and composition is not with recording or processing in the studio, but rather with the experience of soundwalking in the soundscape. Soundwalking is best done with the only intent being listening, without the distraction of operating a recorder. It is arguably the most direct aural involvement possible with a soundscape and one where repetition does not dull its effectiveness, since each walk is unique and unrepeatable. (Truax, 2012, p. 196)

The idea of slowing field recordings as a way of revealing hidden sounds is taken further by English composer Joanna Bailie. Similar to Truax, Bailie employs time manipulation techniques where she elongates sounds to, in her words, “allow for the exploration of emotion and musicality of a moment, by exposing hidden harmonies and rhythms” (Bailie, 2014, p. 7). The resultant composition is one that is

filled with technological and artistic intervention by the artist, rather than it being a reflection of the original subject of the sound recording. Bailie explains her approach as a process of ‘teasing out’ music from unexpected moments:

A possible approach may be to actively look for music when making field recordings or to tease the music out of the recording by some kind of manipulation. For me it’s a question of an appealing dramaturgy that might itself suggest a compositional strategy, a certain (fortuitous) balance of elements and more often than not, pitch content, whether it comes in the shape of music in public spaces, car horns or airplane drones. (Bailie, 2014, p. 5)

Bailie was initially inspired to focus on elongating recordings during an incidental moment while recording passing cars. She was struck that each car was passing her, and each other, at different velocities and volumes. As she explains in an interview:

I was sitting at a bus stop recording the cars go by and at one point there was a shift in my perception, perhaps due to my level of concentration or the effect of amplification. I genuinely had the impression that the cars were driving past particular times, speeds and volumes for precisely my own pleasure, that it sounded good and that it was indeed music. (Bailie, in Power, 2014, p. 23)

Bailie’s recent works include chamber music and installation, and are characterised by her use of field recordings alongside acoustic instruments. Her passion lies in exploring the ways in which elements of the ‘real’ world can be recorded, then manipulated and transcribed for acoustic instruments to be performed alongside the processed field recording itself. For Bailie, this process allows a

“fashioning [of] a more complex relationship [between sound and listener] that lies beyond the idea of a simple immersion into a pseudo-reality” (Bailie, 2014, p. 6).

Bailie terms her process of elongating sounds as ‘freezing’, as she is taking small moments and essentially slowing time within the recording to an almost-glacial pace. She describes the process as a, “fairly gentle type of manipulation of recorded sound consisting of the prolongation of the frequencies present at a particular moment of time in this sound” (Bailie, 2014, p. 5). Through this process, sounds are taken outside their usual context where their usually hidden harmonies and rhythms can be explored. In a ‘frozen’ state, seemingly mundane sounds such as passing traffic can turn into complex, chordal movements.

For Bailie, the process of freezing becomes a method of revealing aspects about the world that might otherwise escape perception because of their brevity. She notes that transforming an ‘instant’—that is, an event of such short duration that it becomes almost imperceptible—into a longer ‘moment’ allows the event to inhabit the mind and become accessible to memory. Bailie elaborates on this in an article about her process:

it might lead us to think about some of the emotions that are evoked through the prolongation in time of a split second of sonic resonance [which] is prolonged until life resumes again from the point where it was broken off.

(Bailie, in Power, 2014, p. 25)

She describes the concept while discussing the processes behind one of her pieces, *Artificial Environment No. 3*, which leans heavily on these frozen soundscapes:

Artificial Environment No. 3 is a place where time is stopped and started in an aperiodic and therefore unpredictable manner. As frustrating as this must be

for its inhabitants, it has a rather curious effect on sound. At the moment of freezing, a split second of sonic resonance is prolonged until life resumes again from the point where it was broken off. Even stranger is the effect that these freezes have on the general ambience. Sounds start to behave like an inappropriately sentimental soundtrack. A bell, a passing car, or a fragment of birdsong are given an air of gravitas and occasional nostalgia simply by being taken out of the continuum of everyday life and stretched into a chord.

(Bailie, in Power, 2014, p. 25)

Another important component of Bailie's work is the layering of field recordings, to emphasise the sensation of becoming frozen. Often Bailie combines these elongations together intuitively, following the flow of a narrative, over any temporal hierarchy, as a further way of emphasising the immobility of the soundscape. Bailie likens this process to film, where:

Just as in a film freeze-frame where a single still image has to be repeated 24 times per second in order to create an illusion of immobility, in sonic-freezing we must overlap and loop tiny segments of audio material in order to create a similar effect. (Bailie, 2014, p. 6)

I found this idea a powerful way of highlighting anxiety, which often feels like thoughts playing upon and feeding on themselves. In my own work discussed below, I describe how freezing is a particularly apt way to explore both ecological stress and anxiety through music and sound.

2.2 Compositional Framework

My compositional framework is constantly self-reflexive, and can be summarised in three aspects of place: (i) before being in place; (ii) being in place;

and (iii) after being in place. Any discussion of place requires an unpacking of the meaning of ‘place’, and how such a definition can be applicable.

2.2.1 Before in Place

In the simplest sense, the term ‘place’ is used to refer to either a location or the occupation of said location, differentiated from the concept of ‘space’ because of its increased specificity. The idea of place incorporates cultural, social and personal expectations, as well as geographic boundaries and shapes. There is also the symbolic role of place as a metaphor, turning physical reality into a cultural representation (de San Eugenio-Vela, 2014, p. 21) and mediating the relationship between the person and the natural scene through cultural references. Some attempts to acknowledge and incorporate these multiple aspects include John Agnew’s definition of place as a threefold process: physical place (as a location); relationship of a site to its spatial boundaries (the locale); and cognitive and physical interactions between human and site (sense of place; Agnew, 2011, p 23).

In my work, I view the concept of ‘place’ in the widest sense, conceiving of it as a layering of narratives encompassing its physicality; ecology; embedded knowledge such as its associated history and culture; and the intersections these facets have with my own personal history and responses. My interest in natural environments and landscape originated from noticing how a place affected me during a visit. As noted earlier, I have been interested in combining reflections on my personal experiences with place in the creation of multi-layered work, combining multiple narratives of place—echoing cultural geographer James Thurgill’s observation that works can be both representations *of* a place, as well as representations of the time spent *within* place (Thurgill, 2016). In my audio-visual creative works, there is a blurring of boundaries between different temporalities and

narratives. I believe this compositional approach offers a holistic view of a place as well as valuable insight into the internal processes behind the work.

James Thurgill also notes the difficulty that inevitably arises when discussing the notion of ‘place’, particularly the subjectiveness of the idea itself. Seemingly, any discussion of place by an observer is coloured by various external expectations and internal processes. Thurgill writes:

Where the work created aims to produce, map out or provide a reading of what I term the biography of place, that is, its history, encounters, its potential ... these types of work are often rooted, locative and even cartographic in nature. Furthermore, it can be suggested that these types of topocentric artworks can occur twofold: firstly, as representations of place and secondly, as representations in place. (Thurgill, 2016)

Edward Relph offers a similar definition of place, conceptualising it as, “centres of our immediate experiences of the world” (Relph, 1976, p. 141). This definition of place acknowledges the immediacy in which ‘place’ is felt by an individual. If a ‘place’ can be defined as physical areas that play host to our experiences, then by extension it acts as a framework for understanding place-specific and place-inspired works that strive to replicate, represent and perhaps even invoke these levels of experience.

2.2.2 Being in Place

One important goal for me was to identify a framework in which I could frame my observations of place and organise my internal dialogue. I drew inspiration from another artist Chris Denaro who, in his thesis, *Dialogues With the Prototype* (2007), describes the process of *practiced spontaneity*, which involves working in an intuitive way (Denaro, 2007, p. 21). This involves following an adapted version of

Christopher Johns's model of structured reflection (Johns et al., 2009, p. 10). Johns's model was initially developed for nursing practitioners as a form of guided reflection, but can be applied to a broad range of fields.

I found this model particularly useful for self-reflection and for working in the field, as a framework to document my impressions of a place. I wanted to answer these questions in the context of being immersed in a landscape, and how the landscape triggered memories and emotions. How did I frame my experiences in the landscape in light of these memories and emotions? Also, what motifs in my work would be inspired by the landscape? How would I incorporate elements of the landscape into compositions?

Below is my modified version of Johns's model, partly adapted from Denaro's version:

Looking In:

- Thoughts and emotions—what was I feeling? What made me feel this way?

Looking Out:

- What was the situation?
- What seemed significant?
- What was I trying to achieve?
- What influenced my actions?
- How does this connect with past experiences?
- How might I respond again?

2.2.3 In the Field

Many of my considerations around the environment and history were tied to my practice of visiting various sites and using material found in the area to create pieces. My compositional process began with selecting a site, place or location (see

above) that was interesting in terms of history, or ecological or geographical features. One example of a location I chose for its history is Meckering, Western Australia, the site of an earthquake in 1968. The town's experience of a seismic shift reminded me of a similar shift in my personal life, which led me to gravitate towards the area (see discussion of the 2017 work *The Dream is Over*, in 4.2.6). A ruined farmhouse just outside the town particularly impressed me as testimony to the shock caused to the town that day.

Once in the field, I recorded real-world sounds as field recordings, and real-world scenes in the form of photographs and video. I also mentally noted my impressions gathered during my time in place, in the form of keywords. These keywords were then used as the foundational themes for my work. An example of a location I chose for its ecological and geographical features is Neerabup National Park (see discussion of the 2017 work *Corridor*, 4.2.5).

2.2.4 After Being in Place: Studio Work 1

I used various audio and video software programs to edit and assemble my compositions—primarily Ableton Live and Adobe Audition for audio processing and sound manipulations; and Adobe After Effects, Adobe Premiere and Iannix for creating music visualisations and sonified images.

Through both the process of field recording and the transformations made to these recordings of the environment, part of my practice was also about assimilating the use of technology as a way of reconnecting with both myself and the environment, through exploring aspects such as memory and emotion. In a discussion with Andrea McCartney, composer Sarah Peebles described music technology as a way of reconnecting with the self: “I found a context wherein technology could be a part of re-connecting music with our larger life experience,

and with community” (McCartney, 1994, p. 136). Another artist whose ideas resonate with mine regarding music technology and self is Hildegard Westerkamp. Although Westerkamp speaks in terms of working in a studio environment (which she describes as an “urban person’s replacements for wilderness experience, places where one can play/work undisturbed and uninterrupted”), I see parallels in my own practice where I largely choose isolated locales for work, interspersed with time alone in my personal home studio. I also draw strength from another passage from Westerkamp, in which she outlines her approach to electroacoustic composition and studio practice as a woman composer, in terms of acknowledging and believing the inner voice:

The studio environment has provided me with a little “niche” where I could find my own creative voice without interference from the surrounding social, cultural context ... the sound studio has taught me to be in touch with that inner voice and to believe in it. (Westerkamp, in McCartney, 1999, p. 152)

2.3 Compositional Process

As noted above, my compositional process was split between two locations: the field and the studio. While exploring a variety of compositional techniques, I used a range of equipment and software to create new work. This range reflected the diversity of audio and visual techniques used in the compositional process—from field recording and camera equipment to interfaces and musical instruments (Table 1).

Table 1*List of Hardware and Software Used in the Compositional Process*

Hardware	Software
Field recording: Zoom H1 Soundman OKM II binaural microphones Aquarian H1a hydrophone Sony NEX-6 with an 18–50 mm F2.8 lens DJI Spark aerial drone ProMaster XC522 tripod Instrument recording and live performance: Laptop Novation Launchpad Mini Steinberg UR-12 interface Godin LG guitar Marshall DSL401 amplifier Shure SM58 vocal microphone Pearl 16-inch floor tom (recording only)	Audio editing, composing and performance: Adobe Audition Ableton Live Video and photograph editing and composing: Adobe Premiere Adobe After Effects Adobe Photoshop Iannix Max EditPad Pro

2.3.1 After Being in Place: Studio Work 2

In my studio, I first edited the field recordings in Adobe Audition and then arranged and layered the recordings in Ableton Live. If the work was also intended to have a visual component, I used Adobe Photoshop to edit photographs, Adobe Premiere to edit videos and Adobe After Effects to create music visualisations.

In terms of audio techniques, this project often utilised time stretching, drawing on techniques used by Joanna Bailie and Barry Truax in their work (see above). I used several methods to create the visual component of the works. One method was making music visualisations via the Trapcode Suite in Adobe After Effects. This set of plugins enables users to create 3D particle systems. The Trapcode Suite also contains a plugin called Sound Keys, which turns sound into keyframes to

drive animations. With this process, Sound Keys is particularly important as it allows the characteristics of sound—such as frequency and loudness—to drive the behaviour of effects. I often paired music visualisations with field photographs or field footage, as a way of establishing the visual aspects of place.

Sonification also featured in some works, such as when deriving information from a photograph. One method I used involved taking hexadecimal data (HEX)—a positional numeral system with a base of 16, used to hold digital data—from a photograph and translating this information into music. Another method involved marking out the contours of a photograph and reproducing them in Ableton Live. A third method used Iannix, a real-time, opensource graphical sequencer that allows composers to create works, based on composer Iannis Xenakis’s visual approach to composition (Coduys & Ferry, 2004). Iannix can be used to create autonomous digital instruments where lines and curves can be played using cursors and triggers, with the horizontal positioning of these triggers corresponding to pitch. When working with Iannix, I loaded an image into the sequencer and then traced the lines into the program to create an autonomous instrument. In this context, lines and curves of the map became the basis for the triggers and cursors that operate the instrument: a note sounds as each cursor (in red) moves across a trigger (white dots). I also sonified other types of location-related data, such as the longitudinal and latitudinal coordinates of a location.

2.3.2 Live Performance

For most of my live performances, I used Ableton Live on a laptop, pre-loaded with field recordings and VSTs. To trigger samples and accompany the soundscape with synths, I used a Novation Launchpad Mini. I chose Ableton Live because it was designed for live performance. Most useful for me was the ability to

trigger samples on the fly (via its Session View mode, which lays out the samples on each track as a list) and to play VSTs concurrently with the samples. This allowed me to replicate compositions in real time, and allowed for an element of improvisation with the synth sounds.

I have considered multiple methods of performing with visual media. An early method involved projecting pre-recorded, fixed media onto a screen while I played guitar facing the audience. However, this project also at times involved generative visuals, using either Max to create live audio-reactive visuals, or generative scores in Iannix where sonified maps were projected for the audience to see.

Chapter 3: Further Conceptual Influences and Artistic

Precedents in the Literature and Creative Work

Because my research spanned multiple disciplines, it was important to conduct a literature review that explored each field of inquiry. As part of my literature review, I began with researching theories around landscape and place, as one of the core components of my project revolved around how landscape is culturally interpreted and experienced. I directed much of my reading towards how other artists interpret and connect with the geographical features, historical and cultural understandings of place, and how they incorporate their lived experiences into their own work.

My explorations on how artists connect with place expanded into research into self-reflexive practices. As my exegesis is partly autoethnographic in its approach, my literature review also explored autoethnographic approaches to research. I was particularly interested in how autoethnographers use personal reflections as a way of leading discourse, and how such an approach can be incorporated into sound art and audio-visual composition.

I also focussed on self-reflexive narratives about field recording, as both aspects feature heavily in my work. I was particularly drawn to artists who view field recordings as a creative springboard for creating compositions, and who are actively transforming sound using methods such as time stretching, layering and effects. Through this, I became acquainted with psychogeography, a practice originating in 1950s Paris. Focussing on the psychological experiences of landscape, psychogeography as a practice resonated with my explorations into how to document and convey my psychological impressions of place.

In a similar vein to self-reflexive practices in field recording is the practice of sound mapping, which explores the association of recorded sounds with cartographic features and allows for a virtual exploration of geospatial, historical and cultural experiences of place. Through sound mapping, composition becomes a form of self-narrative as the composer's own experiences become embedded within the soundscape. Sound mapping became increasingly important to my practice, and led me to incorporate the physicality of place as part of the composition in other ways such as the interpretation of lines and other geospatial information.

My final area of inquiry was sonification as another important aspect of my practice. While sonification is often considered a way of translating information from non-audio sources into sound, my research in the area focussed on composers using sonification as an aesthetic technique driving the narrative of a work. For these composers, sonification becomes a way of enhancing creative practice and also as a way of expressing anxieties around topics such as climate and ecology.

3.1 Place and Connection

Any discussion of place requires unpacking of the meaning of 'place', and how (or even if) such a definition can be applicable. Many commentators have attempted to offer a definition. In the simplest sense, place is used to refer to either a location or the occupation of said location, differentiated from the concept of 'space' because of its increased specificity. Beyond that though, creating more nuanced and detailed definitions can be difficult at best, with multiple attempts having been made to conceptualise what place means. The idea of 'place' covers cultural, social and personal expectations, as well as geographic boundaries and shapes.

Another definition of place centres on the symbolic role of place as a metaphor, and turning physical reality into a cultural representation (de San Eugenio-

Vela, 2014, p. 21). This approach views the landscape as both a container and a context for meaning. Thus, the relationship between the person and the natural scene becomes mediated through cultural references. Imbuing the landscape with meaning involves perceiving a space (which is neutral and non-symbolic) as a place (which holds a sense of symbolism for the individual). Through shifting the perception of a space into a place, a person can also weave their own sense of identity and narrative through developing emotional ties with the land.

In essence, there is a broad duality in how landscape can be viewed—both as an entity to be seen by those experiencing a place and as a way of perceiving the world (see Wylie, 2007). This concept of perceiving acknowledges the ways in which landscape engages the senses, as well as its emotional affect. Denis Cosgrove, a prominent human geographer, notes:

In other words landscape denotes the external world mediated through subjective human experience in a way that neither regions nor area immediately suggest. Landscape is not merely the world we see, it is a construction, the composition of the world. Landscape is a way of seeing the world. (Cosgrove, 1984, p. 13)

Therefore, it is clear that landscape shapes much of the human experience of the land; for instance, in the ways in which we use physical demarcations and descriptions for place, and how we determine our movements within these boundaries. How a landscape is interpreted is heavily dependent on cultural context or, as Simon Schama describes, “constructions of the imagination projected onto wood and water and rock” (Schama, 1995, p. 61).

Landscapes can invoke deep and visceral emotions, often acting as a conduit for creative inspiration. Being immersed within a place can be a powerful

experience, with memories and present experiences intersecting as an individual traverses a place. This act of immersion leads to multiple forms of dialogue: first, within the artist themselves as they process the thoughts and emotions that a landscape triggers within; and second, between the artist and the landscape as the artist navigates over the land's geography.

Since the 1960s, there has been a greater emphasis in Western literature on cultural practices and values inherent within landscapes, expanding on the previously prevalent view of landscape as a separate entity to humanity. There is also greater acknowledgement of the nature of the relationship between humanity and landscape, which "might best be described in terms of the entwined materialities and sensibilities *with which* we act and sense" (Wylie, 2005, p. 245). In other words, humanity and the land are involved in a continuous dialogue that emerges as a series of cultural manifestations that include reflections on the structures of power and authority, and how identity and ethical conduct are reflected in the human experience.

Art historian William John Thomas Mitchell echoes the above sentiment, writing that landscape should be thought of as, "a process by which social and subjective identities are formed" (Mitchell, 1995, p. 1). A landscape can be defined both literally—as physical features defining a place—and symbolically, with these physical features taking on human allegories, or acting as demarcations between people. Mitchell notes that:

landscape is a medium of exchange between the human and the natural, the self and the other ... expressive of a potentially limitless reserve of value ...
landscape is a natural scene mediated by culture. It is both a represented and

presented space, both a signifier and a signified, both a frame and what a frame contains. (Mitchell, 1995, p. 5)

Another way of conceptualising this experience of responding to landscape is landscape phenomenology, which emphasises some form of direct, bodily contact with the land. In essence, landscape phenomenology is about relating to the land through describing the lived experience of being within its bounds (Wylie, 2007). This approach to the landscape views the relationship between people and land as active, embodied and dynamic, with the landscape comprising the totality of the relationship between people and land. This relationship is also seen as ongoing and evolving where the landscape is more than an external object, but one where people and land are engaged in a constant co-constructing of relationships (Wylie, 2007).

One aspect that particularly struck me about landscape phenomenology was the idea of incorporating the land itself as part of a work that ultimately seeks to convey a narrative around the lived experiences of place. During my explorations on the idea of landscapes being a place where relationships between people, and between cultural representations of place are mediated, I found this sentiment often echoed in the field of cultural geography. For the purposes of this exegesis, the idea of how place and people are interconnected is noted in editors Gold and Revill's introduction to *Landscapes of Defence*, where they explored landscapes in terms of culture, power, and relations:

We may think of individual "landscapes" as being compromised, partial, contested, and only provisionally stable as modes of ordering the world and our engagement with it. If so, this suggests that we should not think of individual landscapes as discrete pieces of territory because they are supported by, and help to sustain, the interests of mere sections of any given

society. Alternatively, we might think of landscapes as being formed in relation to other landscapes and conceptions of landscape. In that case, perhaps also we should base our analysis in terms of the interconnectedness of landscape, its links with other landscapes, other geographies. (Gold & Revill, 2000, p. 15)

3.1.1 Picturing Western Australian Landscapes and Deserts

As much of my work was influenced by the Western Australian landscape, I was keen on reading about other Western Australian artists and their ways of reflecting and documenting place. In a visual art context, my interest in incorporating aspects of nature as a source of work and narrative device was reflected in the work of two painters, Shayne O'Donnell and Bec Juniper. I found both inspirational in their introspective studies of place and how they incorporate landscape into their reflections on their personal histories and environmental issues. While out in the field for the projects described below, I became increasingly aware of issues around climate and ecology. It was difficult to ignore the impacts of former land practices on the lands around the Wheatbelt, for instance, where salinification of the land is a threat to the environment. This has led to a greater personal awareness for the need to explore climate change and ecological threats, and subsequent feelings of personal anxiety surrounding these phenomena.

Shayne O'Donnell is a visual artist who creates large-scale paintings that are deeply influenced by her emotive responses to the Western Australian landscape. Her deeply personal explorations of memory and trauma through the lens of place resonate for me. Regarding the theme of her works, O'Donnell writes, "My work ... explores landscapes that have agency ... (where) my memories replayed themselves in these spaces" (O'Donnell, 2012, p. 19). For O'Donnell, places have multiple

layers of meanings and relationships that might not be immediately obvious—in essence, they are worlds within worlds.

In her 2012 master thesis, *Space Does Matter*, O’Donnell discusses the creation of a series of work responding to her life experiences at the time, using the frame of the Western Australian landscape as a narrative device. Her investigations into place and memories began in 2009, a year which she described as, “my year of death” (O’Donnell, 2012, p. 8). As part of her practice, she undertook many contemplative walks along the Swan River/Derbarl Yerrigan. Her walks and her subsequent desire to create dialogues between place and artist led to the creation of a body of work addressing concepts of death and absence.

Figure 4

Yellow Billabong, by *Shayne O’Donnell* (O’Donnell, 2012, p. 10)



A particularly striking piece among the works is *Yellow Billabong* (Figure 4), a painting depicting a billabong through some trees. At first glance, the scene is haunting and vaguely disturbing, with its muted palette of pale yellow and grey, and the stillness of the scene. The centrepiece is a yellow billabong, an unnatural colour for a billabong. There is a sense of otherworldly-ness in the work. It is both familiar (a typical Australian billabong), yet not, with its unnatural colour.

As O'Donnell explains, these colour palettes were chosen because she, “wanted to evoke a feeling that the landscape was a space of unease, a landscape that was counter to the expected” (O'Donnell, 2012, p. 20). O'Donnell deliberately chose to depict the billabong as yellow, to invoke a sense of chronic illness: “Yellow was a conscious choice alluding to the jaundice of illness, uncertainty and disquiet. The landscape of the billabong with its static body of water, is a state of being rather than a state of becoming” (O'Donnell, 2012, p. 20).

In describing her creative process, O'Donnell ultimately notes that thematically, her work is preoccupied with finding meaning in places. Her depictions of landscape are also about embedding herself in place. Rather than depicting place in situ, she searches for:

Resonations that break down and deconstruct absolutes, historical truths, and picturesque ideals ... Abandoning recognisable signs and reducing figurative elements leaves space only for allusion. And in alluding to the sublime I attempt to secure an inroad into the meaning of existence. (O'Donnell, 2012, p. 23)

Bec Juniper creates evocative and abstract aerial landscapes inspired by the Western Australian landscape. Drawn from memory, Juniper's works are inspired by a combination of flights (e.g., over the Great Southern region) and Google Earth

images of various areas of the state. Juniper is particularly drawn to the Western Australian landscape because it is simultaneously harsh, yet fragile and beautiful, which I found similarly during my journeys through the Wheatbelt. In an interview, Juniper notes that while on the surface, the landscape seems tough and hard at first glance:

the opposite is actually true. It's a very fragile landscape. Yes, some things are spiky and horrible. Yes, it can kill you if you don't know what you're doing. But there is a lot of softness there ... it is really quite beautiful and changeable. (Juniper, in Munro, 2017)

The frequent juxtapositions presented in the landscape is another aspect often alluded to by Juniper in her work. Her paintings highlight the beauty, fragility and sheer power that can co-exist in the scene. Juniper explains that, "From a distance you see this beautiful landscape with this soft wheaten pastel green and little pompoms of grass everywhere. But they are prickles, they are spikes, and it is not nice at all" (Juniper, in Munro, 2014).

Part of Juniper's fascination with the Western Australian landscape also lies in the sheer scale of place: "There's a sense of being in a place where you are kind of dwarfed by nature and feeling almost insignificant in the face of that majestic scale" (Juniper, in Christmass, 2015). The sense of size is not only vertical (such as in the sheer gorges of the Mid-West and the Kimberley, the mountains and hills of the Stirling Ranges, or the granite outcrops of the Wheatbelt), but also horizontal—most notably in the myriad number of salt lakes that dot the eastern side of the state. Regarding salt lakes, Juniper describes them as, "terrible and fascinating at the same time" (Juniper, in Munro, 2017). As I note below, I have also been struck by Western Australia's salt lakes and have sought to express their moods through visual and

audio-visual works (see discussion in 4.2.4 of Dumbleyung Lakes and the 2017 creative work/extended play (EP) release *Beringbooding*).

Another inspiration for my approach was Maggie Payne, whose practice resonated with me conceptually and setting-wise. Payne's practice is based around developing connections with a landscape—for Payne in particular, the deserts of the American Southwest. The harsh, yet fragile, landscapes of the deserts echo the harshness of the Western Australian Wheatbelt. Conceptually, Payne is interested in celebrating the landscape, rather than seeing the harshness of the land as a challenge to be overcome. Similar to Payne, I believe that exploring narratives that arise from a place requires a close, ongoing dialogue between self and the land, and these dialogues necessitate a level of concern and management of a place.

In her article about Payne's practice entitled "The American Southwest as Muse: Maggi Payne's Sonic Desertscape", Sabine Feisst eloquently describes Payne's approach as being less focussed on documenting human domination over a landscape or projecting a landscape as the 'Other' than on emphasising the interconnectedness of humans and nature. In Payne's work, human presence is almost seen as an intrusion at times, with Payne also obliquely referencing how estranged humans have become from nature. Payne:

conveys how pristine and fragile these places (deserts) are. But neither does she narrate the heroic conquest of an inhospitable environment, nor does she present idyllic and unspoiled pastoral scenes ... she conjures up the mysterious beauty of deserts ... the close proximity of interconnectedness of nature, humans and technology ... yet she also suggests that the physical and often noisy presence of humans signifies an intrusion in fragile environments and human estrangement from nature. (Feisst, 2016)

Many of Payne's works are reflections on the ecological fragility of deserts. An example is *Desertscapes* (1991), a work made of four movements evoking different places in the US: Pyramid Lake (Nevada), Death Valley (California), Bryce Canyon (Utah) and Devil's Playground (California). The works use minimalistic techniques to reflect the austerity of the settings, with various techniques used to convey the ecological and geographical details of each place; for instance, having spatially separated choirs to represent the vastness of the places, and the clustering of notes and words to represent the Salt Creek that flows through Death Valley. These works and processes were a particular influence on my compositions as part of the *Beringbooding* release discussed in Chapter 4.

3.2 Field Recordings and Soundscape Composition

Field recordings offer greater meaning for the listener when the personal narratives and motivations of the field recordist are openly acknowledged. Isobel Anderson and Tullis Rennie eloquently outline the importance of highlighting personal narratives, arguing that the, "meaning of the sounds within these recordings may have a personal significance to their recordist, which may bring greater meaning to the overall soundscape for the listener, if divulged" (Anderson & Rennie, 2016, p. 223). For Anderson and Rennie, these personal narratives should be celebrated and highlighted as a way of creating deeper knowledge about place.

Dee Heddon describes a similar sentiment of viewing field recordings as a way of narrating the links between site and self for the recordist. For Heddon, field recording extends beyond documenting place and reaches into documenting the perspectives of the field recordist, likening the process to an aural form of autobiography. In *Autobiography and Performance* (2008), Heddon explains:

In thinking about performances that fold or unfold autobiography and place, particularly outside places, I have conceptualised them as being autotopographic, a neologism used for more than its fleeting illusion to autobiographic ... [the word] intends to foreground the subjectivity involved in plotting place; autotopography is writing place through self (and simultaneously writing self through place) ... [it] is a creative act of seeing, interpretation and invention, all of which depend on where you are standing, when and for what purpose. (Heddon, 2008, p. 90)

Composers being inspired by the natural environment is not a new phenomenon. Prior to the 20th century, artists were often inspired by natural sounds and environments, creating scores that emulated sounds from both natural and human environments; however, the advent of recording technology meant that artists were also able to transport entire soundscapes from one place to another. British composer David Toop, who often utilises field recordings in his works, notes how groundbreaking recording technology was for composers, enabling them to incorporate direct sounds from the environment into works: “The fact that these noises also began existing as recordings suggested you could use them as they were—not by imitating them with an oboe, but by actually bringing in the sounds themselves” (Nichols, 2017).

As well as documenting sounds and bringing them into different—and unexpected—places, field recordings encourage interactions between the listener and sounds. Through these interactions, listeners are challenged to consider how they relate to place, and to be attentive to sounds and environs they might otherwise not have considered in their daily lives. Toop observes that field recording allows:

a framing of listening within a particular setting, where you'd normally expect to hear music that's deliberately separate from the environment: a shocking gesture in one sense. But in another, it forces the audience to listen to the world around them, and consider those noises as performance. (Toop, in Nichols, 2017)

One aspect of field recording is examining the types of sound that are being captured, and the relationships between different types of sound, and between sounds and listeners. R. Murray Schafer writes extensively on soundscapes and offers a way of classifying sounds as a way of understanding these relationships, noting such a classification helps in:

discover(ing) similarities, contrasts and patterns ... sounds may be classified in several ways: according to their physical characteristics (acoustics) or the way in which they are perceived (psychoacoustics); according to their function and meaning (semiotics and semantics); or according to their emotional and affective qualities (aesthetics). (Schafer, 1977, p. 133)

Schafer mentions a system organising these types according to their referential aspects; highlighting the function and meaning of sounds. Schafer acknowledges such systems are arbitrary and the perception of a sound is informed by subjective bias on the part of the listener. However, such a checklist can be useful at an individual level, for the individual to examine their relationship to a soundscape. An analysis of a soundscape, according to this system, might break down various sounds into categories (and sub-categories; Schafer, 1977, p. 139):

1. Natural sounds
 - a. water—such as oceans, rivers, rain, ice
 - b. air—such as wind, lightning

- c. earth—such as rocks, caves, vegetation
 - d. fire
 - e. fauna
- 2. Human sounds
 - a. voice—encompassing all modes of vocalisations
 - b. body—encompassing all forms of movement
- 3. Sounds and society—urban *v.* rural soundscapes, domestic *v.* workplaces, and other forms of soundscapes that are informed by cultural and societal knowledge
- 4. Mechanical sounds—encompassing all types of machines, their internal workings and locomotion
- 5. Quiet and silence
- 6. Sounds as indicators—sounds that are used to mark places and/or the passing of time.

This type of classification system is useful when a composer is considering on which elements they might want to focus when being in the soundscape. During my forays into the field, I often considered which particular sound elements would take precedence in my recordings to convey my narrative of place, and whether certain sound elements would act as a recurring motif when creating a series of works. Classification systems offer a way for composers to critically understand the soundscape and examine the motivations behind their recordings.

Another facet to consider is the field recordist themselves while in the field—their motivations for recording, and rationale for choosing a certain area for gathering sonic material. Field recordings are often perceived as recording-as-documentation or as a process of gathering sonic material, with the focus being on

capturing impartial and neutral artefacts of soundscapes. The narratives that exist within the recordist, however, have been generally less acknowledged. In their writings on narrative in field recording, Isobel Anderson and Tullis Rennie noted that:

These narrative details should certainly not automatically be silenced, repressed, or redated, which are common conventions within the practice. Instead, these insights can become some of the most interesting and creative elements of field recordings, both strengthening the field recording artist's understanding of their practice and providing greater potential engagement for listeners. (Anderson & Rennie, 2016, p. 223)

Several composers have explored field recordings as a form of self-reflexive practice. One of the earliest practitioners was French composer Luc Ferrari. Ferrari's first foray, *Presque Rien, ou le Lever du Jour au Bord de la Mer (Almost Nothing, or Daybreak at the Seashore)*—a series of works recorded in Vela Luka, Croatia and released in 1970—was a demonstration of a field recording being used as part of both composition and auditory memory making, through a combination of field recordings, speech, and abstracted, manipulated sonic textures. Hildegard Westerkamp and Janet Cardiff (see below) have also interwoven personal narration into field recording, explaining to listeners the personal significance of an area for them and signposting studio manipulations in the narration. For these artists, “listening is suggested as a kind of embodied thinking-feeling, a drawing together of the streams of information—sonic, spatial, social—which populate our daily lives” (Findlay-Walsh, 2017, p. 121).

In making the *Presque Rien* series, Ferrari was deliberate in his choice of recording place, wanting to record the sounds of an awakening village and comment

on embracing *all* sounds as music. For the *Presques Rien series*, Ferrari spent several weeks exploring Vela Luka and its surroundings with his wife, Brunhild Meyer Ferrari. As they explored the area, Ferrari became increasingly drawn to the sonic environment and his responses to what was happening; he recorded for several mornings. These recordings became the basis for *Presque Rien No 1*. As noted by Lawrence English in his essay about the work, “In *Presque Rien No. 1*, Ferrari perceived that his listening, as an affective and agentic performance within a given horizon, was not absolute or ongoing, but rather highly selective in attentiveness and temporality” (English, 2017, p. 17).

The *Presque Rien* series is also interesting in terms of how Ferrari explores multiple narrative approaches in the works. *Presque Rien No. 2—Ainsi Continue la Nuit Dans ma Tête Multiple* features Ferrari weaving a narrative over a night-time soundscape. For Ferrari, the change into the nocturnal also denoted an inward change in the listener’s perspective into introspection, and this shift in focus is conveyed by Ferrari’s monologue over the soundscape. *Presque Rien No. 4—la Remontée du Village* follows a similar approach to *Presque Rien No. 2*, with Ferrari and his wife narrating a walk through another village—this time, the Italian village of Ventimiglia. As the work progresses, Ferrari’s manipulation of sounds become increasingly evident, as the field recordings are blended together.

Hildegard Westerkamp describes how she uses field recordings and their manipulation to get in touch with her inner self:

In my electroacoustic compositions my inner voices speak and in that form I have been able to make them public ... Seeing how many people enjoy working in isolated environments ... tells me I am not the only one who needs such a place to get in touch with the inner world ... Such a situation

can potentially get us in touch with an inner vitality and creative spirit.

(Westerkamp, in McCartney, 1999, p. 402)

It is however the experience of *listening in a place* as a way of creating greater awareness of existing soundscapes that is crucial to her work. Westerkamp has been very influential in my own work, as she uses field recordings to convey, and reflect upon, her own experiences. Westerkamp emphasises the act of listening as an important aspect of her compositional process, by enabling her to find the appropriate ‘voices’ to best portray a place. For her, field recordings are her instruments.

For Westerkamp, the act of listening for ‘voices’—with its associated embodiment of the self—can be literal. In one of her works, *Breathing Room* (1990), Westerkamp sought to create a work reflecting on a number of life changes occurring for her at the time. The resultant series of works acts as a self-portrait of these moments, by recording her breathing. Westerkamp chose to record her breathing, as this is a “nourishing music space ... All sorts of musical acoustic things happen as I breathe in and out. Each breath makes its own, unique statement, creates a specific place in time” (Westerkamp, 1990).

Listening also becomes a bridge between the inner and outer worlds, or as Westerkamp notes, “the act of listening grounds us within our own inner world from which—in turn—inspiration springs” (Westerkamp, 2015). With this awareness of the inner world also comes an acknowledgement that listening is, at its core, highly subjective in comparison to the relative objectivity of hearing. For example, if a sound occurs in a packed room, all individuals in the vicinity might acknowledge the existence of this sound. However, each person will differ in their interpretation of the

sound, as their interpretation is coloured by a range of factors such as past experiences, culture and gender.

Westerkamp channels her personal emotions and memories in many of her works. In *Kits Beach Soundwalk* (1989), for example, she explores her affinity with Vancouver's Kits Beach through a combination of field recordings and spoken contemplations. Similar to Ferrari's approach in *Presque Rien*, Westerkamp offers commentary interspersed throughout the piece. Westerkamp's commentary, overlaid in the studio, explains the significance of certain parts of Kits Beach for the listener, and openly signposts her audio manipulations. For instance, in one section, Westerkamp informs the listener that she is diminishing the sound of traffic to amplify the sound of the ocean because the view is "beautiful. In fact, it is spectacular" (Anderson & Rennie, 2016, p. 227).

Janet Cardiff is another composer who establishes herself within soundscape recordings through her series of soundwalk compositions, where she narrates over a composed soundscape. In works such as *A Large Slow River* (2000), Cardiff uses Lake Ontario as a setting for discussing memory and time. Through her narration, Cardiff layers several strands of time, offering the listener multiple perspectives of place. For instance, in one passage Cardiff narrates over the sound of crashing waves: "I'm at a beach on Lake Huron, my toes squishing into the mud ... jumping off my father's wet shoulders into the water. Now I'm at another beach, it's night, the sound of the waves coming in through the screen windows" (Cardiff, accessed 1 September 2019). All these works can also be considered examples of sound mapping (see Section 3.4). The two practices—personal insertion into the landscape and mapping the landscape as one moves through it and its sounds—often coincide and reinforce one another.

Acoustic ecology is a form of field recording that explores the relationship between living beings and the environment, mediated through sound. The term, originally coined by Michael Southworth, evolved during the 1960s through the writings of R. Murray Schafer. Acoustic ecology was based on the belief that people needed to engage with natural soundscapes and re-establish an appreciation of the natural world. For Schafer, the acoustic environment of landscapes should also be heard as music, and acknowledged as a perpetual, dynamic aspect of all landscapes: “Today all sounds belong to a continuous field of possibilities lying within the comprehensive dominion of music. Behold the new orchestra: the sonic universe! And the musicians: anyone and anything that sounds!” (Schafer, 1977, p. 5).

Sound artist Leah Barclay draws inspiration from acoustic ecology in her practice, in her desire to work intuitively with the surrounding soundscape. One example of this is her *Cypress Trilogy* (2010), a site-specific interactive performance installation composed in the Noosa Biosphere Reserve in Queensland, Australia (Barclay, 2013, p. 44). During the composition process, Barclay drew on improvisation and field recording as a way of intuitively responding to nature; in particular, she drew on biomimicry, inspired by natural models, systems and designs.

For Barclay, biomimicry – with its encouragement to incorporate nature in the creation of work - enables “conversations to occur *about* the environment...but also demands that a conversation occurs *with* the environment” (Barclay, 2013, p. 45). This shift in perspective ultimately leads to compositions where nature is not merely viewed as a point of creative inspiration, but also is a foundation of the creative process.

Another prominent acoustic ecology practitioner is Barry Truax, a founding member of Schafer’s *World Soundscape Project*, implemented in the early 1970s at

Simon Fraser University, Canada. The project had two main purposes: to document acoustic environments; and to increase public awareness of the importance of soundscape (Truax, 2000). For Truax, soundscape compositions should acknowledge, invoke and encourage both the psychological and environmental contexts of the source material. Ideally, a soundscape composition balances the inner complexity of the sonic organisation of environmental sound with the outer complexity of relationships that exist within the real world. For Truax, the goal of such works should be, “the re-integration of the listener and the environment in a balanced ecological relationship” (Truax, 2000).

A dilemma facing field recordists is how to find a balance between the aesthetics of creating a soundscape and the objective and pragmatic processes of recording the soundscape within compositions. While exploring narrative through field recordings can be deeply satisfying on an artistic level, during the sound manipulation process there is also the risk of losing the sense of place. One way of resolving this dilemma is through explicitly anchoring the composition with some aspect of the ‘real’ world (namely the original source of the recording).

Truax notes the importance of this anchoring, because it locates the sound through its physical, social and psychological aspects. By combining these aspects, Truax intends to develop, “models of a more balanced relationship between ourselves and the environment” (Truax, 1992, p. 40). In Truax’s works, the original source of the sound is still clearly discernible; this anchors the work and the sound itself in its cultural and historical contexts.

Truax illustrates this dilemma as a continuum between internal narratives and external experiences (Truax, 2012, p. 194):

Internal Dominant (text) <-----> External Dominant (context)

Truax's continuum model acknowledges that understanding a sound (and, more broadly, the soundscape) is dependent on a confluence of both the listener's internal perspectives and their understanding of the external context behind what they are hearing. Ideally, a work focussed on the aesthetics of a soundscape would be situated somewhere around the centre of this continuum, as a way of encouraging deeper engagement with the soundscape and place by giving the listener space to contemplate their own relationships with an area:

The basic model of acoustic communication is grounded in the understanding that information and meaning arise through listening from both the inner structure and patterns of sound itself and also the listener's knowledge of context. In other words, both inner and outer complexity inform our understanding of sound. Further, sound is not merely information exchange, but is capable of creating relationships between listeners and their environment in a dynamic process of embodied cognition. (Truax, 2012, p. 194)

The continuum also illustrates the tension faced by composers in balancing internal narratives with external realities. There is a danger that, "one can easily obtain and arbitrarily manipulate environmental sounds with no contact or experience whatsoever of the original content" (Truax, 2012, p. 200). Without the correct context, these sounds could be used incorrectly, as:

All recordists ... understand that the act of recording is far from objective or neutral, both technically in terms of microphone characteristics and strategically in terms of recording perspective and other choices in regard to location. However, the further manipulation of those recordings raises ethical

issues for the artists as to representation, of what, for whom, and in what future context. (Truax, 2012, p. 195)

While technically, all sounds that exist within a soundscape can become part of a soundscape composition, it is also important to consider how these sounds are placed in context. What is the relationship between the composed work and its source material? Or, as Westerkamp asks, “But can a piece be called a soundscape composition just because it uses environmental sounds as its source material?” (Westerkamp, 1999).

For Westerkamp, this depends on whether a composition has an overt, audible relationship to the original source material. This could be taken literally—in the sense that a soundscape includes the original field recording—or more figuratively, in that the composition is referencing a place, time or situation. For a work to be considered a soundscape composition, this relationship must exist in some form, because to compose a soundscape composition is to explore the relationship between work and place. Soundscape composition is:

a forum for us as composers to “speak back” to problematic “voices” in the soundscape, to deepen our relationship to positive forces in our surroundings or to comment on many other aspects of a society ... such work potentially creates a clearer sense of place and belonging for both composer and listener, since the essence of soundscape composition is the artistic, sonic transmission of meanings about place, time, environment and listening perception.

(Westerkamp, 1999)

Field recording coupled with soundscape composition is a way to highlight relationships between people and place. The combination of unprocessed and processed sounds offers a bridge between the external world of the environment and

the internal world of both composers and listeners. Westerkamp elegantly sums up this relationship as a way of moving beyond the mundane: “Soundscape listening and composing then are located in the same place as creativity itself, where reality and imagination are in continuous conversation with each other in order to reach beneath the surface of life experience” (Westerkamp, 1999).

3.3 Psychogeography and Sound Art

As I continued to examine the relationships between self and place, and how such relationships could be conceptualised artistically, psychogeography emerged as an important part of my practice. Psychogeography was originally devised by the Situationists in the late 1950s as a commentary on urban landscapes, with French theorist Guy Debord as the main proponent. Participants would often wander through neglected areas while observing how people navigated through the city.

Psychogeography was used by the Situationists as a way of exploring the psychological effects of urban spaces on individuals, and offering critiques about how certain spaces were used.

In essence, psychogeography is about taking individuals out of their everyday realities, and challenging boundaries that might restrict perceptions of, and movements within, a place. Such boundaries—for instance, denoting places to which one might (or might not) be allowed access, and methods of traversing them—are seen as unnecessarily constrictive and not helpful for participants to learn about place. Psychogeography instead enables participants to abandon set ideas about destinations and allow themselves to be guided by instinct in how they respond, and interact with the terrain of an area.

A distinctive part of The Situationists’ practice was the *dérive* (or ‘drift’), where the purpose for movement across the landscape was exploration. The *dérive*

came with no other agenda than to wander. Debord describes this as, “playful-constructive behaviour” (Debord, 1956) with no set route; unlike standard walks, whose purpose is to reach one point from another. Debord further describes a *dérive* as a “technique of rapid passage through varied ambiances” (Debord, 1956), with the length of the *dérive* dependent on whether “the goal is to study a terrain or to emotionally disorient oneself” (Debord, 1956).

There were no set rules as to the number of participants or duration of a *dérive*, although Debord believed small groups were preferable. In terms of duration, a *dérive* could last however long was deemed necessary by the participants—from a few hours to a few days or more. There were also variations in the size of the area in which the *dérive* took place, which could be as large as an entire suburb (as long as the *dérive* did not exit the city’s limits), or as circumscribed as a single building. Participants were also not necessarily limited to following set routes; they were encouraged to find their own paths in whichever way was most comfortable.

While on a *dérive*, participants might note presences and absences in an area, and the subsequent interplay of their own memories. For the *dérive* to have the greatest impact on the individual (or group), participants were asked to let themselves become drawn to the terrain and encounters as they traversed an area. According to Debord, “from a *dérive* point of view cities have psychogeographical contours, with constant currents, fixed points and vortexes that strongly discourage entry into or exit from certain zones” (Debord, 1956).

In more recent years, psychogeography has re-emerged as a way of describing the effect of a location on the emotions and behaviours of individuals. In a study on contemporary psychogeographic practices, Antigoni Geronta noted some of the ways in which groups have built on the initial work of Debord and the

Situationists, through emphasising the profoundly personal impacts a place can have on people. One group noted by Geronta was the Workshop for Non-Linear Architecture, which was interested in, “the interaction between environment and behaviour ... through various interpretations, codes and symbolisms of the elements that constitute our geographical environment” (Geronta, 2010).

Some of these explorations have been done sonically, with musicians capitalising on music’s ability to evoke memories and emotions. Through music, artists can explore their personal narratives and memories of a place. Writing about the intersections between music, landscape and psychogeography, researcher Tony Mitchell notes that, “Music can evoke or recreate places, spaces, localities and occasions, as well as providing biographical cartographies and metaphorical orientation guides, along with affective embodiments of identity, home and belonging” (Mitchell, 2009a, p. 173).

I was intrigued by sound artist Michael Gallagher’s work based on what he terms an ‘audio drift’, which he describes as a way of using audio media in researching places. As part of his process, he would record himself walking, at times attaching microphones to his feet as an accurate way of recording the sound of his feet as he navigated through an area. Despite a passing reference to Debord’s *dérive*, Gallagher differentiates his audio drift from Debord in that he is referencing several types of movement: his physical movements across the landscape as well as the movements between sonic elements as they were layered in the composition, and the sensations felt by both himself and listeners during the playback of the work. Of the playback, Gallagher describes this as, “a drifting of both bodily movement and conscious attention experienced when walking and listening back to the work; and

the drift between the work's pre-determined form and the unpredictable movements of listeners" (Gallagher, 2014).

An example of Gallagher's audio drift process is *Kilmahew Audio Drift No 1* (2013), a soundwalk made at the ruins of the Kilmahew Estate in the west of Scotland. A large part of Gallagher's work involves recording his own movements across a landscape, overlaying them and allowing listeners to wander the landscape without a set route. The resultant juxtaposition of the soundtrack and the natural soundscape therefore offers a sensation of 'multiple temporalities', with the potential for "constructing alternative versions of the past, and for recouping untold and marginalised stories" (Gallagher, 2014).

Gallagher also suggests that these psychogeographical responses can be considered a kind of 'haunting', with localised sounds conjuring the experience of the past (see also Mulholland below). For Gallagher, this sensation arises from overlaying multiple sounds from the same landscape and then listening to these overlaid sounds through a portable listening device alongside the current soundscape. The resulting feeling of the soundscape reflecting on itself can be disorientating to some listeners. For Gallagher, this experience can also be powerful as, "Affects of this kind have the potential to reconfigure listeners' relationships to place, to open up new modes of attention and movement" (Gallagher, 2014).

In the context of working within landscapes, psychogeography is a particularly pertinent concept, as it offers methods of reflecting upon the geography of a place. A psychogeography compositional practice is a way of mediating knowledge and imagination, where concepts of landscape, place and meaning can be situated together. The practice of psychogeography involves walking through various places, where the body functions as a "research instrument" (Bridger, 2013, p. 288),

recording (through exploration, meditation and contemplation) the intersection of a person's own experience, and the relationship between self and place. For instance, the contours and resonances of the land can be captured and expressed through field recordings; for example, the rushing cascade of water onto rocks, the wind through trees and the animal sounds highlighting its inhabitants. These aspects can then be used by the artist in the creation of artefacts that channel these emotions and memories.

One psychogeography-based artist I found particularly inspirational is sound artist Drew Mulholland, whose works draw on his experiences and reactions to memories and place. Mulholland describes his practice as a form of sonic psychogeography, where he is exploring his experiences through a combination of field recordings and manipulations of sound. In Mulholland's work, the emotionality of a place is expressed not only by the inspiration of being present in a place, but also through deriving compositional elements from the place by using elements from the landscape itself. With this approach, the landscape becomes an integral part of the compositional process. For Mulholland, there is a deep sense of embodiment when out in the field:

you can't help but bring your own reaction to it [the place], and maybe that's where part of the strength of it is: the fact that the place is kind of channelling something for you. Do you know what I mean? It's a kind of conduit if you like. (Mulholland et al., 2009, p. 391)

I was drawn to Mulholland's work because of his focus on the dialogue between self and landscape. Mulholland is interested in interrogating his responses to landscape, through capturing moments in time and place and noting what memories might be triggered by subsequently playing back recordings. Mulholland is primarily

interested in the notion that, “sound can somehow free the past and subsequently, under certain conditions, memories and impressions can be realised” (Pritchard, 2015, p. 322).

The concept of landscape channelling emotions within him is one that Mulholland often states about his work. For Mulholland, there is no separation of artist and place—the artist becomes an active agent while present in the place, bringing with them memories and past experiences as they engage with the land. This intertwining of the histories between artist and place is an important facet of my creative process also.

Sonic-based psychogeography praxis involves a musician explicitly and intentionally reflecting upon the multiple geographies informing their own practice, and the infusion of geographical aspects of a place into their own work (Mulholland et al., 2009, p. 379). Psychogeography therefore is a way for artists to invoke the emotionality of a place, while also reflecting on an area’s geographical features.

Landscape can be a powerful driver of memories, and these memories can influence a person’s interpretations of place. It is important for this influence to be acknowledged during the compositional process. A person does not arrive at a place as a blank slate, or—as interviewer Chris Philo in an interview with sound artist Drew Mulholland suggested—a “psychological emptying”:

Chris Philo (CP): You’ve never attempted a phenomenological emptying of yourself before the place, so you become like completely a blank screen and you’re trying to hear the place for itself?

Drew Mulholland (DM): No.

CP: No? It’s always [the] relation between yourself and the place.

DM: Yeah, I think so. Yeah, I think for me it's got to be, because there's even things that you might think you've emptied, but you bring to it and later you realise, "Oh, that's, that's where that's from". (Mulholland et al., 2009, p. 391)

Mulholland is also particularly aware of the ability of sound to disrupt temporality, and to reconfigure relationships between place and individual. Another word he uses to describe his practice is 'hauntology', as a reference to how the past can be conjured, albeit briefly, through sound (see also Gallagher above, under psychogeography). How, and what aspects of the past are being conjured through music is highly subjective to both listener and artist. As Mulholland noted to John Pritchard in an interview about his practice, "Understanding psychogeography and hauntology is like catching smoke; you can't pin the experience down and analyse it on a lab bench. It's a subjective experience and is as much an inner journey as an outer one" (Pritchard, 2015, p 324).

3.4 Sound Mapping

Sound mapping expands the concept of 'maps' from simply markings of spatial and physical features of a place on a gridded paper or screen, into a commentary about the interactions between place and inhabitants. Sound artist Isobel Anderson discusses the idea of maps in terms of personal experiences, or mental images of place through documenting memories and experiences through sound and other features such as image, text and sculpture (see Anderson, 2016). When viewed in this way, maps become a way of conveying historical, cultural and geographical narratives of a place.

Sound mapping brings information together as a cohesive whole to create a richer understanding of place and space. It is often combined with visual

representations of a place as a way of establishing greater context for audiences. Soundmaps “can be graphic, conceptual, multimodal or digital artefacts that represent sonic locales in different ways, anchoring sonic information such as type, content, characteristics, and relationships between sounds on spatial representations of space” (Droumeva, 2017, p. 337).

Before further discussion, it is important to consider how a map is defined. The common view of a map is a series of lines in gridded fashion that accurately plots physical and spatial features onto a piece of paper or a screen. On a broader level, mapping is also about representing an individual’s surroundings and realities of a place; particularly highlighting the personal associations, emotions and memories a person has in their relationships with a place’s physical and spatial features (Anderson, 2016, para. 3). From this perspective, maps can also be viewed as a subjective abstraction of place overlaying imagined landscapes with geographical features.

An example of sound mapping being used to convey narrative is *Sailortown* (2012), a project by Anderson and Fionnuala Fagan based around the old dockside zone of Belfast, Ireland. For Anderson, the project highlights how place, history and lived history can be deeply intertwined. Once a bustling, close-knit community, most of Sailortown was demolished in 1962 as part of the M2 motorway development. Through this project, Anderson and Fagan found themselves uncovering lost buildings and landmarks through personal stories of long-term residents of the area. Anderson notes that the project also, “voiced great feelings of loss and bereavement. It had been extremely difficult to accept the disappearance of Sailortown from Belfast’s physical and psychological landscape, when at one time it had been their home” (Anderson, 2016, para. 31).

Another example of this is the *Cybercartographic Atlas of Antarctica* (2008) project by Caquard and colleagues, which was created as a digital, interactive resource for exploring Antarctica. The work was particularly focussed on the convergence between the Antarctic landscape and human exploration. In this project, sound was used as a way of exploring and representing geospatial information. For instance, one section of the map exploring the research stations present on the continent features sounds to accentuate the information:

a loose depiction of three intersecting components: an exterior frontier (represented by the high-pitched sound of cold winds whistling across a plain); the human-made interior space of a research station (represented by the muffled rumble of winds buffeting a small, enclosed acoustic space); and intermittent bursts of short wave radio activity. (Caquard et al., p. 14)

The artists note that sound can become an important element in these cartographic practices because:

Sound can create depth and space the way the image can only suggest ... sound can provide tactile sensations through an enhanced bass response, thereby “touching” the listener from a distance ... More fundamentally, the soundscape of audio-visual media is like any other text in that it communicates a narrative (Caquard et al., 2008, p. 4).

A common approach to sound mapping is to attach field recordings to geographic coordinates via online maps, such as Google Maps (Thulin, 2016, p. 194). These projects often contain a collaborative aspect as a way for visitors to explore the relationships between place and cultural identity, inviting audiences to either modify these recordings or contribute their own recordings to the project. An example of attaching field recordings to geographic coordinates is *Folk Songs for the*

Five Points (2005), a project created through the Tenement Museum’s Digital Artists Residence program in New York, US. In this project, visitors to a website were able to explore an interactive map of New York’s Lower East Side. Overlaid on the map was a number of dots that represented locally recorded audio samples. Using a selection tool on the side of the map, visitors were able to remix, create and share their own musical pieces using these samples. An example of collaborative means to allow visitors to explore the relationships between place and cultural identity is the *Cities and Memory Project*, where contributions were encouraged from around the world. *Cities and Memory* paired up two sounds of place—the original field recording, and a reimagined soundscape based on the original field recording.

While sound maps can be used to document place on a literal level (in other words, documenting how a geographic location looks and sounds), they can also be used to examine the relationship between people, place and temporality through techniques such as layering sounds, all the while using geographic and spatial aspects of place as the basis of works. Such an approach allows for a broader approach to place, where real and imagined sonic geographies can move within and from each other.

Thulin describes five methods of sound mapping—sound-as-map, sound-into-map, map-into-sound, maps-of-sound and map-as-sound (Thulin, 2016, pp. 196–197), two which are relevant to this paper: sound-as-map and map-into-sound. For Thulin, sound-as-map has a “thorough engagement with acoustic aspects of places, often exploring an aurally-orientated “deep mapping” that layers multiple aspects of place” (Thulin, 2016, p. 196). Often these works contain one of, or a multiple of the following: a collection of sounds spread over a specific geographical area, and use of visitors’ movements through sites (aka soundwalks), which are integral to the work.

An example of sound-as-map is Annea Lockwood's various works based on river systems. For instance, in *Sound Map of the Hudson River* (1982), Lockwood aimed to communicate the trajectory of the river through sound by recording at 15 locations along the river and documenting its various permutations through its journey. In a later piece based on the Danube River entitled *A Sound Map of the Danube* (2005), Lockwood wanted to record both the river itself and the populace that lived along its banks, noting that, "I decided in advance of recording that this time I would acknowledge this interdependence [of river and river-dwellers] by merging voice and river sounds" (Lockwood, in Nagia, 2011, p. 215). Lockwood expresses her desire to highlight this interdependence in an earlier piece of writing on the process of making the work:

The people I spoke with along the river came to seem as deeply a part of the river's being as the geese and the herons, aquatic beetles, carp, alder and willows ... here the voices are integrated into the mix. (Lockwood, 2007, p. 43)

A Sound Map of the Danube features 59 sites either on or near the river. The work combines field recordings taken from these sites, alongside interviews by Lockwood where interviewees were asked, "What does the river mean to you?" (Lockwood, in Nagia, 2011, p. 215). The album version of the work groups these sites into various tracks, which are marked on an included map (also containing translations from all interviews), but without time references. When listening to this work, there is a sense of moving along and with the river as it winds through the landscape.

An interesting aspect of the work is that Lockwood also focusses on the river as its own entity—one with its own sense of agency. The work ultimately is also

about the river itself, asserting its identity. Lockwood notes the point where she made this observation:

Way down in Russolo, Bulgaria, towards the end of the final field recording trip, we found a mud bank hollowed into an almost complete tube—producing marvellously resonant sounds—and I suddenly realised that the river has agency; it shapes its sounds itself by the way it sculpts its banks. It composes itself. (Lockwood, 2007, p. 44)

Through these soundscapes, listeners are encouraged to explore and engage with the historical, cultural and natural aspects of place.

Map-into-sound is the sonification of certain aspects of maps, whereby aspects such as visual and geospatial information are represented by sound. With this approach, the main intention is not to represent sounds found in an area, but to use sound as a way of communicating various information found on a map. Sound mapping allows for a method for creatively interrogating the relationships between sound and map, in its broadest definition as a visual representation of place and memory. There is a recreation not only of geography but of the cultural aspects of place. Thulin describes this as, “An expanded approach to phonography, one that takes in all sounds and their possible transformations, sits well with the critical and creative approaches to mapping that recognise the malleability and relationality of cartographic forms” (Thulin, 2016, p. 205).

3.5 Sonification

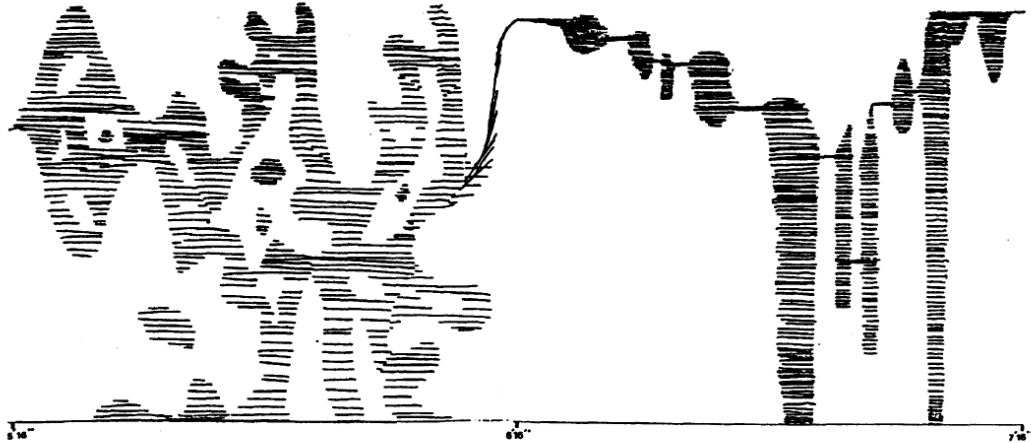
Sonification refers to the rendering of non-auditory data into an auditory state (such as musical notes or other such non-speech audio), to convey information (Hermann et al., 2011, p. 9). This process of sonification can render numbers and otherwise-esoteric information into tangible, relatable artefacts. One example of

sonification is the Geiger counter, a device that communicates radiation levels as sound—the faster the rate of the sound, the higher the level of radiation. The process of sonification allows for the conversion of data between visual and audio domains, and one such area is in image-to-sound sonification.

One early example of image-to-sound sonification is the UPIC (Unité Polyagogique Informatique CEMAMu) system devised by composer Iannis Xenakis. Originally trained as an architect, Xenakis became well known for his dense sonic works based on mathematical concepts. The UPIC system features a computer linked to a digitiser table where a person draws their music using an electromagnetic stylus. The UPIC system converts the digits into sound through loudspeakers (Nelson, 1997, p. 36). With this system, a drawing can undergo a series of permutations and the composer is able to generate compositions in real time by moving the stylus over the tablet. The stylus allows the UPIC system to be responsive to a user's movements—from small, precise hand gestures to sweeping arm movements. An example of Xenakis's work with the UPIC system is *Mycenae Alpha* (1978), a piece based on drawings Xenakis made using the system. Figure 5 shows an excerpt of the score for this work, where UPIC interprets the position of each vertical line relative to the horizontal as pitch, and horizontal movement of the score (moving left to right) represents time.

Figure 5

An Excerpt From Mycenae Alpha (1978)



Note. The image shows how a score is rendered in the UPIC Program (Reproduced in Harley, 2002, p. 52).

Sonification is potentially not just about methods of sonifying datasets, but also about creating a musical world in which datasets can be explored by both artist and listener. Marty Quinn, a sound artist who also incorporates sonification into his work, notes that constructing this musical world requires care and consideration for it to be meaningful for the listener:

If we design this world with musical care, including knowledge of scales, instrument timbres, tempos and rhythms, plus a limited set of rules that describe how the musical world will change as data at different levels of intensity interacts with it, then the resulting music becomes an auditory information channel. (Quinn, 2016, p. 93)

The question then moves onto designing the sonification process. What sort of data should the listener be hearing? What style of sound? For Quinn, there are three core elements of sonification: that the data being presented in audio form can be perceived quickly; has musical qualities; and can be listened to for long periods. For sonification to be an effective communication tool, there needs to be a clear intent behind the process and narrative: “What musical qualities will express data characteristics of meaning, value, metadata, relationship or timing?” (Quinn, 2016, p. 94).

Based on Quinn’s criterion, sonification can be described as a way of meaningfully connecting with raw information (data) via sound and/or music. For instance, sonification can be a powerful demonstration of climate change through the process of rendering numbers and otherwise-esoteric information into tangible, relatable and clearly audible artefacts. There has been growing interest in sonification from sound artists wanting to communicate climate issues to a wider audience by using datasets as a narrative device.

Sound artist Andrea Polli is one such artist who uses sonification to convey information about environmental issues. For Polli, datasets are first and foremost a representation of information and, “this representation can be entered, explored and transformed. A dataset can be experienced ... it can be replayed from various points of view and under different conditions” (Polli, 2016, p. 3). Sound is a powerful tool for engaging with datasets, because of its potential to evoke and channel emotions.

Another example of sonifying datasets as composition is Daniel Crawford’s 2014 *Planetary Bands, Warming World* (Figure 6), a piece based on mapping average temperatures over 133 years to create a score represented by four regions: equatorial (violoncello), mid-latitudes (viola), upper latitudes (violin) and the Arctic

(violin). The main goal of Crawford’s piece is to highlight the rate of climate change over this period, particularly the accelerating rate of change occurring in more contemporary years.

Figure 6

Part of the Score for Planetary Bands, Warming World



Note. The score above show how the four instruments have been arranged to play the sonified climate data.

Crawford notes that many key findings of climate science have been communicated to the public through conceptual diagrams or information-dense graphs, which may not be accessible to all audiences. He is interested in creating a visceral, non-visual way for audiences to understand climate change data, and finds music to be a way of bridging the gap between information and emotion:

Music is an important tool because it acts to bridge the divide between logic and emotion. It is simple enough to look at numbers rise or to watch the slope of a graph increase and walk away saying “OK, the Earth is getting warmer.”

Through music, we can convey the data in a different way, which draws on the science of the numbers and also the emotional power of hearing sound (Crawford, in Hansman, 2015).

In his piece, Crawford focusses on the northern hemisphere to demonstrate changes in the temperature. Each instrument is tuned to the average temperature of its region, with each note corresponding to a year and each pitch representing the temperature. As the piece plays, it becomes possible to hear the changes in temperature, particularly towards the end, where there is a marked rise in pitch. This reflects the dramatic rise in temperature in recent years. This rise in pitch is particularly noticeable in the violin playing Arctic temperatures, which have shown the greatest fluctuation.

Sonification can be a very useful method for adding context and meaning to works. The process can offer alternate narratives, and provide perspective of place and issues surrounding an area. Sonification can also be used to highlight anxieties surrounding such issues, either as a call for action regarding the urgency to remedy a situation, or as a sense of emotional catharsis. All these techniques and precedents have fed into my practice, which I discuss contextually in more detail in the next chapter.

Chapter 4: Works

This chapter serves to demonstrate how I have created sound art and audio-visual works to portray the dialogue occurring between self and place, and how I have incorporated this into my works. Through this way, there is an exploration of the emotional impact and fragility inherent in many of the places where the works were based. The featured works in this chapter combine aspects of field recording, photography, videography, sound mapping, and sonification to reflect the act of traversing both the physical terrain and the terrain of self.

The chapter is divided into two sections—a summary of work, followed by a chronological journey detailing the creative development of the portfolio of works. Section 4.1 offers a broad overview of the featured works, touching on the context of the pieces such as their location, source(s) of inspiration, compositional techniques and presentation formats (i.e. audio-only, or audio-visual). The section also summarises where the pieces were released, exhibited and/or performed. Section 4.2 traces my creative journey between 2015—2021. This section explores in detail how each work was created, including photographs, screenshots and video of the works. The section highlights the creative experiments I undertook over the years to create this portfolio of works, and how many of my findings arose from constant, active experimentation.

4.1 Summary of Works

The following is a summary of the works discussed in this thesis. The works are grouped thematically, in terms of central focus—personal history, experiences of place, history of place, and climate and ecology.

4.1.1 Works Arising From Personal History

4.1.1.1 There is no Escape From Yourself (2016). 26:20. EP audio self-release, with accompanying audio-visuals

Track listing:

1. *There is no Escape From Yourself*
2. *Time of Below*
3. *Hidden Landscapes*
4. *Changes Within the Ecological Self*
5. *The Road is my River*
6. *Ephemeral Echoes of Time*

There is no Escape From Yourself is a series of works created during my artist-in-residence at the Arteles Creative Centre, Finland in 2016. This work is an exploration into use of field recordings and sonification of photographic material (through creating percussion scores by tracing the contour shapes of photographed images) as ways of creating abstracted soundscapes and audio-visual works. The works were inspired by upheaval occurring in my personal life at the time and were shown at a group showing at the Arteles Centre at the end of the residency. The title song, *The Road is my River* was nominated at the 2017 West Australian Music Song of the Year Awards, in the Experimental category.

4.1.1.2 *The Light at the End (2018) 31:06 EP audio release via Dog Park Records, with accompanying audio-visuals.*

Track listing:

1. *Truth and Consequences*
2. *Rising From the Depths*
3. *The Dream is Over*
4. *The Light at the End*

The Light at the End is a series of works based on visits around various parts of Western Australia. The works were written as a way of processing the aftermath of a relationship breakup, and the personal revelations that came from the event. *The Dream is Over* was shown at the 2017 Australasian Computer Music Conference (ACMC) in Adelaide and the 2018 Gender and Diversity in Music Making Conference in Perth. The EP was performed in its entirety at the 2018 Western Australian Music Festival (WAMFest).

4.1.1.3 *The Lost (2021) 14:07 Audio-visual work, self-released*

The Lost is an audio-visual piece combining field recordings with a sonified map of Perth from 1838. The work is also a reflection on my experiences with loss, having lost multiple people from my life over the course of a year. I was drawn to the idea of the lost wetlands because it represented something that had existed at one point, but now only exists in fragments—such as memories and spectral remnants—which resonated strongly with my personal experience of loss. *The Lost* was presented at the 2021 ACMC, held between Sydney, Melbourne and online.

4.1.2 Works Arising From Experiences of Place

4.1.2.1 *Dam of Discontent (2015) 22:28 EP audio self-release, with accompanying audio-visuals.*

Track listing:

1. *A Small Timequake*
2. *The All-Encompassing*
3. *Dam of Discontent*
4. *Of Shifts and Currents*

Dam of Discontent is a series of audio-visual works created as part of a supported residency at the Bogong Centre for Sound Culture (BCSC). The works were composed using sonified data from photographs combined with field recordings, field footage and music visualisations. The first work, *A Small Timequake*, was presented as part of the 2016 Sound Thought Festival in Glasgow, Scotland and the 2016 ACMC in Brisbane, Australia.

4.1.2.2 *Civil Eyes//The Wild (2016) 26:01 Live performance commissioned by the You Are Here festival, with accompanying audio-visuals*

Track listing:

1. *In the Morning Glow*
2. *Fire in the Sky*
3. *Who is of This Earth*

Civil Eyes//The Wild is a series of audio-visual works commissioned by the You Are Here festival in Canberra and made in collaboration with poets Aaron Kirby and Ellie Malbon. The works feature field recordings and field photographs taken during our visit around Pockets Hut in Kosciusko National Park in New South

Wales, as well as music visualisations and guitar. *Civil Eyes//The Wild* was performed live towards the end of the festival.

4.1.2.3 *Beringbooding (2017) 20:50 EP audio release via Dog Park Records, with accompany audio-visuals.*

Track listing:

1. *Bering(forboding)*
2. *If an Echo Could Talk*
3. *The Sentry Watches*
4. *L'appel du Vide*

Beringbooding is a series of works based on Beringbooding Rock, Western Australia. The works combined field recordings (original and manipulated) combined with percussion and vocal performances by me. The track *Bering(forboding)* was nominated for the 2017 WAM Song of the Year awards in the Experimental category, and was performed live at the 2017 ACMC in Adelaide, Australia.

4.1.2.4 *Automata (2020) 6:00 Audio-visual work commissioned by Tura New Music*

Automata is an audio-visual piece commissioned by the Tura New Music @theRoots program. This piece featured a digital automated instrument made in Iannix and based on a photograph taken at the Warren River in south-western Australia. Accompanying the instrument is a field recording made by the river. The work was shown online via YouTube and is currently archived on Tura New Music's website¹.

¹ <https://tura.com.au/tura-program/tura-adapts-2020-commissioning/theroots-c-tsang/>

4.1.3 Works Arising From History of Place

4.1.3.1 The Drowning (2020) 5:40 self-released audio track

The Drowning was composed during my time as artist-in-residence at Bundanon Estate in New South Wales, most famously the home of artist Arthur Boyd and currently the site of the Bundanon Artist in Residence program. The work is based on parallel histories of drowning—my own experience as a child, and the drowning of two horse riders at the Bundanon Estate. The piece was made by layering multiple versions of a field recording by the Shoalhaven River. The work featured as part of the 2020 Musicological Society of Australian conference in Perth, Australia and has also received airplay on community radio stations.

4.1.3.2 Djenark (The Silver Gull) (2021) 28:32 Audio-visual gallery works

commissioned by the Edith Cowan University School of Education.

Exhibition listing:

1. *Booriarup*
2. *Djenark*
3. *Gathering of Souls*
4. *The Call*

Djenark (The Silver Gull) is a series of works commissioned by the Edith Cowan University School of Education, curated by Mindy Blaise and Jo Pollitt. The commission is based on the silver gull/djenark and the Pelican Point/Booriarup area as provocations. The works were created through a combination of field recordings from the area, a digital autonomous instrument made from a map of Pelican Point/Booriarup and music visualisations. The pieces were exhibited as part of an exhibition entitled *Feminist Responses to Climate Change: Unruly Experimentations*

for Unstable Times shown at Gallery 25 at Edith Cowan University in Perth, Australia (24 August–14 October 2021).

4.1.4 Works Responding to Climate and Ecology

4.1.4.1 Corridor (2017) 8:22 Self-released audio-visual work

Corridor (2017) is a piece exploring movement and loss, and preserving what is left. The piece is based on a field recording made in an underpass in Neerabup National Park, Western Australia. This underpass—and the national park itself—acts as a wildlife corridor, linking Lake Joondalup and the wetlands in Yanchep National Park. The paths are based on the Yaberoo Budjara Heritage Trail, an ancient Noongar migration route (City of Wanneroo, n.d.). Compositionally, the piece was inspired by Barry Truax’s and Joanna Bailie’s application of extreme time stretching on a sound sample (see 2.1.3.1). Bailie’s model of ‘freezing’ sound works to tease out melodies and rhythms from the original recording, as I did here. *Corridor* was presented in full audio-visual format at the 2019 ACMC in Melbourne, and the full audio was part of the 2019 mixtape #IWD event held at Dublin Institute of Technology, Ireland. Parts of this piece were incorporated into live performances at the 2019 JOLT Sonic Festival, Melbourne and WAMFest 2018.

4.1.4.2 The Insect Apocalypse/Heart of the Apocalypse (2018) 17:56 EP audio releases on LCRP Records and Dog Park Records

Track listing:

1. *The Insect Apocalypse*—9min. 5 secs. Released on LCRP Records.
2. *Heart of the Apocalypse*—8min. 51secs. Released on Dog Park Records.

The Insect Apocalypse/Heart of the Apocalypse is a pair of works contemplating anxiety around climate change. The inspiration for the piece came from an article entitled “The Insect Apocalypse Is Here”, about declining insect

populations worldwide (Jarvis, 2018; see also Warren et al., 2021). As part of the conceptual development of the piece, I also thought about how an ‘apocalypse’ might sound from an insect’s perspective. The pieces were constructed from a field recording of a cricket, and explored how a small moment in a field recording—in this case, the chirp of a cricket—can be used to construct a soundscape. *The Insect Apocalypse* was nominated in the 2019 WAM Song of the Year Awards in the Experimental category, and parts of this piece were incorporated into live performances at the 2019 JOLT Sonic Festival, Melbourne.

4.1.4.3 *A Managed Retreat (2020) 12:05 self-released audio-visual work*

A Managed Retreat is a piece based on patterns of coastal erosion on Quinn’s Beach on the southern coast of Western Australia. For the piece I combined data sonification with coastal vegetation maps. With this piece, I also wanted to convey the sense of anxiety around climate change and its impact on the environment. The work was performed at the 2020 Postgraduate Showcase at the Western Australian Academy of Performing Arts.

4.2 Works—A Chronological Journey

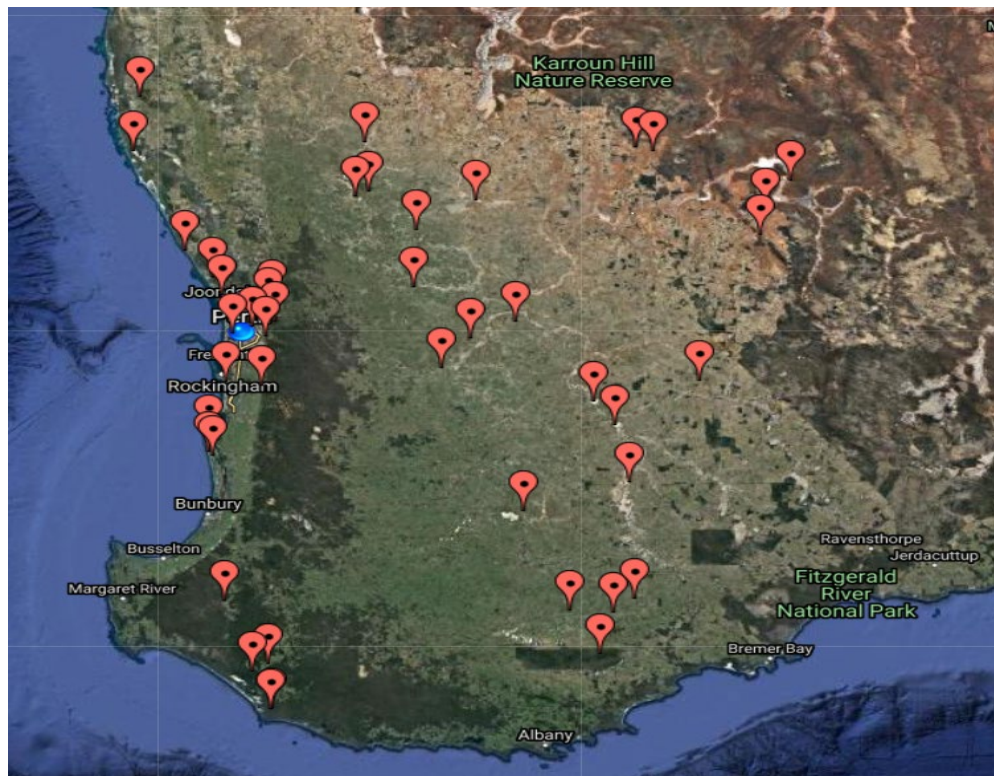
The following is a chronological account of my creative journey through place and self, using documentation of my personal experiences and history through vignettes. These include experimentations highlighting the conceiving of and creation of the portfolio of works. As outlined in Section 4.1, the completed works took life in various forms—from audio-visual to audio-only works—and have been presented in multiple ways, from audio-only releases to gallery showings. Many of my findings in practice came about through constant, active experimentation and motion, echoing how Carole Gray and Ian Pirie characterise the creative process: “messiness, randomness, non-linearity, adaptivity, feedback, and so on ... adaptive systems on the edge of chaos” (Gray & Pirie, 1995, p. 14). During the compositional process, some of my compositions resulted from an attitude of, “What happens if I do...?” in which I approached my memories, the history and ecology of place and my field recordings from multiple perspectives.

The works featured below were collated and completed in a range of places—from my home in Perth, Australia, through the alpine regions of eastern Australia, to the middle of a forest in Finland. My work has taken me to many wonderful locations, including many areas in the South West and Wheatbelt regions of Western Australia (Figure 7).

All photographs presented in this chapter were taken by me, unless otherwise noted. These works were released either under my artist name, Samarobryn, my former legal name, Cissi Tsang or my preferred name Sze Tsang. This section also features personal entries to offer context around the making of work.

Figure 7

Map of Areas Visited in Western Australia 2016–21



Note. The red pins show the locations I visited during the course of my candidature.

4.2.1 *Dam of Discontent (2015)*

1. *A Small Timequake*
2. *Dam of Discontent*
3. *Of Shifts and Currents*
4. *The All-Encompassing*

During my time wandering around Bogong and its surrounds, it is hard to ignore the hydroelectricity scheme. Its presence is everywhere and permeates everything; in fact, Bogong Village wouldn't have existed if not for hydroelectricity. The myriad creeks and rivers, with all that potential energy, have been harnessed into electrical energy. We control the flow of energy now, utilising a system of dams and gates.

Madelynn and I came a little too close to experiencing the potential power of a rushing river the other day while on a long hike through the mountains; one slip in the rapid currents and we would've gone tumbling over unforgiving boulders. In that case, it wasn't so much harnessing the potential of the river (no thanks!), but rather the potential in ourselves to resolve a situation. Fortunately, we did make it across with some help, by harnessing the potential of some experienced local kayakers.

For me, the first step of harnessing any potential situation is to say, "Yes" to any rising opportunity.

Here in Bogong, it is anything but quiet out here. If you stand in the forest for a few minutes, the cacophony of the forest is all-enveloping—from the birds to the insects to the frogs to the sound of the wind rustling through the leaves and the water cutting through the rocks.

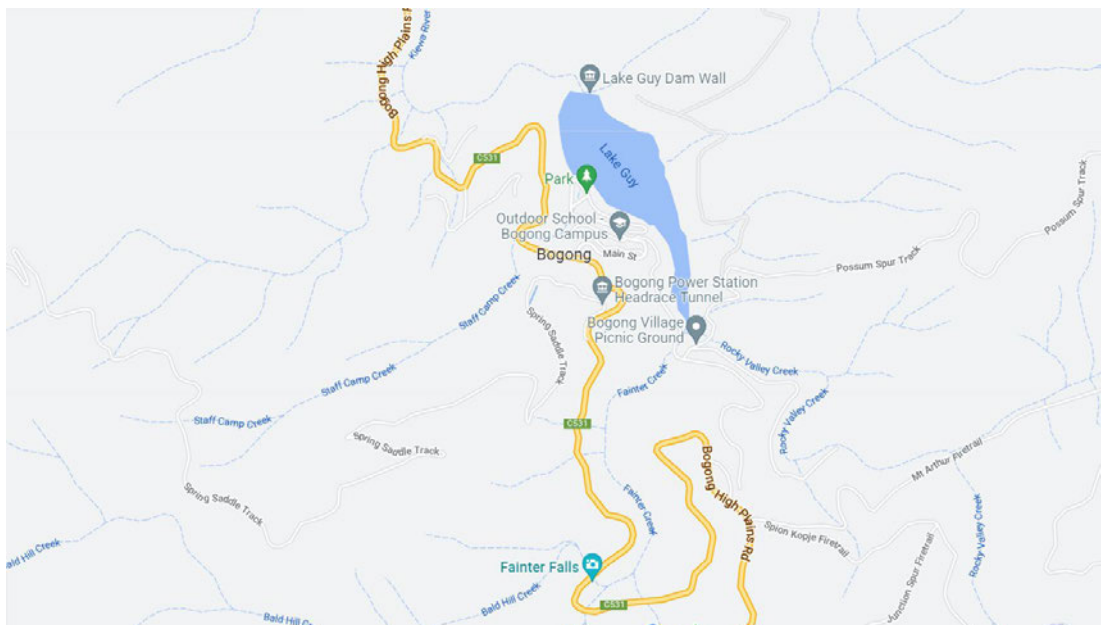
It's not quiet in the slightest.

The cacophony of the forest also reminds me that everything in the forest—and on a broader level, everywhere else—is interconnected.

In 2015, I embarked on a supported artist residency at Bogong Village, Victoria, run by the BCSC. Bogong Village is a small village in Victoria’s alpine country, named after the nearby Mount Bogong and on the banks of Lake Guy (Figure 8). The Kiewa River runs near the village, and Bogong Village was initially established in 1939 as housing for workers during the building of the Bogong Hydropower Station, the final section of the Kiewa Hydroelectric Scheme. The village – currently a lease on crown land, with the lease being held by electricity company AGL – now exists as holiday accommodation, albeit with limited infrastructure (Bogong Centre For Sound Culture, n.d.).

Figure 8

Map of Bogong Village and Surrounds

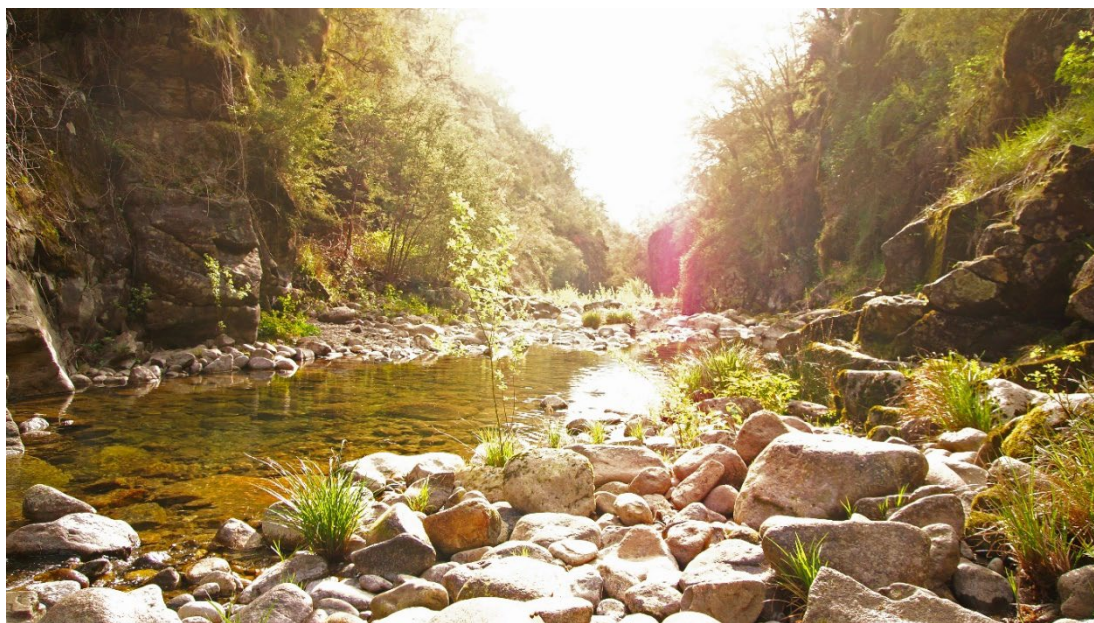


Note. This map shows some of the geographical landmarks of the area, such as the waterways, Lake Guy, the Dam Wall and the power station.

My residency at Bogong involved exploring connections between the aural and the visual. I was interested in creating works that were a representation of both place and self. I wanted to use the residency as an opportunity to explore how I might integrate field recordings, field photography and field videography into a multi-layered, audio-visual work, as part of expressing my experience. Walking became an important part of this exploration between self and place. To learn more about Bogong's geography, I had to traverse its terrain, from the inner walls of the dam to the trails near the surrounds (Figure 9).

Figure 9

Gorge Near Bogong Village



Note. This photograph was taken while walking on a trail outside Bogong Village, near the Kiewa River.

I began to research sonification as a way of incorporating visual information from photographs into my sonic practice. One of the programs I initially investigated was PixelSynth, a browser-based synthesiser that analyses information from a monochrome photograph, converting it into sound (Jack, 2016). Though the results from PixelSynth were interesting, I felt I needed more creative control over the outcome. I then became interested in an alternative sonification strategy involving transforming the data found within a digital photograph into music. After interrogating the data inside digital photographs, I became aware of the HEX data format, which is the format MIDI uses to transfer information between computers and synthesisers (see Russ, 1989).

I decided to experiment with creating music by converting my photographs into HEX using a text editor called EditPad Pro and then taking a random section of data and converting it into musical notation. I chose to focus on the value of the note itself rather than its MIDI positioning (e.g., C4 or middle C) so that I could choose later where I might position the note. Table 2 demonstrates how I initially mapped HEX to musical notes.

Table 2

Initial HEX-to-Music Conversion Table

Pause: 0	E Hex-A
C 1	F Hex-B
D 2	G Hex-C
E 3	A Hex-D
F 4	B Hex-E
G 5	C Hex-F
A 6	
B 7	
C 8	
D 9	

To introduce a greater degree of tonal contrast and interest, I expanded the information in Table 2 into a number of musical scales (Figure 10). Not all HEX numbers would map to musical notes; this depended on the number of notes in each scale. For instance, if basing the HEX data on a C-major pentatonic scale (C-D-E-G-A), only the HEX corresponding with the musical notes C-D-E-G-A would be used. If the scale featured accidentals (such as E-major pentatonic, featuring a C-sharp, F-sharp and G-sharp), then I would start the scale from the scale degree closest to C (i.e., for HEX scale degree 1 I would begin with C-sharp for the E-major pentatonic scale).

Figure 10

Expanded HEX-to-Musical-Notes Table

HEX	NOTES	HEX	NOTES
Note-for-note (no accidentals)		Chromatic	
1	C	1	C
2	D	2	D
3	E	3	E
4	F	4	F
5	G	5	G
6	A	6	A
7	B	7	B
8	C	8	C
9	D	9	C#
A	E	A	D#
B	F	B	F#
C	G	C	G#
D	A	D	A#
E	B	E	B
F	C	F	C

HEX	NOTES	HEX	NOTES	HEX	NOTES
C maj pentatonic		D maj pentatonic		E maj pentatonic	
1	C	1	-	1	C#
2	D	2	D	2	-
3	E	3	E	3	E
4	-	4	F#	4	F#
5	G	5	-	5	G#
6	A	6	A	6	-
7	-	7	B	7	B
8	C	8	-	8	C#
9	D	9	D	9	-
A	E	A	E	A	E
B	-	B	F#	B	F#
C	G	C	-	C	G#
D	A	D	A	D	-
E	-	E	B	E	B
F	C	F	-	F	C#

Note. Screenshot showing the different values of HEX according to various scales.

An aspect of my practice that I explored at BCSC was how to integrate field videos with field recordings and HEX data. I wanted to try combining field videos with a sound-responsive music visualisation, with the videos serving as a referential context of place for the audience. In terms of field footage, I was interested in capturing ‘moments’ or ‘windows’ of time. To achieve this effect, I would deliberately hold the camera still for a period (~30 sec) as I was recording, while focussing on one major element of movement in a scene.

I intended to feature the field footage first in the work, followed by the music visualisation. I wanted to include the music visualisation in the work to represent and show the cyclical interaction between the aural and the visual—in this case, the composition, derived in part from digital photographs—and subsequently drove the movement of the music visualisation as well.

The BCSC residency also gave me the opportunity to work with Adobe After Effects and the Trapcode Suite, programs that facilitate the creation of particle systems that react to sound. My intention with the works was to use the compositions made through HEX to drive the music visualisation, by using the frequencies of the sound work to affect particle movements. This meant that the sound would be an integral part of creating the final visual elements.

As I created these compositions, I noticed two limitations of working with HEX: the first related to denoting time into sequences; and the second, to creating compositions that reflected my emotive responses of place. To interject time into the composition, I first randomly selected a piece of HEX from the photograph and then grouped the sequences into sections of four. I then auditioned and decided which

sections of HEX would be used in the composition based on my subjective judgment of their aesthetic value, rather than following a strict, sequential interpretation of the data.

For making compositions reflective of my emotive response to place, I decided to actively sonify random sections of HEX from a photograph or field footage into musical notes. Although the order of the sequences was changed, I preserved the note order of each sequence. With this method, I felt that I was still able to incorporate aspects of the digital photograph into the composition, while also being able to have some aesthetic control over the final sonification.

In terms of musical structure and instrumentation, at this point in my practice I was still working within quite ‘conventional’ paradigms; for instance, with clearly demarcated melodic lines—usually in 4/4 metre—and a percussion section. For this project, I used percussion samples sourced from Ableton Live sample packs. I chose samples that did not feature cymbals, because I felt they would add a distracting element to the compositions.

One aspect that I enjoyed about HEX-based composition was the sublimation of the self to an algorithm. By ceding some control of the composition to mapped data, I also felt like this was a way of collaborating with a photograph, and by extension, the landscape. Rather than imposing myself totally upon a scene by enforcing a set of aesthetics, I was allowing myself to be drawn to the materials made available by the place.

4.2.1.1 A Small Timequake

A Small Timequake was a piece made where I was contemplating time cycles, in particular reference to Bogong Village – an entity that was intended as temporary, but has now become permanent. I was also wanting to incorporate water into the

work, as this is a major part of the landscape and the primary reason why the village exists. On one of my walks around the dam, I came across a small stream to the side of the dam wall. The stream intrigued me because of the colour of the water: the tannins from the trees had tinted the stream a deep, rusted red. The first two videos of *A Small Timequake* show sections of the stream as it flows out of the forest (Figure 11).

Figure 11

Still From Video of First Section of A Small Timequake



I followed the stream as it moved across some rocks and vegetation, and took another two short videos (Figure 12).

Figure 12

Still From Video of Moving Stream

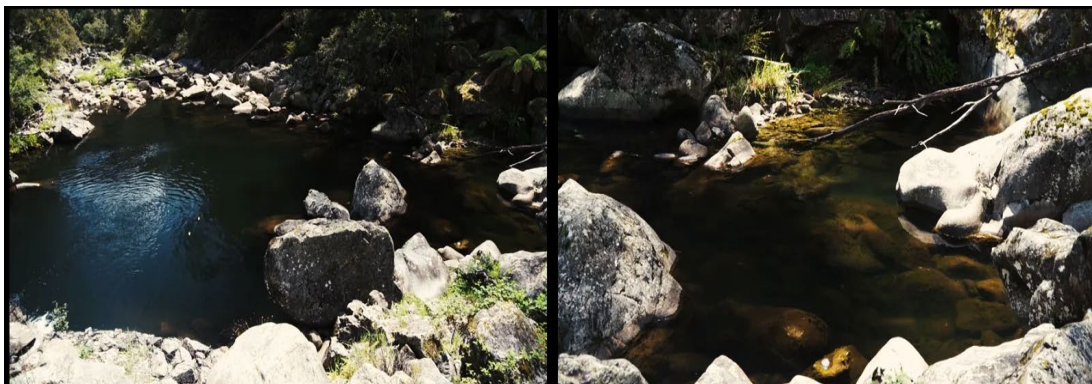


Note. This set of videos shows the stream as it moved between some rocks.

I followed the stream towards a small pond next to the dam, where I took the final two videos (Figure 13).

Figure 13

Still From Video of Small Pond



Note. This set of videos shows two angles of the stream pouring into a small pond.

In constructing this piece, I first edited the sections of field footage and organised the eight videos as four diptychs (two videos presented side by side), I organised the videos as diptychs as a way of showing multiple perspectives of an area and then processed this as one video. I then ran this video in EditPad Pro to convert it into HEX, and used a section to create the sound work.

I began the sound piece with some field recordings taken around the area, with an emphasis on the stream. I wanted a composition that was contemplative but with a sense of movement in a way similar to the stream. My first decision was to set the tempo to 85 beats per minute (bpm)—*andante*, or a moderately slow pace. I used three VSTs for the melodic elements: a cello instrument to play two repeating bass lines, and two higher-pitched synths to play a series of melodic phrases. For the percussion elements, I layered two drum samples that would continue to play through most of the composition for texture and movement. I wanted a gradual, but clear

contrast between the field recordings and the HEX composition, as a way of emphasising the moment when the work (and the soundscape) shifted from a referential to an abstracted landscape.

The final audio-visual piece (Figure 14) is in three sections, opening with the series of field footage before cross-fading into the music visualisation. The piece ends with the HEX-sonified structure and music visualisation fade out with a repeat of the opening set of field footage and field recordings to re-establish a sense of place.

Figure 14

Still From Completed Video of A Small Timequake



4.2.1.2 Dam of Discontent

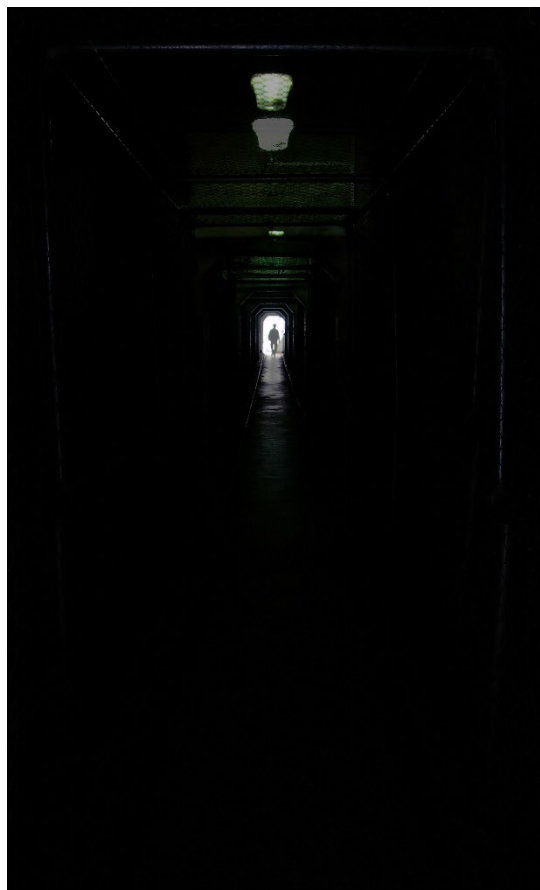
Dam of Discontent was inspired by a conversation I overheard while walking through the village. There was discontent about the future of Bogong Village, with concerns that accommodation would eventually be closed. The conversation was heavy with uncertainty, and I wanted to express this sense of discontentment in a work.

I decided to base the piece on the dam itself, as it is the dominant landmark in the immediate area. While walking within the dam walls, I took a photograph of a person walking past the passage, symbolic of the uncertainty the Bogong community

was feeling about the continued existence of the village (Figure 15). I also took some recordings while within the dam walls: the sound of a sliding metal lock, and my footsteps as I walked down the passageway. For the work, I began by incorporating these field recordings and then used a converted section of HEX for the melodic section. Similar to *A Small Timequake*, I chose a moderate tempo of 70 bpm to create a contemplative mood, but still with a sense of movement.

Figure 15

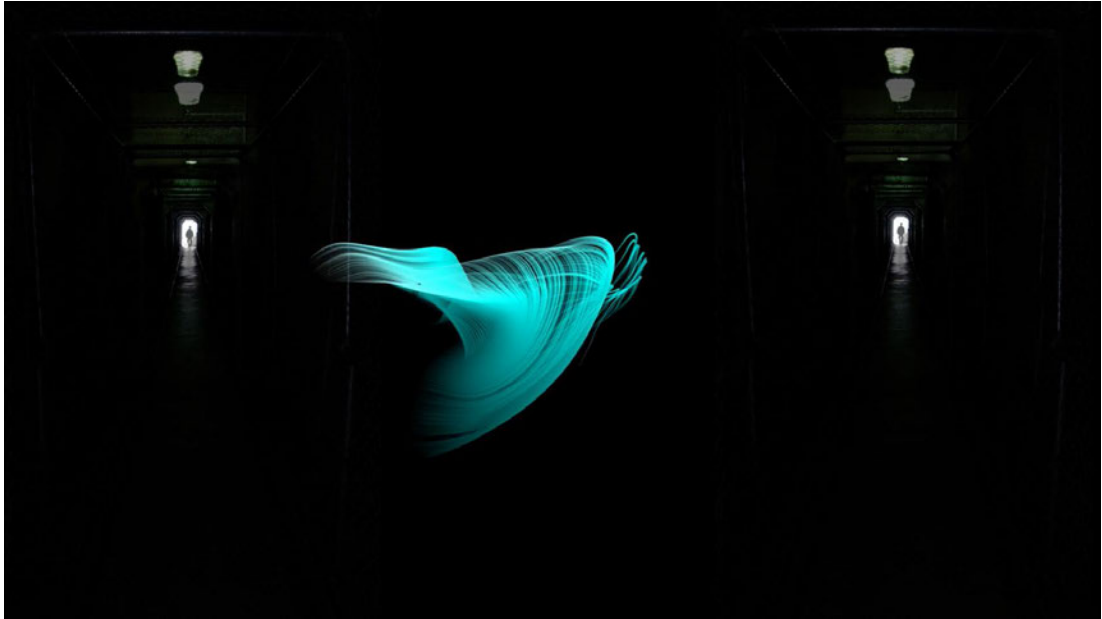
Person at the end of the dam Passageway



For the final version of the work, I doubled the photograph taken within the dam (Figure 16), and placed a music visualisation between the photographs, as though the visualisation was being bounced between the walls of the dam.

Figure 16

Still From Completed Video of Dam of Discontent



4.2.1.3 Of Shifts and Currents

Of Shift and Currents was based on a visit to nearby Falls Creek, south of Bogong Village. Near Falls Creek is the Rocky Valley Dam, a human-made dam created specifically for the Kiewa Hydroelectric Scheme. As I walked around the lake and surrounds, the first thing that struck me was the patches of ice still left on the ground—the last remnants of winter (Figure 17).

Figure 17

Twig Against Snow at Falls Creek



Walking along one of the trails I came across an alpine stream flowing from the snowmelt (Figure 18).

Figure 18

Alpine Stream Near Falls Creek



I ended the walk on the shores of the Rocky Valley Dam (Figure 19).

Figure 19

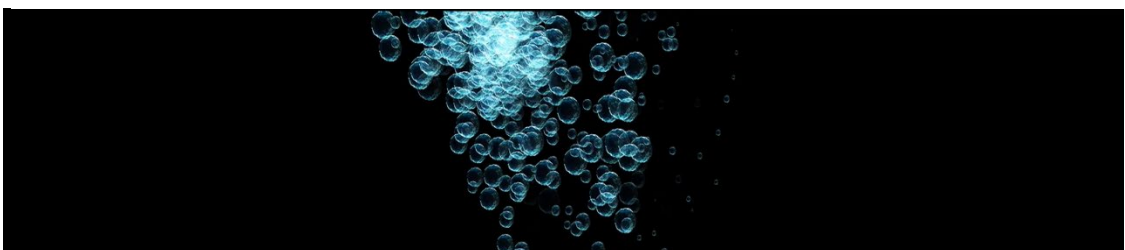
Rocky Valley Dam



Unlike the first two pieces of the series, I wanted to explore how I might incorporate sounds and imagery from the place more deeply into the work. I placed the video of the dam, the photograph of the remnant snow and the video of the alpine stream in a triptych (three-panel work) to reference the different elements of the area, and how each was intertwined—the snow melting into the stream, which then flowed into the dam. For the visual component of the piece, I created a music visualisation reminiscent of water bubbles, alluding to the movement of flowing water into the dam (Figure 20).

Figure 20

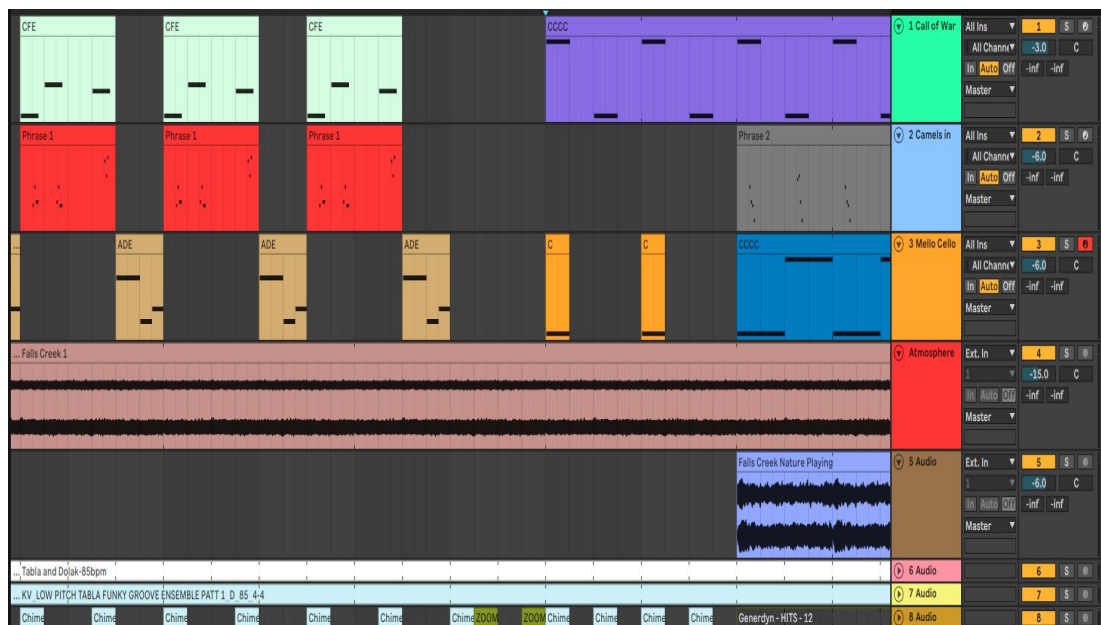
Still From Music Visualisation for Of Shifts And Currents



Similarly for the sound component, I experimented with incorporating more field recordings into the piece. A field recording of moving water recorded near the dam plays throughout the work, with another field recording from the same area overlaid towards the end (Figure 21). As I was organising the converted HEX data for the middle section, I allowed myself a moment of imaginative leeway and thought about what memories or ideas the visit to the dam triggered for me. I remembered seeing some boats and a boat ramp during my walk, and thought about movement across the water. I then imagined a boat moving across the dam with foghorns warning of navigational dangers; to replicate that, I chose a horn VST for the main motif.

Figure 21

How Of Shifts and Currents Was Constructed in Ableton



Note. The tracks, from top to bottom: Tracks 1–3 are VSTs playing converted HEX Data. Tracks 4–5 are field recordings. Tracks 6–8 are drum samples.

In the final piece, the music accompanies the triptych (Figure 22).

Figure 22

Still From Completed Video of Shifts and Currents



4.2.1.4 The All-Encompassing

I was humbled in the presence of giants.

All around me were tall trees—who had existed well before I was born, and will continue to exist after I pass. I felt like a small, insignificant figure in among all this beauty. A light drizzle falls from the sky, covering the forest in a fine, grey mist.

Suddenly—a rustling in front of me, followed by an incessant call. I stop and wait for this new presence to reveal itself.

A lyrebird stares back at me, inquisitive about my presence. It runs again through the underbrush, calling. I carefully take out my audio recorder and press record, wanting to record and appreciate this encounter for posterity.

The All-Encompassing is a piece based on a day-long walk around the mountains near Bogong Village. I was taken by the vastness of the forest and the skies above, and wanted to create a piece reflecting on my experience. I also wanted to highlight my close encounter with a lyrebird while on the trail, recording its calls as it repeatedly dashed in front of me.

For the first half of the composition, I wanted to emphasise the beauty and stillness of the forest. The visual part of the piece features a photograph of the forest in its grey, misty glory (Figure 23), accompanied by lyrebird calls.

Figure 23

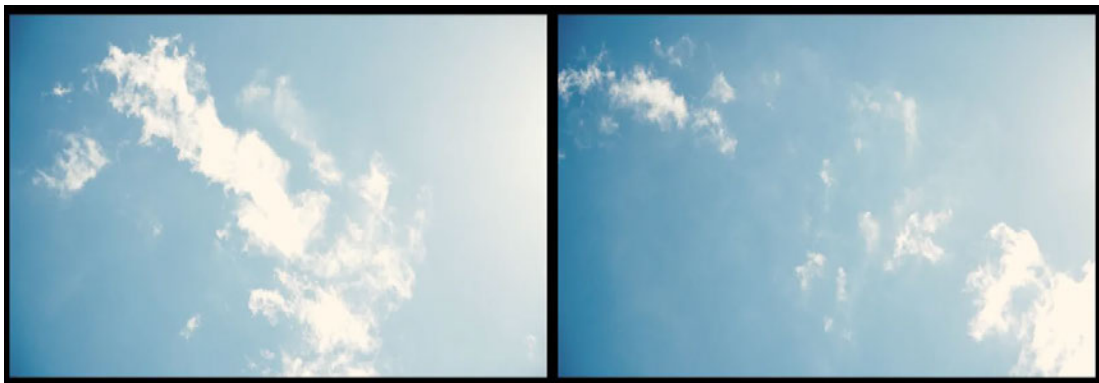
Photograph of the Forest Around Bogong Village



For the second half, I came across a challenge that would follow me for several years (and through several works)—how to express more of self in the work, and allow for more dialogue between self and the compositional process. Initially, I attempted another HEX composition derived from a diptych of two videos of clouds moving against the sky (Figure 23), but found the result too abstract and not fully expressive of my emotions in the moment.

Figure 24

Still From Videos of the Sky as Diptych



I decided to entirely eschew the use of HEX for this piece. Instead, I recorded myself playing two guitar lines and then layered them together. I felt that recording my own guitar playing was the best way of connecting myself to the piece, and was also a way of inserting my physical presence into the composition. The final work (see Appendix B) is a combination of field recordings and guitar, with the guitar accompanying the diptych of the sky in the second half.

4.2.2 *Civil Eyes//the Wild* (2016)

1. *In the Morning Glow*
2. *Fire in the Sky*
3. *Who is of This Earth*

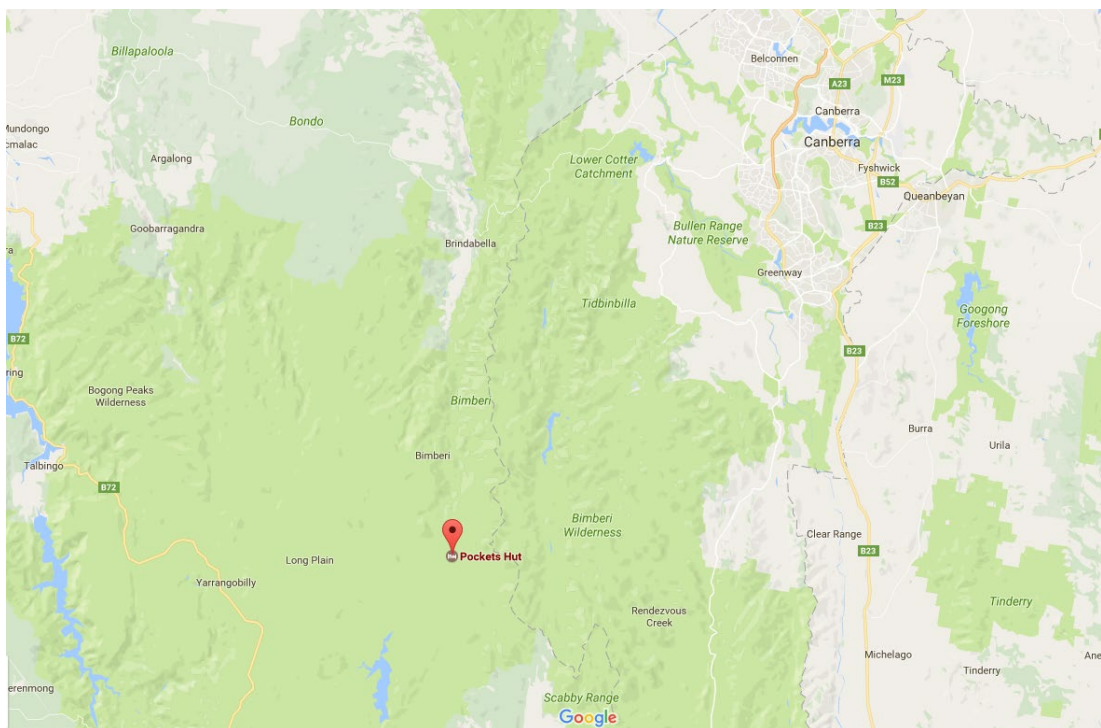
After my time at BSCS, I was interested in further developing my practice; particularly by exploring other ways to integrate into my work my experiences of place with field recordings and field footage. In 2016, I was offered the opportunity to create a work for the You Are Here festival, a Canberra-based event, with two local poets Aaron Kirby and Ellie Malbon. Entitled *Readycut Residency*, the piece was constructed in two stages: a weekend where the three of us would stay at the Ready-Cut Cottage in Namadgi National Park, followed by a performance at Smith's Alternative, a popular local live venue.

I was interested in this opportunity for a few reasons. First, I was interested in collaborating with spoken-word artists, and seeing how our collective experiences would shape our work. Second, I was interested in incorporating other performers in live performance, and how having additional performers would change my approach as a performer and in composition.

Unfortunately, we were unable to stay at the cottage as Namadgi National Park was closed for controlled burns on the weekend of our intended visit. Aaron and Ellie proposed that we camp near Pockets Hut, a historic alpine hut in neighbouring Kosciusko National Park (Figure 25), where the landscape is similar to that at Namadgi National Park—sub-alpine forest, with rocky outcrops.

Figure 25

Location of Pockets Hut



Note. This screenshot shows the location of Pockets Hut in relation to Canberra and surrounds (Source: Google Maps).

We spent two nights near Pockets Hut (Figure 26), during which time I took multiple field recordings and videos. The field footage is a combination of photography and video taken during walks around the found environment, with the intent of documenting my emotive responses to the environment. Like during my time at BSCS, I wanted to capture ‘windows’ or ‘moments’ of time in the environment, by deliberately holding the camera still while video recording a scene.

Figure 26

Photograph of Pockets Hut



It took 133 photographs and 10 videos during the stay at Pockets Hut. During the workshop period, this total was reduced to 12 photographs and 1 video. Of the initial 12 photographs that were chosen, 6 were used for the final show and 3 were used in the creation of audio-visual pieces. The three audio-visual pieces are discussed below. These were chosen as they depicted the experiences we had at Pockets Hut; for example, *In the Morning Glow* features a frost-covered landscape after a cold night (Figure 27), reflecting our constant battle to stay warm through the near-freezing night.

Figure 27

The Landscape in the Morning



Note. This image became the inspiration for *In The Morning Glow*.

During my time working on this project, I began to view the field recordings as representations of moments in time that have become preserved through the recording process. Capturing the moment itself became more important than the actual fidelity of the recording, and I began to embrace audio artefacts such as wind noise hitting the microphone and the sound of rustling fabric from clothing being buffeted by the wind.

Another aspect of composition that I was interested in exploring was tracing the contour lines of a photograph, in part inspired by Xenakis's approach to composition (see Sections 2.3.1 and 3.5). I was intrigued by the idea of using lines to mark compositional structures, and thought such an approach could be applicable for photographs. One aspect I noticed while examining photographs was the contours of the land. Landscapes have certain repeating shapes, resembling patterns that can

appear rhythmic—much like percussive sounds that have a certain repeating formation, which made me consider how I might express this in compositional work. Another method of sonification that I experimented with was using contours of a photograph to create percussion lines. The interpretation of contour lines as percussion can transmit how the shape of the land itself might sound, and incorporates the musicality of landforms into a piece.

My process involved tracing the contours of a photograph using the pen tool in Adobe Photoshop before removing the photograph and leaving behind the contour lines. This image was then placed onto a grid to approximate a stave, and these grid markings were reproduced in Ableton Live as percussion lines. With this process, the shape of the landscape became part of the compositional structure.

4.2.2.1 In the Morning Glow

In The Morning Glow was inspired by a photograph taken just before sunrise (see Figure 27). The name refers to the touch of the morning sun as I took the photograph, and references some of the activities we undertook in the morning, such as drawing water from a nearby stream.

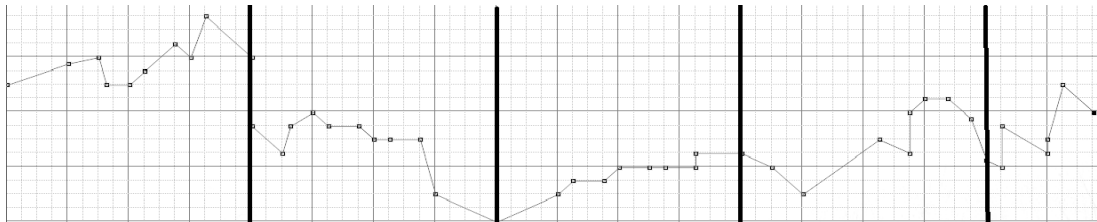
For the audio section of the work, I used a field recording of water sloshing in a steel bucket as the main motif. I applied heavy manipulation behind the original sound (time and pitch stretching, distortion and a phasor) to create a textural backdrop for the rest of the piece. There were two reasons why I chose this sound. First, it reminded me of the morning, when we would draw water from a nearby stream. Second, the manipulated sound has a low, metallic heaviness to it that represents human intrusion into the area—not only through our own presence, but through the discarded scraps of rubbish that we stumbled upon during our walks, and

the anthropophony of regular deep drones of overhead planes and off-road vehicles that briefly approached our camp.

For the melodic sections of the piece, I converted a random selection of HEX and used two VSTs to play the melodic phrases: a bell-like synth (NaturalFlavour Bells) and a modified piano (Grand Piano—Thin Air). I chose these instruments to convey the cold air of the morning and how fragile the world appeared at the time.

Figure 28

Using the Contours of a Photograph to Create Percussion Lines



Note. These lines are based on the treeline featured in Figure 26. The treeline has been traced onto a grid approximating a stave and bars, then traced into Ableton Live.

I also traced out the distant treelines that stretched along the horizon, away from the road. I overlaid a grid over the images to approximate a stave (Figure 28). Using these grid markings as a guide, I reproduced them in Ableton Live to create percussion lines (Figure 29).

Figure 29

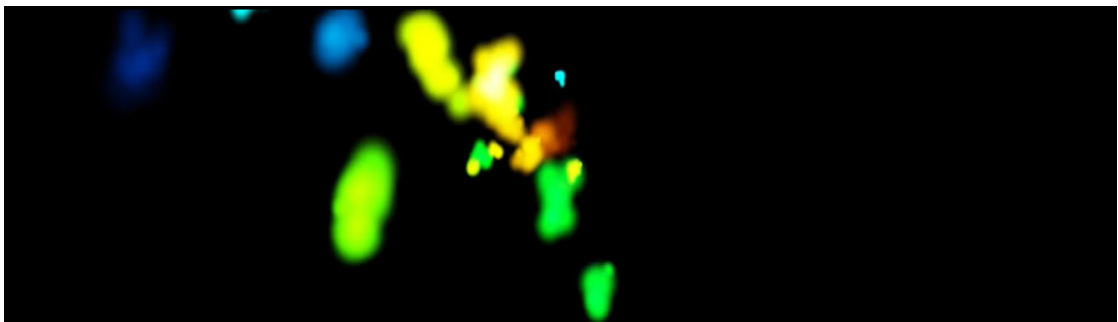
Part of the Contour Line Replicated in Ableton Live



For the completed version of *In The Morning Glow* (Figure 30), I combined the photograph (Figure 27) with a music visualisation made in Adobe After Effects. The colours in the music visualisation—a mixture of greens, blues and oranges—are based on those in the photograph.

Figure 30

Still From Completed Video of In The Morning Glow



4.2.2.2 Fire in the Sky

Fire in the Sky was inspired by a sunset over Pockets Hut. It was a deep orange, reminiscent of a blazing fire across the sky (Figure 31).

Figure 31

Sunset Over Pockets Hut



The title also alludes to the coldness of the landscape, where temperatures fell below freezing during the night. To stay warm during the night, we kept a fire burning (Figure 32). I recorded a short video of the fire with my camera, which became part of the diptych featured in the first half of the work.

Figure 32

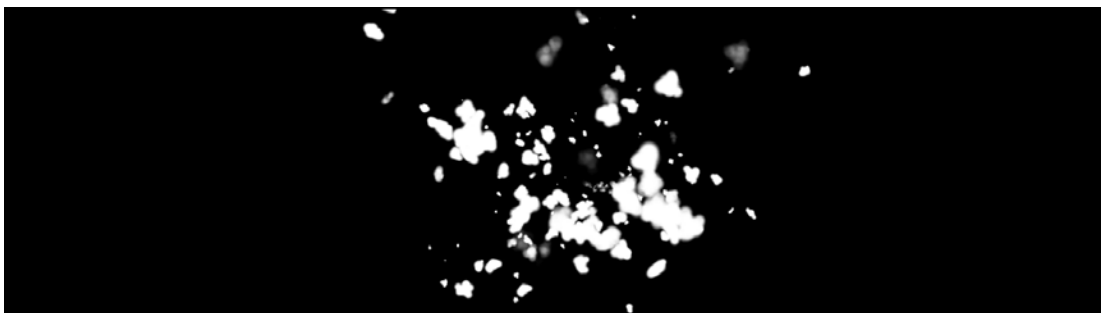
Still From Video Of Campfire



The music visualisation is based on the ashes of the campfire being blown by the wind in the morning (Figure 33). The visualisation is also another reference to the freezing temperatures, alluding to the frost that settled on the ground during the night.

Figure 33

Still From Music Visualisation in Fire in the Sky



The completed work (Figure 34) begins with the recording of the fire, accompanying the diptych of the sky and the fire. The work then moves into the music visualisation, accompanied by sparse instrumentation with sharp accents and

minimal percussion to express the coldness and starkness of the landscape as it falls into night.

Figure 34

Still From Completed Video of Fire in the Sky



4.2.2.3 Who is of This Earth

Who is of This Earth is a piece based on Aaron Kirby's poem of the same name, which in the live work was read over the piece. The sound composition was particularly informed by the beginning passage of the poem, which eloquently describes the feeling of awakening to the sound of wild brumbies grazing nearby:

Who is of this Earth?

Stardate 2016

I awaken in my space capsule

to the braying of horses outside in

The crisp bright morning.

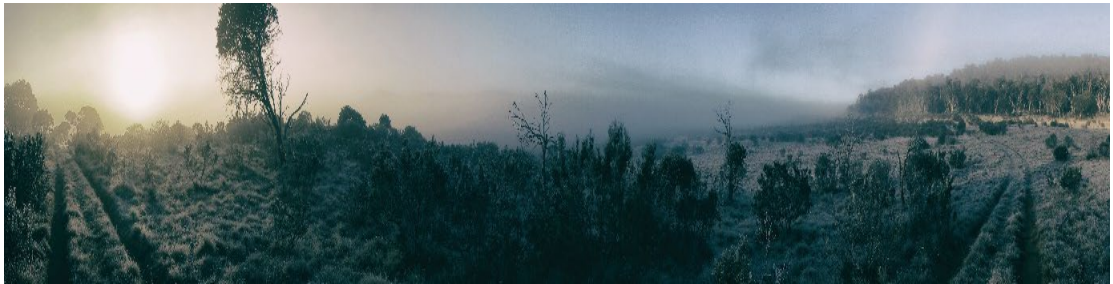
Descending to ground level

I find them grazing the wet grass around them

Visually, I found the photograph (Figure 35) befitting for the poem, as it captures the bright light shining onto the wet grass, and how otherworldly the area looked in the early morning with the mist.

Figure 35

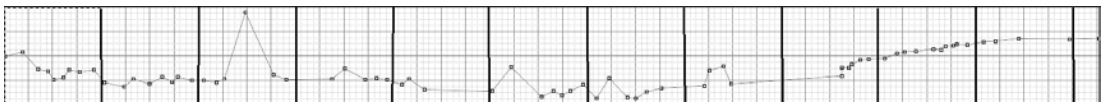
Panoramic Photograph of Sunrise Near Pockets Hut



I began the sound composition with percussion, created by tracing the shapes of the photograph onto a grid in Adobe Photoshop (Figure 36). I wanted a percussion sound reminiscent of galloping horses, and chose the African Drum VST because the sounds featured a hollow rumble, like hooves striking the ground. Similar to *Fire in the Sky*, I kept the melodic lines sparse to emphasise the brittle fragility of the scene. Towards the end of the composition, I incorporated a recording of the sunrise bird chorus, which steadily rose along with the sun that morning.

Figure 36

Percussion Notation Taken From Photograph



Note. This is a screenshot showing the upper lines of the photograph from Figure 35 traced onto a grid, then divided to approximate musical staves.

In the completed piece (see Appendix B), I kept the completed audio-visual work simple, eschewing any moving imagery or music visualisation. Instead, I had the sound composition accompany the photograph, so that the work would not detract too much from Aaron's spoken word during the performance.²

² The live version of *Who is of This Earth* can be found at <https://vimeo.com/746311254/6af40af18b>.

I found the process of creating this piece profound. I wanted to work deeper within myself, and discover how might I express my internal processes to the audience—in the way that Aaron was able to invoke the feelings of wonder at his experiences with the brumbies in the morning through his words. I began to realise that my current process of working was too procedural for the type of work that I would like to do; namely, working with emotions.

4.2.3 *There is no Escape From Yourself* (2016)

Figure 37

Cover art for *There is no Escape From Yourself*



1. *There is no Escape From Yourself*
2. *The Time of Below*
3. *Hidden Landscapes*
4. *Changes Within the Ecological Self*
5. *The Road is my River*
6. *Ephemeral Whispers of Time*

November 2016. I am standing in the forest near Arteles. It is wonderfully and refreshingly alien from my usual surroundings. There is snow on the ground. I delight in how it crunches under my boots.

The land is otherwise silent and the air is still, save for my breath and the occasional, faint bird call.

This silence offers the time and place to reflect on my year thus far. I had welcomed the residency—I looked forward to the privilege of being able to focus on my practice for a month, which is a luxury not many artists can access. I was also keen on having some respite from the turmoil from life at home. It had been a difficult year, and I needed time away.

To think. To breathe.

Yet, despite my tranquil surroundings, I can't help *but* think of what awaits me at home. The silence is exacerbating my thoughts.

Changes are occurring in my life. Not necessarily changes I want, but regardless of choice, I will need to deal with said changes. What happens to my job, which has been in a state of uncertainty all year? Will I even *have* a job when I return to Perth, since they have been repeatedly threatening to remove my position altogether?

How do I repair the friction between myself and my family? Where do I live next year? Our clashes have become increasingly frequent, and it was starting to be untenable to live together under the same roof.

It dawns on me that I can't escape from myself. I am on the other side of the world and these thoughts have accompanied me to this very forest.

I cry in frustration.

This residency was meant to be enjoyable, and now I am crying bitter tears in the middle of a forest.

The land responds. A sudden wind blows through the trees. Leaves rustle. I am taken out of my reverie as I notice that the land has darkened—the sun is beginning to set, its rays fading away under the trees.

I take a deep breath, dry my eyes, and head back through the forest.

There is no Escape From Yourself is a series of works completed during my month-long *Silence Awareness Existence* residency held at Arteles Creative Centre in Finland. The cover art (Figure 37) is based on a photograph of a tree, taken during the residency. The work combines field recordings, contour lines from field photographs, HEX data from photographs and manipulated acoustic guitar as a way

of expressing the inner turmoil I felt at the time of its creation. I wrote these series of works while engaging in long walks around the forest near Arteles (Figure 38), using the walks as a means of forming of dialogue between myself and the landscape.

Figure 38

Forest Around Arteles.



Building on John Cage (1961), the residency program emphasised the idea of silence as a way of understanding personal processes. The residents were encouraged to explore the concept of ‘silence’ in whichever way was most meaningful—for myself, this was through engaging in long, silent walks alone. I often found myself walking for hours through the forest, exploring the trails, accompanied by the sound of my footsteps, the whispering of the trees and the occasional bird call. There were also days where we, as a collective, were encouraged to stay silent for the entire day, keeping communication between ourselves to a minimum. In the end this proved more of a para-monastic, introspective process than a Cagean one. The meditative aspects of this residency were helpful in clarifying my thoughts about myself and my observations of the landscape.

My main intention in partaking in the residency was to further explore ways of embedding myself and my experiences into the work. For these works, I decided to centre my emotions, and consider how I might express them through the sights and sounds of the landscape. By delving into myself, I found myself having a dialogue with personal experiences and using the landscape as a conduit for such dialogues.

I approached my compositional practice in an autoethnographic, psychogeographic manner (see Section 3.3). On my long walks through the forest around Arteles, I would note my sensations while taking field recordings and field footage. Some of this documentation—both aural and visual—serves as triggers for memories, where I related the physicality of place to an aspect of my personal history. These triggers then formed the basis of my approach to the eventual composition.

4.2.3.1 There is no Escape From Yourself

The title track, *There is no Escape From Yourself*, comes from the autoethnographic self-reflection presented above. Anxiety was a prominent emotion during my time at Arteles, as I was processing the events of the previous year and dwelling on how I might resolve various issues upon my return home. I wanted to approach the compositional process as a form of cathartic release for my anxiety.

The piece is made up of the same field recording layered through alternating channels. The piece alludes to the idea that the sound—similar to the self—does not escape from itself; rather, it ends up self-perpetuating. The idea for the piece initially came from meditating on how anxiety builds up through the incessant looping of thoughts, which tends to amplify the effect of anxiety on the person. I wanted to replicate a similar effect through sound. Much like these thoughts, the various layers reach a crescendo as they overlap with each other, before slowly fading out.

The audio component of the piece was based on a field recording of wind blowing through the trees one evening. I edited the recording in Adobe Audition and then added the Ridiculous Resonance effect, which feeds back frequencies near a specified cut-off frequency and adds harmonics into the sonic texture. This work resonated for me at a cut-off frequency of 440 Hz. I chose this effect because it added a hauntingly eerie tone to the sound. I also reversed the sound to allude to the sensation of rising anxiety; after an initial quiet, it became a sudden rush of sound.

To structure the piece, I placed the field recording on five separate tracks. Each track was placed in an alternating structure (Track 1 would repeat every second repetition; Track 2 at every second repetition and so on) and would variously meet the others (Table 3). Track 1 was panned in the centre and other tracks panned left and right. This meant that as the composition proceeds, multiple tracks would cacophonously clash against each other.

Table 3

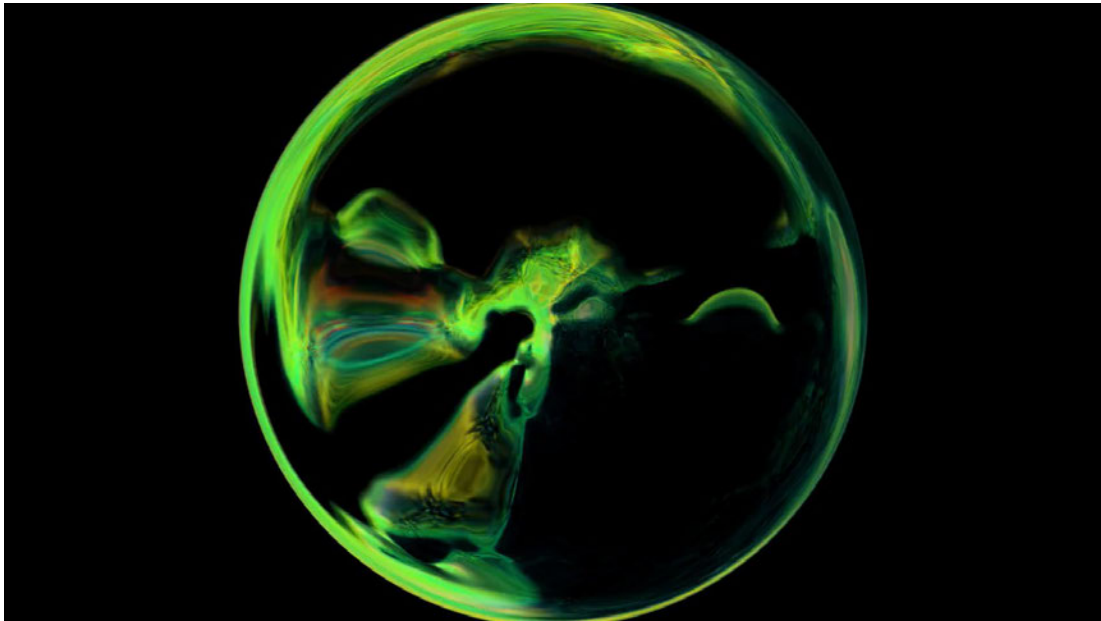
The Arrangements of the Tracks in There is no Escape From Yourself

Tr 1		Tr 1		Tr 1		Tr 1		Tr 1		Tr 1		Tr 1	
	Tr 2			Tr 2			Tr 2			Tr 2			
		Tr 3				Tr 3				Tr 3			
			Tr 4					Tr 4					Tr 4
				Tr 5						Tr 5			

For the completed work (Figure 39), I made a music visualisation in Adobe After Effects of a moving circle, with its movements reminiscent of the surface tension seen as liquids move. I based the colours of the visualisation on the colours of the forest.

Figure 39

Still From Completed Video of There is no Escape From Yourself

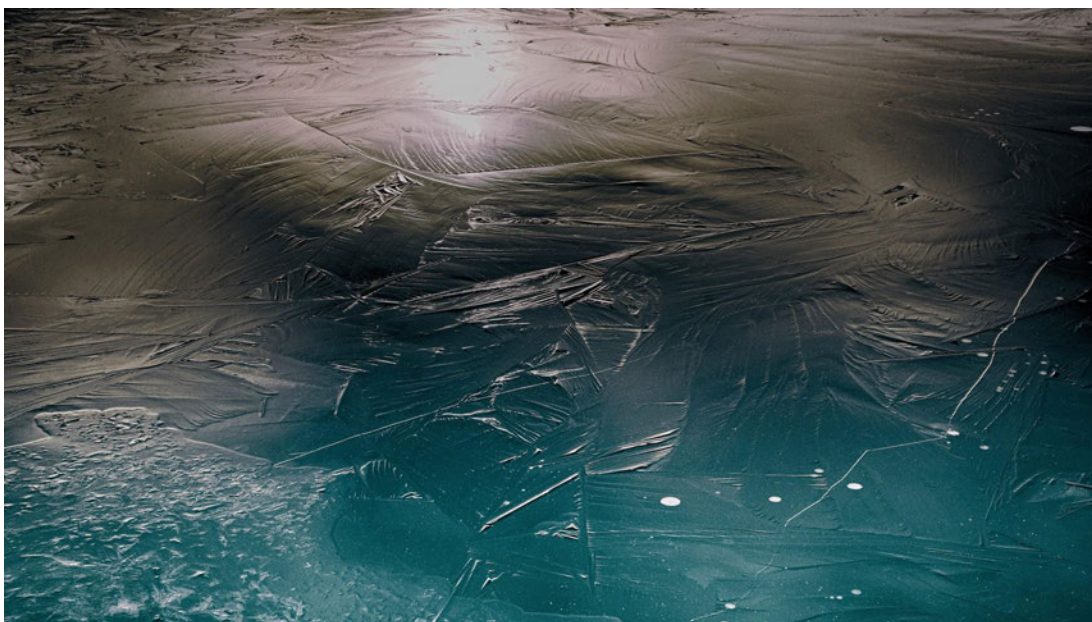


4.2.3.2 Time of Below

Time of Below is a piece based on a photograph of a frozen lake taken on the second day of the residency. The lake is one of the main natural features of the surrounding area, with access via a small jetty. I spent much of my time on my first few days at Arteles walking around the lake and watching the ice steadily harden on the surface. The title of the piece refers to an imagined concept of how time must feel below the ice, as the world gradually constricts. I was particularly taken by the appearance of the lake (Figure 40), as it had just begun to freeze and it was possible to see which parts had frozen earlier. The newer ice was also sufficiently transparent to reveal the colour of the water underneath.

Figure 40

Surface of a Frozen Lake.



Note. HEX derived from the above photograph was then used for the first version of *Time of Below* but later discarded. The contour lines from this photograph were later used for *Hidden Landscapes*.

Around the edges of the lake were reed beds, whose rustling I recorded and incorporated into the audio composition. Thinking of Gallagher’s model of audio drift (see Section 3.3), I also recorded myself walking on the path towards the lake, pointing my Zoom H1’s microphone towards my feet to pick up my footsteps. I also recorded the sparrows living in the trees and the wind blowing past.

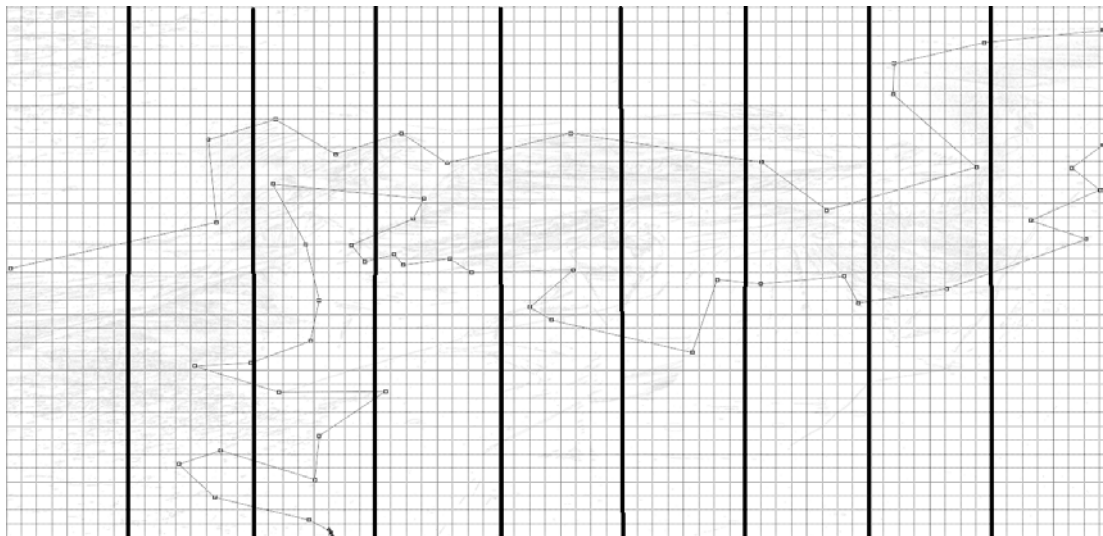
I thought about Joanna Bailie’s concept of ‘freezing’ (see Section 2.1.3.1) and decided that approach would be apt in a piece about the slowing of time. I slowed the recording of the wind eight times and used this recording as the base track for the rest of the composition. I also slowed the sparrow calls four times and alternated the slowed version with the original recording. I then converted a section

of HEX into the composition, keeping the melody lines sparse to further convey the slowing occurring under the ice.

Initially I wanted to trace the shape of the lake into percussion lines. I traced the shape of the dark shadow in the photograph in Figure 40, overlaid it onto a grid and traced parts of the lines onto Ableton Live (Figure 41). After playing the composition with the percussion lines, I felt the percussion added too much movement into the sound and removed the track from the final work.

Figure 41

Outline of Photograph of the Frozen Lake



Note. Tracing the outline of the darker sections of the frozen lake photograph from Figure 40 onto a grid to approximate a stave and bars to create percussion lines.

The movement and colour of the music visualisation was inspired by one visit to the lake, where I watched how the rays of the morning sun danced on the surface. I recorded a video, and in the editing process, the shifts were made more apparent once I sped the video up two times (Figure 42). While I had wanted to incorporate

this video into the composition, ultimately, I found it did not work well with the other components of the work and the footage was left unused.

Figure 42

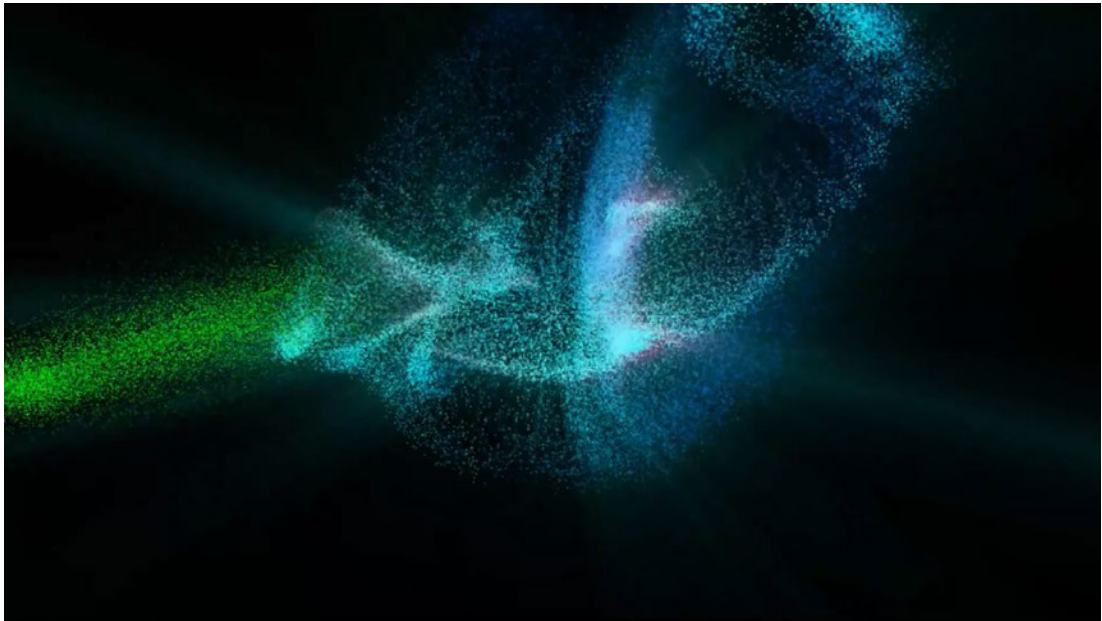
Still From Video of the Shifting Sun Upon the Lake's Surface



In making the music visualisation, I knew what colour it would be: aqua blue, similar to the colour of the lighter patches of ice in the photograph. I was not entirely sure how the visualisation itself would appear. There were two iterations of music visualisation. The first one featured dancing particles of blue and green (to represent the reeds), illuminated with light rays (Figure 43).

Figure 43

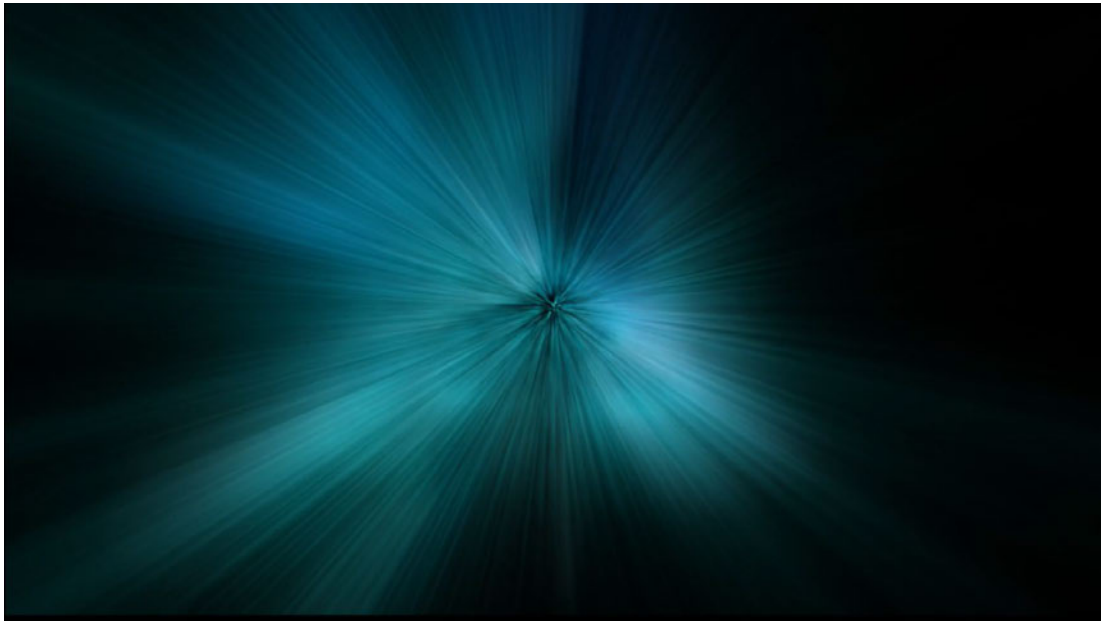
Still From Video Excerpt of First Version of Time of Below



While the visualisation was beautiful, it was also too active and busy for a piece whose theme is slowness. For the final version, I thought about how the rays of light might appear under the ice. I further reduced the particle count and particle movement, and instead of curved lines, I had the visualisation appear as straight lines approaching the screen as though from a distance (Figure 45).

Figure 44

Still From Completed Video of Time Of Below



4.2.3.3 Hidden Landscapes

Hidden Landscapes references two experiences during my time at Arteles: the literal landscape of the time, which by now was hidden by a thick blanket of snow; and my own internal, emotionally brittle landscape. As I wrote this piece, I channelled the fear and anxiety I felt regarding an uncertain future. The piece alludes to this inner tension through the distorted sounds and various guitar parts that swell together, almost claustrophobically. The title also alludes to the idea that all these tensions can remain hidden within a person, much like how snow can create a false sense of homogeneity over the land, hiding the chaos of features below the surface: holes, rocks and roots.

Arteles is near the town of Hameenkyro, which we often visited for groceries and supplies. There is also a large thrift shop where I bought a guitar—fittingly, from Finnish guitar maker Landola (a quick search of the serial number points to the guitar

being made in the 1980s). This guitar features on two tracks of *There is no Escape From Yourself*, most prominently this piece (Figure 45).

Figure 45

Landola Acoustic Guitar, Used in There is no Escape From Yourself



For this piece, I recorded some snippets of myself playing guitar. I wanted a darker, more drone-like character to the guitar tone, so I detuned the guitar one whole step (DGCFAD). I recorded several short snippets, three of which I used for this piece—a single strummed note D on the lowest string, allowed to ring out; a D-minor chord progression; and a harmony section.

Initially I wanted to create a guitar-centric piece with these snippets, but the original version sounded too aesthetically pleasant for my conceptual theme. I felt this piece needed sharper, more discordant sounds to convey the sense of underlying chaos, so I reversed each track in Adobe Audition and then used the stretch and pitch function to slow the recording of the single D note eight times. I also included a distortion effect for added dissonance. Similarly to *There is no Escape From Yourself*, reversing the tracks made each sound as though they were crashing into each other with their sudden crescendos.

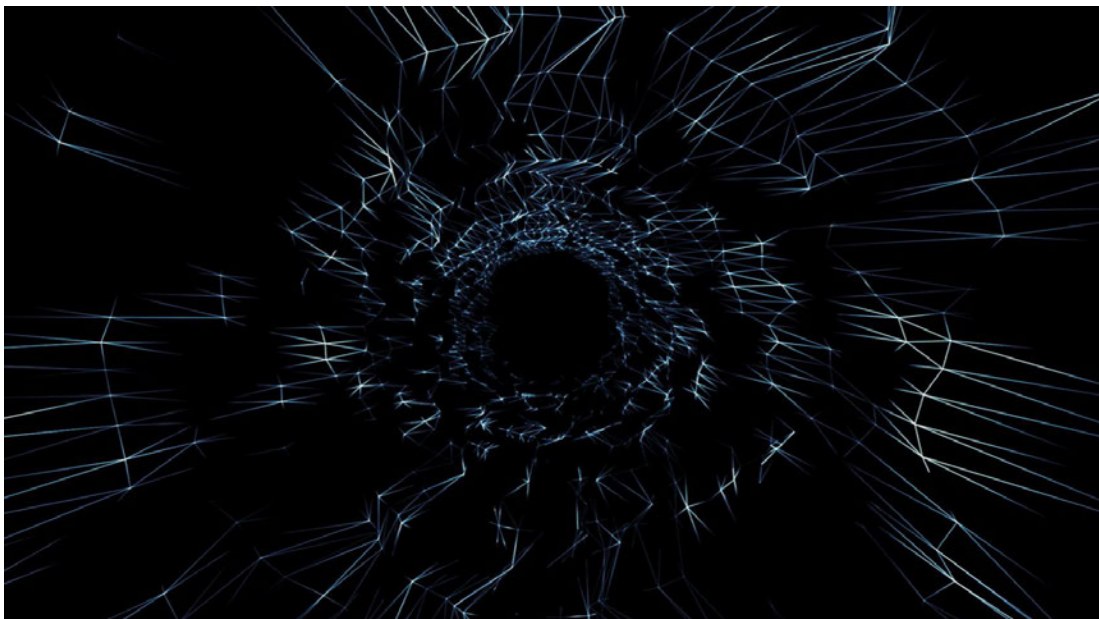
As with *Time of Below*, the percussion for *Hidden Landscapes* was made from the contours of the photograph of the frozen lake, as I wanted to place part of the landscape into a piece. The frozen lake fit the theme of hidden objects, as the ice also acted as a disguise for the chaos under its surface.

I again incorporated the sound of my footsteps into the audio composition; this time slowed eight times to emphasise the heaviness of how the earth was moving beneath my feet with every step. I wanted to allude to the idea of traversing a seemingly homogenous landscape, only to find it crackling and buckling. I also wanted to emphasise the feeling of unease.

The completed version of *Hidden Landscapes* (Figure 46) features a music visualisation made in Trapcode Form. I chose Form as it allowed me to create 3D particle grids for solid objects. I wanted to create a visualisation reminiscent of a cracking object, and in the video, the lines buckle and distort as the music plays.

Figure 46

Still From Completed Video of Hidden Landscapes



4.2.3.4 Changes Within the Ecological Self

This piece was written around the halfway point of the residency, when temperatures suddenly warmed, melting the snow that had previously hidden the land. The title refers to how the changes in the environment coincided with a change I felt within myself, after the inner turmoil that had marked my earlier residency, I began to feel more at peace with myself. I felt my anxiety melt away, like the snow, and was able to look at my life with a clearer perspective. I began to acknowledge the challenges that would still face me when I returned home, but also accept that some aspects of my life were not within my control; I could only control my response. With that, I also felt a sense of relief in that I was acknowledging I was not solely responsible for everything that happened in my life.

One morning, as I reflected on my changed emotional state, I noticed a steady stream of water running from the roof of our residence—meltwater from the snow that had accumulated on the roof over the previous few weeks of snowfall. I recorded this sound, which became the base track of *Changes Within the Ecological Self*. Accompanying this recording are various bird recordings taken from walks through the forest. I deliberately kept this piece minimal as a contrast to the discordance of *Hidden Landscapes*.

I was particularly struck by one recording of a bird whose call sounded like a long, haunting whistle. The call was reminiscent of the land sighing in response to the changes over the environment, and became the main bird call featured in the piece. To emphasise its haunting qualities, I ran the recording through delay and echo effects.

In the completed piece, I used a combination of Trapcode Particular and Adobe's Mr Mercury (a liquid effect) to create the completed music visualisation

(Figure 47). I used Particular for the initial particle motion effects and then applied the Mr Mercury effect to turn the particles into liquid blobs. I wanted the visualisation to appear like falling water, similar to how the water fell from the roof.

Figure 47

Still From Completed Video of Changes Within The Ecological Self



4.2.3.5 The Road is my River

The Road is my River is a piece based on my experience of being lost in the forest. One afternoon I decided to take a wander through the forest behind Arteles. I had walked through this forest numerous times for hours at a time, but stripped of snow, the landscape was barely recognisable. When there was snow, I was able to at least retrace my footsteps. Without the snow, I felt like I was walking around in circles. I became increasingly disorientated as I walked around the forest, while the sun began to fall and the wind began picking up. I felt a rising panic as I tried to think of a way of returning to Arteles before sunset.

Fortunately for me, the forest around Arteles is not dense, and after taking a few deep breaths, I realised I could hear the sound of traffic. I recalled that the roads

around Arteles were regularly used and knew that as long as I was able to reach the road, I would be able to find my way back to the studios. The road was my ‘river’ in the same way that people would be advised to follow a river if they were lost. With some relief, I was able to find my way back to a road and then to Arteles.

Back at the studio, I wanted to make a piece about my experience in the woods. While in the forest, I had taken two 5-min recordings of my wanderings in the forest. I wanted to use both recordings in the composition and experimented with different arrangements. Initially, I placed them in chronological order; however, dissatisfied with the effect (as it merely sounded like a 10-min recording of footsteps), I decided to place them together, panning one recording to the left and one to the right. The resultant sound was closer to what I was wanting—a confusion of noise and footsteps seemingly circling and stepping onto each other, much like my experience of wandering in the forest.

To add a heightened sense of tension, I added some minimalist guitar. My initial guitar tracks were natural harmonics played on the 12th and 7th frets, recorded in Adobe Audition. I then ran the tracks through distortion and the Ridiculous Resonance effect to amplify the frequencies.

For the completed work (Figure 48), I made a music visualisation that moved from right to left, as though the particles were being blown by the wind, and overlaid vertical stripes to resemble the road.

Figure 48

Still From Completed Video of The Road is my River



4.2.3.6 Ephemeral Echoes of Time

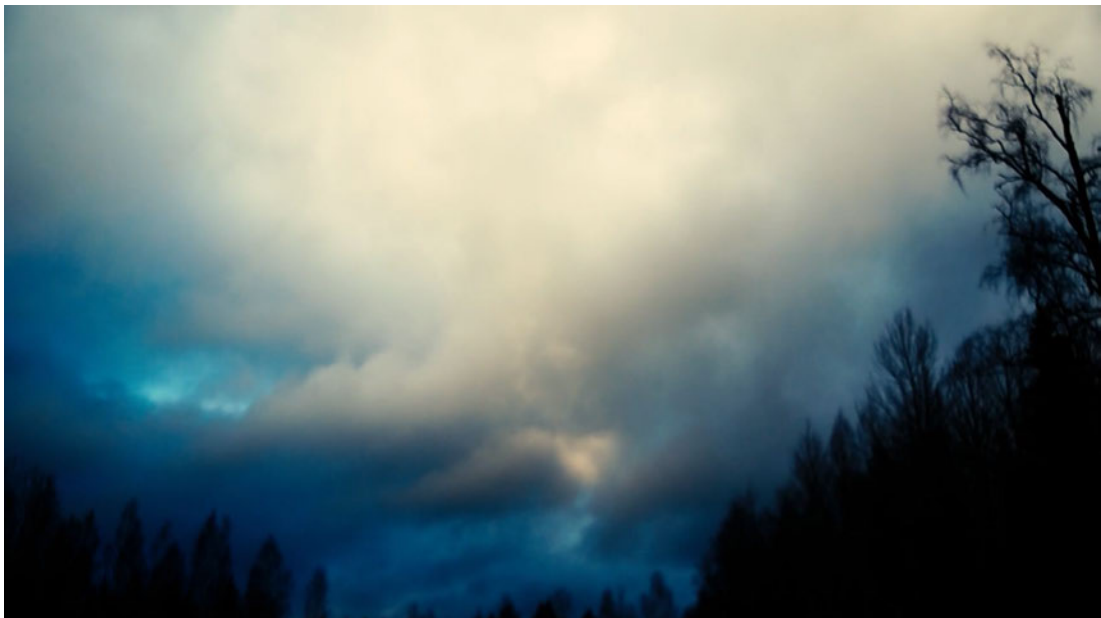
Ephemeral Echoes of Time was the last piece I made in Arteles, and I wanted to create the audio equivalent of a cleansing, to sweep away the tension that featured in many of the works. The title refers to the whispering qualities struck by the wind as it rushed through the leaves, as though old spirits were manifesting, as well as how quickly the land can change. Towards the end of the residency, winter began reasserting itself and snow started falling. On one particularly windy day, I stood under a group of trees on the studio property, pointed my audio recorder skywards, and recorded.

As with *Changes Within the Ecological Self*, I kept the audio processing to a minimum to emphasise a sense of calm and to let the trees ‘speak’ for themselves. To create the piece, I slowed and overlaid two of the recordings, panning one hard left and the other hard right.

The completed work features 3 min of footage of trees swaying with the wind (Figure 49). The haziness of the field footage was an (un)happy accident. On one of my walks outside, I attempted to manually zoom my camera lens towards a scene while video recording. Because of the cold, the lens had frozen, and instead of zooming I snapped the zoom mechanism. This meant that the lens could no longer focus. As this occurred towards the end of the residency, I was only mildly perturbed and instead was satisfied with focussing on finishing work. I had packed my camera away when I noticed dramatic movements of clouds framed by the trees, and could not resist taking one last field video despite knowing its quality would be compromised. However, the out-of-focus effect worked well aesthetically for this piece.

Figure 49

Still From Completed Video of Ephemeral Echoes of Time



4.2.4 *Beringbooding* (2017)

Figure 50

Cover art for *Beringbooding*



1. *Bering(forboding)*
2. *If an Echo Could Talk*
3. *The Sentry Watches*
4. *L'appel du Vide*

At night, the stars above Beringbooding Rock were dazzling.

The ground below, and around me, was decidedly not. It was a moonless night and the land around me was bathed in near darkness. If not for the stars, there would be no natural illumination.

I can barely see my hand in front of my face.

I had spent several hours on the rock, admiring the stars. I was nestled in a small crook, sheltering from the buffeting winds. The wind menacingly picked up, signalling that my welcome was over. It was time to head back to my car.

I sweep the ground immediately in front of me with my torch. This narrow beam of light will determine whether I reach my car, or fall into the abyss. It would be quite easy for me to step off the edge.

I grit my teeth and walk into the void. I have to trust myself. The wind buffets my face, urging me on.

Beringbooding is based on a visit to Beringbooding Rock in December 2016, where I spent a night at the location. For this work, I wanted to further explore ways of conveying my experience of place, and its emotive impact on me during my time in the landscape. The cover art (Figure 50) for the release features an image from the music visualisation of *If an Echo Could Talk* (see Section 4.2.4.2). Beringbooding Rock is located around 350 km from Perth in the Wheatbelt, and around 50 km from the nearest town, Mukinbudin (Figure 51).

Figure 51

Map Showing the Location of Beringbooding Rock (Map Data: Google)



I have had a long-standing fascination with the geography of the Wheatbelt and had initially planned to base my doctoral research on salt lakes in the region. Called *SALT*, the project's intention was to use salt lakes as a metaphor to explore the concepts of resilience, isolation and the effects of human intervention on the environment. I had also wanted to comment on isolation, its emotional impact and

the creative energy it can inspire. With isolation comes reliance on the mind of the individual, and with isolation also comes the desire to create amid limited resources. For that, I spent several months documenting some of these areas, mostly in photographic form but also via field recordings and field video.

The project was ultimately unrealised, although a part of the documentation was eventually shown—such as the photograph of Dumbleyung Lakes shown in Figure 52, which was shown as part of the 2018 City of Stirling Blink Photography Awards Exhibition.

Figure 52

Photograph of Dumbleyung Lakes



During my travels around the Wheatbelt for *SALT*, I came across Beringbooding Rock. This site sums up many of the appeals of the Wheatbelt for me: the incongruous appearance of large granite outcrops in the middle of flat plains, and the deep sense of survival and resilience in a harsh landscape. Beringbooding Rock is a gnamma hole—a semi-natural cavity in a rock (typically granite) that acts as a natural water tank—and is also the largest rock water catchment tank in Australia (Figure 53).

Figure 53

Beringbooding Rock Gnamma Hole



I was also affected by the relative isolation of the area. As previously noted, the sense of vastness in this landscape can be both freeing and frightening. It also encouraged within me a different style of listening: to listen deeper, and perhaps also more slowly. At times it was disturbing to conduct this act of deeper listening, as I realised when I was walking around another Wheatbelt location, Wongan Hills.

Wongan Hills—or kwongan katta, the Whispering Hills.

The whispering became all-encompassing as I stood at the start of the Mount Matilda Trail. It was the sound of the wind passing through the thousands of trees that watch over the hills. The rustling cascade was an elegant backdrop to the many birds who call the place home.

Wongan Hills contains the largest remaining single area of natural habitat in the northern Wheatbelt. The fractured nature of the Wheatbelt's landscape means that places like Wongan Hills are, essentially, precious islands of habitat within a sea of human intervention.

All around these islands are signs of humanity's heavy marks—from the vibrantly yellow canola fields that back against the hills, to the roads and fences that cross the land. What struck me is that, despite the fractured landscape, these islands are still in contact. The narrow strips of connections chaining these islands together allows the inhabitants from each to mingle, as a sign on the trail noted.

The trees are still singing to each other, whispering age-old secrets.

As I made my way around the trail, connection was the prevailing idea in my mind. We all yearn for some form of meaningful connection because nothing in the world exists in a vacuum. What connection that we need, and how to obtain this connection, is the burning question.

Communication. That becomes an integral part of the puzzle of finding yearned-for connection. Broadly speaking, communication exists on two planes: communication within and communication with others. Neither exists properly without acknowledgement of the other.

Why do people act the way they do? Why do they seek the people they do? This might not always be conscious, but it is greatly influenced by their internal monologue. How do you view yourself? How would you like to be treated?

This introspection can be wholly uncomfortable, because it can expose memories and emotions that the mind and heart would rather keep hidden. Yet, attempts at isolating these islands of discontent from the self is a battle that can never be won. Like the thick roots of the trees on Wongan Hills, they will find ways to penetrate through the rock-hard exterior of denial.

I thought of my own recent experiences, where my attempts at ignoring my discontent resulted in pain. In hindsight, my discontent was as loud as the trees whispering around me, and as deep as the roots digging between the rocks. It was

as bright as the lakes below, glimmering in the sunlight. Despite the growing cacophony, I chose to close my ears.

Yet it took a sharp severing, like the road that slices between the tracts of bush, to finally wake me up.

I had to learn to listen.

In creating this work, I also began to realise how many discussions of ‘place’ take place through a Eurocentric lens. Other viewpoints regarding ‘place’, and the contested and complex nature of place on colonised land, are often not as well discussed or represented in media. Acknowledging traditional knowledge of Country is particularly important in the context of my work because much of it is based on lands with contested, and oftentimes, forgotten or lost history. It is also important to acknowledge pre-colonial history because of the land’s importance to First Nations culture. For First Nations people, the idea of place is often, first and foremost, deeply embedded within the identity of the people. Indigenous educator Jack Guffey, for example, asks:

how do people learn to find and know themselves in this world? The answer ... is two-fold: first, by encountering and establishing spiritual connections with the earth through the senses, the intellect and the emotional body.

Second, through the inter-relationship of storytelling and service learning.

Think of storytelling as a needle and service learning as the thread. The story makes an impression and creates an opening, then service learning follows.

Together they draw the fabric of life. (Guffey, 2008, pp. 2–3)

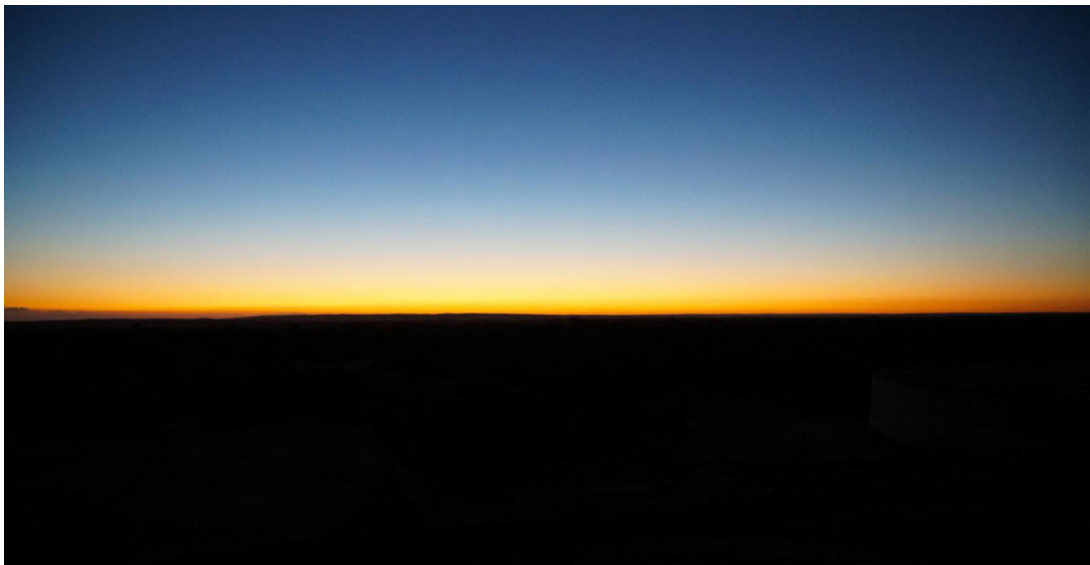
Gnamma holes are particularly important in Indigenous culture, as their presence could mean life or death during the summer months. Places like

Beringbooding Rock were protected, as Ballardong Elder Kevan Davis explains: “Water kept our people alive, so gnammas were sacred. They were guarded and regularly cleaned. Slabs of rocks were placed over some smaller pit gnammas to reduce evaporation and prevent wildlife from falling in and drowning” (Davis, in Wheatbelt Natural Resource Management, n.d., p. 5).

I had these considerations in mind when I arrived at Beringbooding Rock in the late afternoon. With admiration and awe, I noticed that even in summer, the gnamma hole was still filled with water. I watched the sun set over the land (Figure 54) and was drawn to the contrast between the fading light in the skies and the darkness on the ground. There was a sharp demarcation between the two worlds, split halfway along the horizon.

Figure 54

Twilight Settling Over the Vicinity of Beringbooding Rock



The surroundings of the rock were quiet, save for the calls of a nearby solitary raven. As night fell, my respect for the land grew for two reasons. First, I realised I was standing near an imposing granite monolith. On the relative scales of time and size, I was essentially an inconsequential presence in the rock’s shadow.

Second, I thought back to a conversation with a friend who had asked about my interest in the Wheatbelt, and—after I had waxed lyrical about the area’s geography—had said they found the Wheatbelt “frightening” because of its open expansiveness and isolation. During the day, I rarely felt that sensation of fear (I suppose because I could see what was ahead), and instead enjoyed the feeling of being alone within a place; however, the darkness brought the isolation of my location into sharp relief. It also brought an undercurrent of anxiety. I kept wondering how I might react and what I might do if something was to happen during the night, because essentially, I would be reliant on myself. There was a strong sense of isolation as night descended; it was a moment when the distance between myself and civilisation became very prominent. I was suddenly reminded that I was at least 50 km from the nearest town via a dirt road. The work of sound artist Maggie Payne and painter Bec Juniper seemed especially relevant to my responses here (see Section 3.1.2).

At night, there was a strong sense of the unknown around the rock, which made me wonder what was lurking in the dark beyond the reaches of my torch. The edges of the rock were hard to distinguish in the darkness, and walking down felt like I was walking into a void (see Section 4.2.3 on *L'appel du Vide*). As I made my cautious way down the rock, I thought about entering new and uncertain situations, and the resultant anxiety of essentially navigating without a roadmap. I only knew what was immediately ahead; beyond that I was reacting to whatever I happened across. I also noted relief when I finally climbed off the rock in one piece.

For *Beringbooding*, I experimented with different compositional processes and instrumentation. In terms of compositional processes I started to move away from mapping HEX as a sonification method. I wanted to find ways of incorporating

the entire photograph, not just a random sample of data. In terms of instrumentation, I experimented with incorporating my vocals (in *Bering(forboding)*) and drum playing (in *The Sentry Watches* and *L'appel du Vide*).

4.2.4.1 Bering(forboding)

For the track *Bering(forboding)* itself, I returned to the idea of a single source playing and contemplating itself, in a similar vein to *There is no Escape From Yourself*. I also thought back to Barry Truax and his technique of gradually slowing down a sound source, particularly in pieces like *Pacific* (1990). Truax notes that by elongating the sound of water striking the shore, there was a moment where time slowed enough for the listener to be *within* the wave itself (Truax, 1992, p. 38). This allowed for an intimacy with the sound, as the listener became less of an observer listening from outside the sound, and part of the motion of the wave.

During twilight, I had recorded a solitary raven in the distance, calling over the land. The call was haunting, as though the raven was searching for another nearby presence. I took a 9-sec section of the call recording and created several versions, time stretched at various lengths (16X, 8X, 4X, 2X). I also pitch shifted one of the eight-times-slowed versions by 24 semitones, and superimposed these on top of each other. I found that stretching these tracks drew out interesting and unexpected qualities from the crow's call, particularly the complexities in its tones.

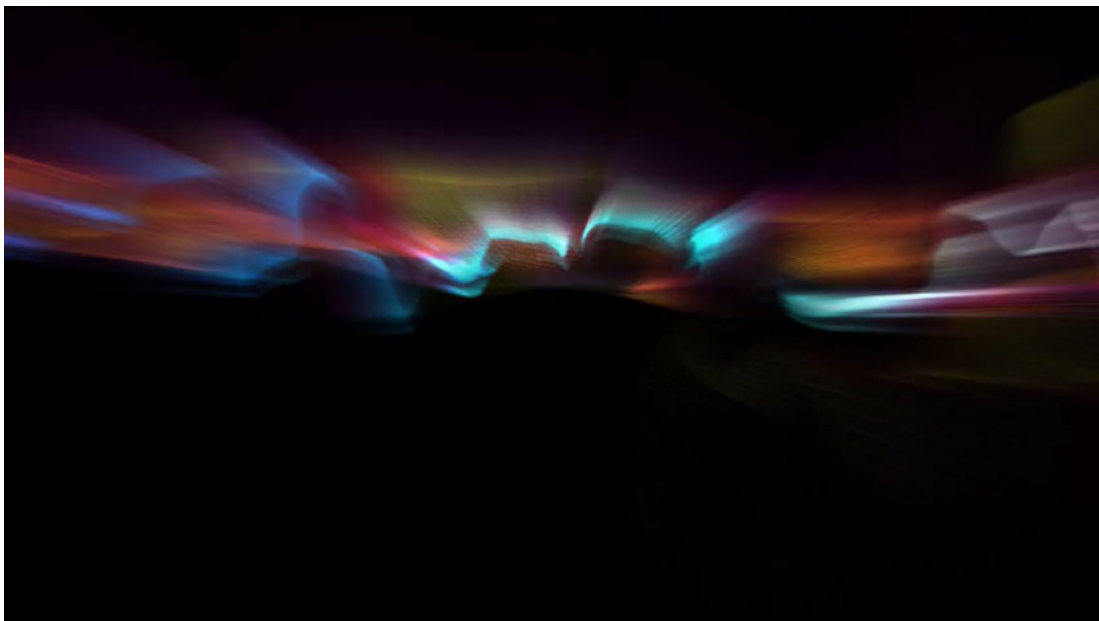
Following on from *There is no Escape From Yourself*, I wanted to continue exploring methods of incorporating my presence into my works. Initially, I experimented with guitar, but found it difficult to match my playing with the field recordings of the crows. Essentially, the elongated, pitch-shifted crows were singing in microtones, which were difficult for me to accommodate on guitar.

I experimented with adding my own vocals, as I felt more able to accommodate the small shifts in pitch. Although my first take sounded shaky, it was more successful than my attempts with the guitar. Ultimately, I recorded three vocal tracks of myself singing along with the crow, where I allowed myself to be guided by intuition in terms of rhythm and tone.

In making the final audio-visual work (Figure 55), I followed a similar approach to the works featured in *Dam of Discontent* by beginning with a photograph of the sunset, accompanied by 30 sec of the original field recording. I wanted to make a music visualisation that was a continuation of the sunset, and base the colour palette on the main colours: orange, red and blue. I created the visualisation using Trapcode Particular and then added light streaks using Trapcode Shine to create a shimmering, aurora-like effect.

Figure 55

Still From Completed Video of Bering(for)boding



4.2.4.2 If an Echo Could Talk + The Sentry Watches

I grouped these pieces together as they have similar thematic concerns: the heavy sense of history and the feeling of past spirits around Beringbooding Rock. Some of that ancient history is preserved as rock paintings in a small nearby cave, made by the Kalamaia tribe (Figure 56). The two pieces are meditations on this sense of history and presence in the land. It felt like the rock was testament to the passage of time, like a sentry documenting past presences and lost histories.

Figure 56

Rock Art at Beringbooding Rock



The feeling of nearby spirits intensified during the night, when the wind picked up and swirled around me as I wandered over the rock in the dark. With *If an Echo Could Talk* in particular, I wanted to emphasise the impression of spirits through layering multiple recordings of the wind. I took several recordings of the wind—some at the base; one between the reservoir and the rock; and some at various points around the rock. Some of these recordings were also used in *The Sentry Watches*.

While at Beringbooding Rock, I also experimented with how a guitar might sound when being recorded in a cave, and what melodies I might create while in the landscape. I had taken with me a small travel guitar and during the morning recorded myself playing some improvised lines. In post-production, I time stretched the pieces 16 times in Adobe Audition and then reversed the tracks and added the Ridiculous Resonance effect to create an eerie backdrop for both tracks.

I was also informed by an artist residency in which I had participated in 2016. I was part of the Time_Place_Space_Nomad artist residency run through Arts House Melbourne, where I was given the opportunity to camp in country Victoria and to learn about Country. We were based in Natimuk, western Victoria, and Wotjobaluk Elder Uncle Ron Marks showed us his country during our time there. Over a campfire, he explained how spirits would communicate using fire, through the changing shapes of the embers.

I kept that in mind while looking at the embers in the campfire at Beringbooding, noting the subtle shifts. In *If an Echo Could Talk*, I wanted to let the subtle shifts of the wind be similar to the embers, as perhaps another way spirits might be communicating to me. The idea of wind and embers also influenced the music visualisation for *If an Echo Could Talk*, which emulates the appearance of smoke billowing over a black space (Figure 57). In the visualisation, the audio was used as keyframes to control the shape of the smoke.

Figure 57

Still From Completed Video of If an Echo Could Talk



For *The Sentry Watches* (Audio 1), I decided to incorporate the entire sunset photograph used for *Bering(forboding)*. I converted the entire photograph into a sound file, using Audacity—a free opensource sound editor that can also convert data from images into a WAV file. The result was essentially a low rumble of white noise, but one that sounded much like the wind recordings. To accentuate the tension in *The Sentry Watches* due to the combination of reversed guitar, wind recordings and the sonified photograph, I played a simple, repetitive drum track on a floor tom. I ran the floor tom through a half-second delay to give it a haunting effect.

[Audio 1. The Sentry Watches](#)

4.2.4.3 L'appel du Vide

When making this piece, I contemplated the sensation of fear I had felt by stepping into the unknown of Beringbooding Rock (see above), and having to face and push through fear to descend the rock. The use of French for the title is a homage

to Francophone artist Luc Ferrari, and his own sound-in-place works (see above). I also chose the term because of its evocative meaning, loosely translated as, “the call of the void”. I was taken by Taylor Weik’s description of this phenomenon, as it describes how I felt walking over the rock at night:

maybe we become seduced by the possibilities that uncertainty holds or crave the freedom to make our own choices. Or maybe it’s because when facing death, we feel the most alive ... whether you find yourself staring from a cliff, cite this phrase as the cause of your thumping heart, shaking hands and the little voice inside that question *what if?* (Weik, 2016, p. 22)

I began this track (Audio 2) with a wind recording taken on the night, to evoke the feeling of peering into the dark. At around the halfway point, I began playing a percussion beat on the floor tom. The drum builds from a sparse beat to one of increasing urgency, reminiscent of a rising heartbeat, it gradually crescendos until it is the only sound. To create a frenetic sound, I placed a half-second delay effect onto the drum track. I also reused one of the crow recordings from *Bering(forboding)* as a bookend motif for the album and as the physical embodiment of the ‘call’.

[Audio 2. L'appel du Vide](#)

4.2.5 Corridor (2017)

During my explorations in field recordings, I also became acutely aware of environmental concerns, and my own relationships with place and ecology. It became increasingly important to listen to the environment, particularly because of the ever-pressing threat of climate change. This led to a broadening of my approach using field recordings and compositions, where I began incorporating environmental

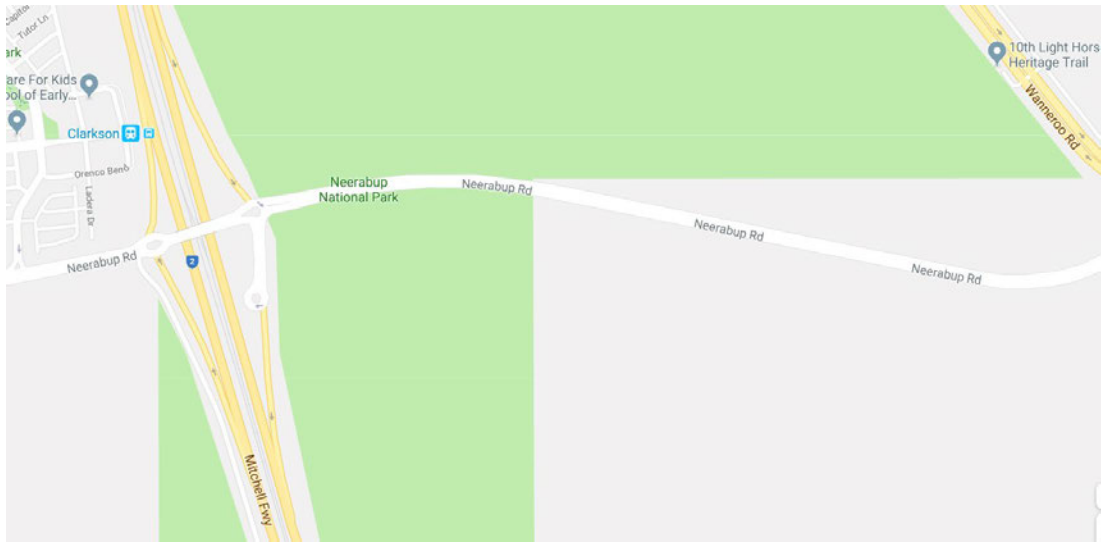
concerns into works and considering how my compositional practice could promote environmental awareness.

The original field recording was made in an underpass in Neerabup National Park, in the northern suburbs of Perth, Western Australia. Neerabup is an important stretch of bush for two main reasons. First, it acts as a corridor for native wildlife (particularly the many native birds), connecting two important wetland areas in Lake Joondalup and Loch McNess. Second, it incorporates and protects part of an ancient Aboriginal migration route, which is now a walking trail called the Yaberoo Budjara Heritage Trail.

When composing this piece, I wanted to explore the juxtaposing of an historically and ecologically important area within a busy transport network (Figure 58). This section of Neerabup National Park is bisected by Neerabup Road, a busy road that provides access to the Neerabup industrial area. Bordering Neerabup National Park are two main roads, the Mitchell Freeway and Wanneroo Road, and a train line.

Figure 58

Map of Recording Location



Note. This map shows the roads that bisect and border Neerabup National Park (Map Data: Google).

The initial recording was made during the afternoon when the traffic was busy. In the original recording, the sound of birds and swaying trees can be heard in the background, while the sounds of passing vehicles threatened to overtake these sounds. I felt this recording was a microcosm of the continual tensions between preserving and protecting the ecosystem, and humanity's need for development, and wanted to explore this further compositionally. In terms of sonic processing, I was particularly influenced by Truax's and Bailie's compositional approaches (see above).

The final composition consists of eight tracks, or 'layers'. I began approaching my compositions in a similar way to how a painter would approach a layered painting—by placing layers of sound over each other to build sonic texture. Like a painter, who would focus on each layer at a time, I too would focus on each sonic layer by manipulating each in turn.

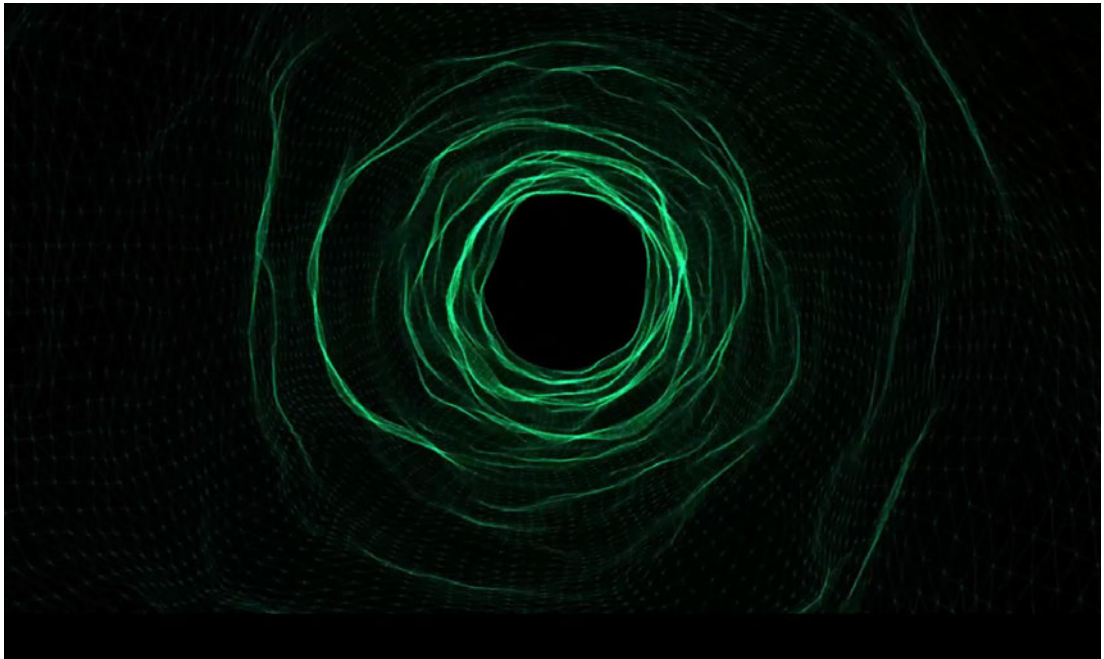
I arranged and edited all the layers for *Corridor* in Adobe Audition. The first layer is the original field recording, or the ‘base’ layer, on which all other layers of the composition are based. The second layer is the original recording with an added half-second delay effect. This is similar to Truax’s description of a “parallel circuit cross-fade”, where part of a sound is layered with the whole (Truax, 2002, p. 10). With this approach, parts of the soundscape are treated as isolated sound objects that can be processed separately and then integrated back into the main soundscape.

One aspect I wanted to accentuate in the piece was the deep drones of the vehicles as they drove over the overpass; thus, for the next four layers I slowed and pitch shifted the original recording by varying degrees (8X, 6X, 4X AND 2X). I used Audition’s doppler effect (an effect emulating the changes in a wave’s frequency in relation to a listener’s position) on the recording being slowed two times, to replicate the sound of wings flapping and further symbolise the movement of birds through the wildlife corridor. These various versions were then layered with the original in Ableton Live. The layering of tracks was my way of playing with temporality—I viewed the building of the composition as though they were waves tumbling through and onto each other as they approach land, each in their own way as they individually navigate the geography of the sonic shoreline.

For the visual component, I wanted to convey the sensation of moving through a corridor. For the completed version of the work, I used Trapcode Form to create a music visualisation of a tunnel, where the movement of the tunnel is reacting to the audio (Figure 59).

Figure 59

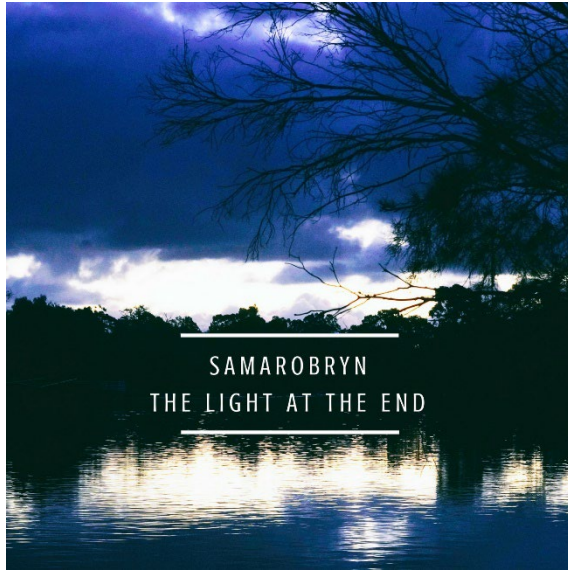
Still From Completed Video of Corridor



4.2.6 *The Light at the End* (2018)

Figure 60

Cover art for *The Light at the End*



1. *Truth and Consequences*
2. *Rising From the Depths*
3. *The Dream is Over*
4. *The Light at the End*

I was sitting at home, wondering how to feel and realising I could not put any of my feelings into words.

I felt... destabilised. I could not even begin to explain exactly how or why.

I wondered how my perception of someone could be so wrong. I had known them for over a year, and we had been in long, frequent conversations. I thought I had a good grasp of their character. They were kind and understanding.

Then—it was like a switch flipped.

Suddenly, nothing I was doing was right anymore. *You are not present enough*, I was told. So I tried harder to be the present, attentive partner. *There is something wrong with you*. I did not know what exactly, but those words exposed my fragile self-esteem and I believed them.

I spoke of my vulnerabilities, my past traumas and my need for time and understanding. *I understand*, came the response ... but then, the same demands, as though I had never spoken.

Conversations became murky. One moment, a statement. The next moment, the statement was retracted, like it had never existed. *I never said that* was the constant, adamant denial. I would pour over text messages just to make sure it wasn't me that was going mad.

I wondered if it was actually *my* fault. Maybe I overreacted when I decided I had enough and left. Yet, *something* did not feel right about the entire situation. About *them*. I could not name this feeling, and this inability in itself was perturbing.

Attempting to explain all this to others was exhausting. I quickly realised it was simply impossible to put into words. I would stumble over examples. My words sounded so pitifully petty to my ears as they tumbled out my mouth. I stopped trying.

Outside, the crickets grow ever incessant with their chirping. I needed a distraction, so I went outside and recorded their calls.

I listen back to the crickets on my computer. I slow the recording down and added some reverb—suddenly the sound became unsettling and ominous. Then it dawned on me: *This is how I feel*.

Where words failed, sound came through for me.

The Light at the End is a series of works that mediate on the theme of duplicity. The cover for the EP (Figure 60) features a photograph taken at Ashfield Flats, Western Australia. Unlike the other works discussed so far, which were based

around a particular location, the works for this release are arranged by theme. The piece is fundamentally psychogeographic, in the model of Drew Mulholland, in that here I worked to blend my autoethnographic reflections and state with the perceptions of the landscape (see 3.3).

I was in a relationship with someone who was not what they seemed, and the four tracks were my attempt to process what had happened afterwards. It became a very personal and cathartic album for me to compose, as it marked a moment in my life where I was re-evaluating my compositional practice and my personal identity.

In terms of compositional practice, by the time of *The Light at the End*, I was moving away from sonification of photographs, finding the process too abstracted from the landscape. At this point, my sonification processes were focussed on interpreting contour lines of photographs as percussion. I was also increasingly interested in finding ways of performing alongside the soundscape, and at this point I began incorporating more of my live instrumentation into compositions.

As the subject matter for the work was quite personal for me, I decided to take a more personal compositional approach in the tracks. I went back to my main musical instrument—the guitar—and to my roots in heavy music. Three of the tracks—*Truth and Consequences*, *Rising From the Depths* and *The Dream is Over*—prominently feature my guitar playing, alongside field recordings and percussion lines generated by the contours of the photographs.

The Light at the End features field recordings and footage from various parts of Western Australia including Meckering (in the Wheatbelt region), Windy Harbour (in the South West) and John Forrest National Park (Perth metropolitan area). Three of the pieces—*Truth and Consequences*, *Rising From the Depths* and *The Dream is Over*—feature my guitar playing, and two—*Rising From the Depths* and *The Dream*

is *Over*—feature percussion lines derived from contour lines traced over a photograph.

With this EP, I began forging stronger connections between my emotional state and the physical landscape. I particularly began noticing *why* some particular parts of a landscape would resonate with me, in a similar way that Rod Giblett describes: “The body is like a landscape ... the mind has mountains ... Mental landscapes and land minds come together in what could be called ‘mindscapes’ in which land and mind affect each other”. (Giblett, 2009, p. 124). I began diving deeper into my emotional responses, viewing the land as a mutual partner in my work: “The land is not just the passive recipient ... but an active agent engaged in some sort of exchange or reciprocity” (Giblett, 2009, p. 129). Westerkamp (see 3.2) provides a particularly strong point of departure here, as she has in much of my work overall.

4.2.6.1 Truth and Consequences

One morning, I woke up and I felt *angry*.

Angry at them for treating me in such a way. Angry at myself for ignoring the warning signs. I felt foolish. If this had happened to someone else, I would have seen the warning signs straight away, but instead I tried to dismiss my own feelings.

That will never happen again.

I picked up my guitar and focussed.

This piece (Audio 3) was originally composed as an improvised, guitar-only track. I wanted to open this album with a piece that expressed my confusion and hurt when I started to realise how duplicitous some parts of my relationship had become. I

recorded the guitar track in drop-C tuning—CGCFAD—because I wanted a dark, droning guitar tone. To accentuate this darkness, I chose a minor key with regular use of the lower C string as a drone note. I kept the guitar production minimal, to preserve the track’s rawness.

I later paired the recording with field recordings from Windy Harbour (for the wind and ocean sounds) and Meckering (for the rain sounds). I wanted a dramatic soundscape as a backdrop to the guitar, and the combination of the two field recordings made it sound as though there was a lashing storm. It also accentuated the feeling of confusion I had felt while writing this piece.

Audio 3. Truth and Consequences

4.2.6.2 Rising From the Depths

The basis of this piece was a field recording from Windy Harbour (Figure 61) in south-western Australia, taken near the shore. True to the location’s name, it was particularly windy on the day. I took multiple recordings of the wind howling along the coast and waves hitting the rocks.

Figure 61

Wide Shot of Windy Harbour



I was interested in capturing some video footage of waves hitting the rocks, so I set my camera among the rocks, as close as possible to the ocean without risking it being washed away (Figure 62).

Figure 62

Still From Original Field Footage from Windy Harbour



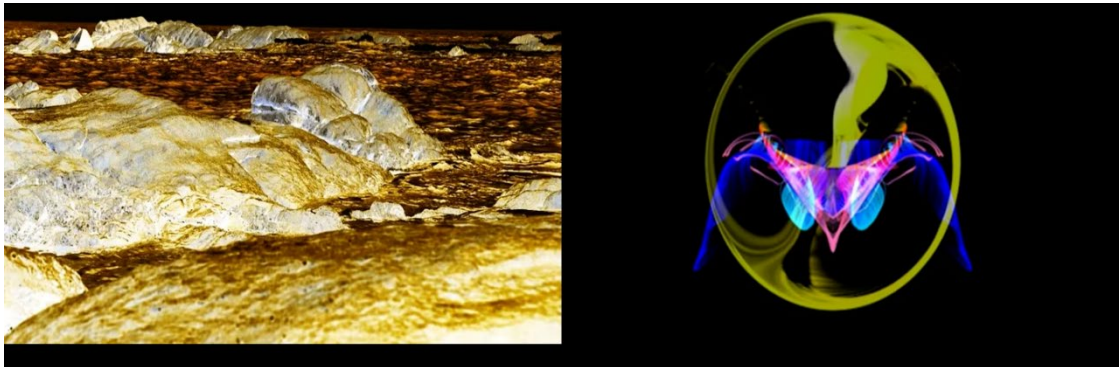
I saw this piece as the moment when I had come out of the hurt and confusion of *Truth and Consequences*. While making *Rising From the Depths*, I contemplated the idea of never quite knowing what was lurking underneath the surface. The unpredictability of the waves as they hit the shoreline reminded me of what it is like to deal with the emotional unpredictability of others—there is no amount of safeguarding possible to protect yourself from another’s volatility.

To create the video, I first edited the field footage and selected a 2-min section of the waves hitting the rocks. I then slowed the video to 20% of the original speed in Adobe Audition so that the motion of the waves emphasised the heaviness of each strike against the rock. I cropped and zoomed the footage to focus on the set of rocks in the foreground. After this initial editing, I focussed on creatively manipulating the colour and saturation of the video. First, to create a surreal, threatening landscape, I inverted the colours so the ocean became a molten, swirling cauldron and the waves became dark tendrils wrapping themselves around the rocks.

I had initially planned to place a music visualisation (Figure 63) alongside the field footage, in a diptych format reminiscent of *Dam of Discontent* and *Civil Eyes//The Wild*. I made the visualisation in Adobe After Effects using Trapcode Particular and basing the visualisation colours on the original field footage; a mixture of blue and orange tones. However, the end result was unsatisfactory as the visualisation was too abstract and removed from the field footage, so ultimately I removed the visualisation and used the modified field footage only.

Figure 63

Still From First Version of Rising In The Depths

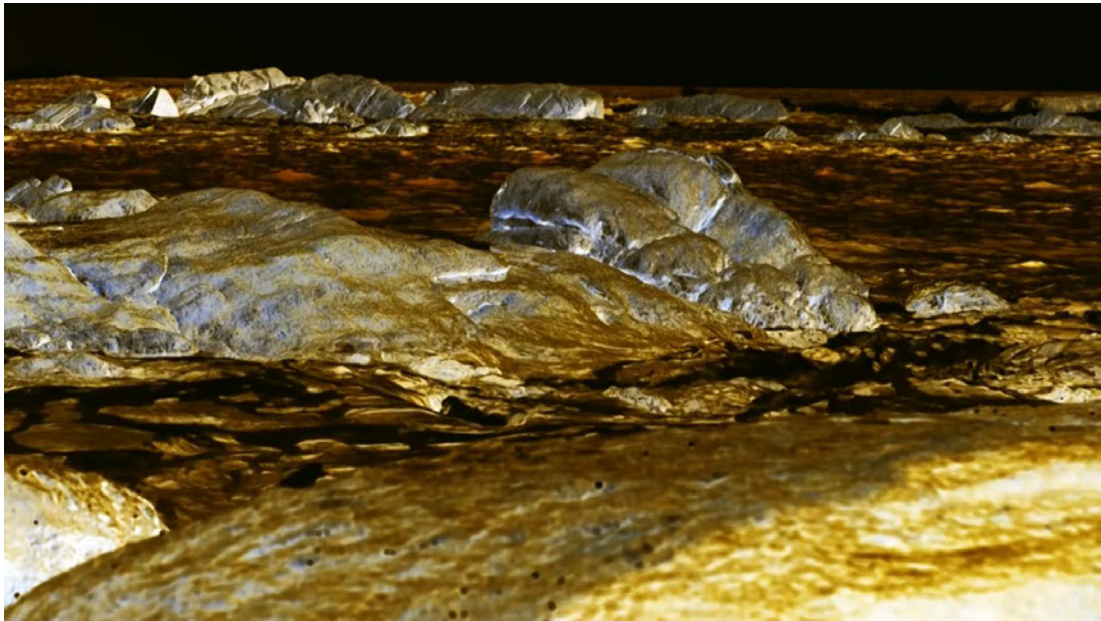


For the music composition, I also took the original audio from the recording, slowed it to various lengths (8X, 6X, 4X, 2X) and layered these recordings in Ableton.

After arranging the field recordings, I layered my recorded guitar on top. Initially, I intended to have one guitar track playing throughout the track as the rhythm track, and another guitar track as the lead. I divided the track into two parts: a quieter section featuring picked chords on the rhythm guitar (with a delay effect) over the original field recording, followed by distorted power chords over the layered field recordings in the second half. After listening to the recordings, I decided to retain only the lead for the second half to maintain variation in sound and then ran the lead guitar through a phaser effect to emphasise an underwater sound for the completed version (Figure 65).

Figure 64

Still From Completed Video of Rising From the Depths



4.2.6.3 The Dream is Over

Winter, 2017. I was standing in front of the ruined farmhouse in Meckering.

Internally, I felt disorientated from recent events in my life. I found it poetic that my inner turmoil was being reflected in this tangle of twisted metal and broken bricks. The wind blew and the corrugated iron, scattered all over the ground, rattled in response.

I could still make out a few approximations of the house's layout. I wander towards the remnants of the kitchen, with its abandoned stove and shattered cupboards.

Recent events had rattled me, shaken me to my foundations. Now it was time to make sense of what was left behind.

The previous owners of this house fled in a panic when the earthquake struck, and never returned to the house. Looking back at my life, I felt the same. I could not go back to how things were.

Situated around 138 km east of Perth in the Western Australian Wheatbelt, Meckering experienced an earthquake in 1968 that registered at 6.8 on the Richter Scale. Remnants of this event are evident today as a reminder of the damage it caused. For instance, the ruined farmhouse just outside the town stands as testament to the shock caused to the town that day.

My visit to the ruined farmhouse coincided with upheaval in my own life. The end of the relationship felt like an internal earthquake: it was an unexpected shock at the time; the reasons caught me off-guard and I experienced a profound sense of loss and confusion. The ruined farmhouse immediately struck me as representing a mirror of my personal life at that point. Like the inhabitants of the ruined farmhouse, my life of domestic bliss was disrupted in a powerful moment beyond my control.

I began by taking photographs. One photograph I found quite striking is used as the main visual element of the composition (Figure 65). The photograph is of the ruined farmhouse from the side, looking into what used to be the sitting room. Remnants of the roof are strewn on the ground, leaving behind jagged stone walls defiantly pointing towards the grey sky. In the background is the now-overgrown garden, backing onto an empty paddock.

Figure 65

The Ruined Farmhouse, Meckering

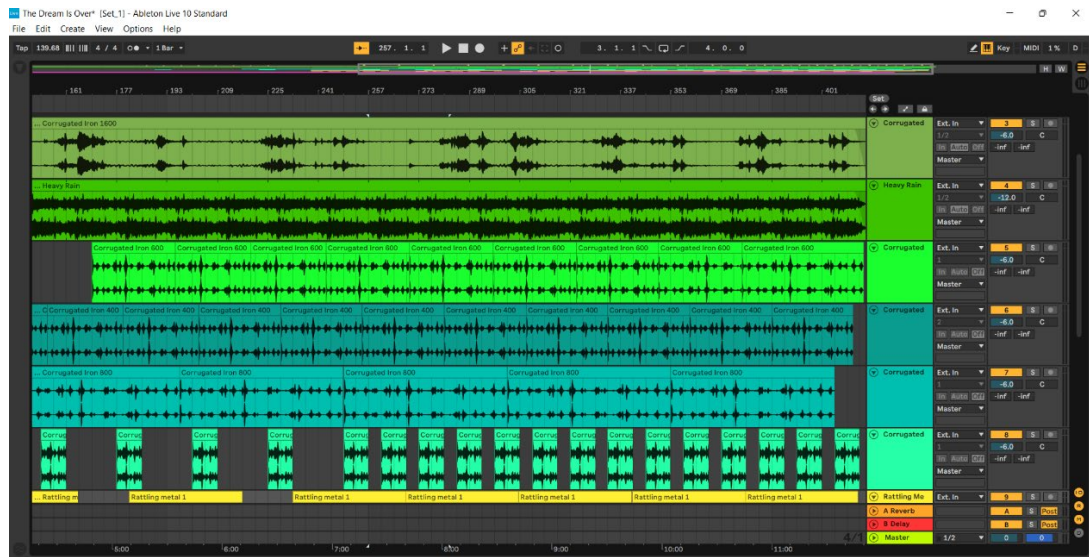


I also made multiple field recordings of the ruins: the sounds of metal being shaken by the wind and creaking under my footsteps; of gravel crunching underfoot; of wind being channelled through bits of rubble; and of rain.

I then edited the sounds in Adobe Audition. Some of the sounds were slowed and pitch shifted by varying degrees (2X, 4X, 8X, 16X) to create the sensation of the earth itself moving. I wanted to create a heavy, cacophonous soundscape befitting a great, shifting mass. I also added some sound manipulation using delay and reverb. These sounds were then layered on top of each other (Figure 66).

Figure 66

The Layers for The Dream is Over in Ableton



Note. Each layer in the screenshot is of a different field recording taken from Meckering. Layers 3-5 are the same field recording of a corrugated piece of metal being buffered by the wind, but time-shifted different speeds.

The audio for the composition was then placed into software Adobe After Effects to create a music visualisation, as seen in Figure 67. There were two reasons for creating a music visualisation. First, it acted to tie the photograph and the sonic composition together, thus giving audiences an additional visual cue. Second, it established a layer of reactivity between the visual and audio. For *The Dream is Over*, I had wanted to create a slowly fading image of the photograph, gradually leaving behind the music visualisation in itself as a symbol of transient memories. Using Trapcode Sound Keys, I used the audio of the composition to generate key frames for the animation, which were used to control the particle effects via Trapcode Particular.

Figure 67

Screenshot of Inverted Photograph

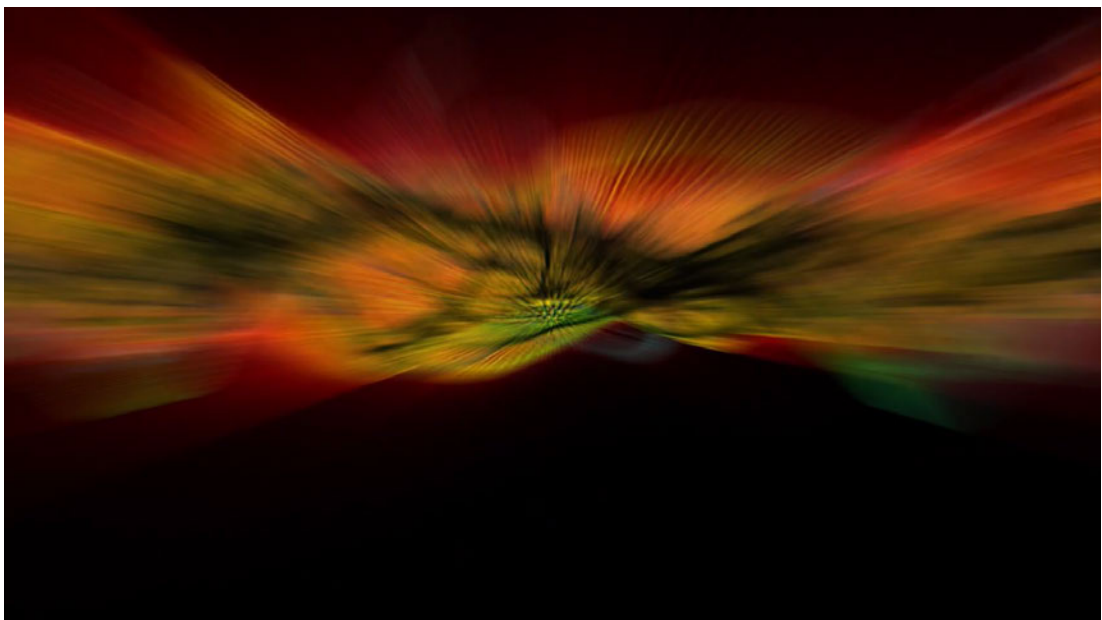


Note. In this screenshot, the inverted photograph of the Ruined Farmhouse is being overlaid above the music visualisation.

The completed work (Figure 68) combines the various version of the photograph with music visualisation and sound.

Figure 68

Still From Completed Video of The Dream is Over



4.2.6.4 The Light at the End

I am standing at one end of the tunnel, peering into the gloom beyond. The walls are narrow and in the darkness, it almost feels as though they are caving in on me. Water drips down from the walls, making a steady rhythm.

Halfway through the tunnel, I pause. In Meckering, I had resolved to never return to the state I had found myself in earlier in the year. The visit to Meckering was similar to where I find myself at this moment—in the tunnel, in the darkness. I cannot move backwards. I need to forge on.

I turn on my torch.

As I walk on, I reflect on some of the changes that had occurred over the past year. I had re-evaluated my gender and orientation. Clearly, living as a cisgendered, heterosexual woman was not working for me, and like the ruined farmhouse in Meckering, that facade had been irrevocably shattered. I could not go back to that.

I navigate a slight bend in the tunnel, and the light at the end appears.

I might not know where I end up, but I can see there is light and resolution. Life will be better.

The sun embraces me as I step out of the tunnel. Overhead, a plane passes by, as though taking my worries away. I take a deep breath.

The Light at the End was the last piece written for the album, and is a reference to some of the personal revelations I had experienced throughout the year. From the angst of the other tracks comes a relative sense of peace and acceptance, and a new beginning. The title alludes to the Swan View Tunnel (Figure 69) in John Forrest National Park in the Perth Hills area, a former railway tunnel that, during its

operation, was known for its dangers. The unstable granite of the area had necessitated retrofitting of a masonry-lined face to prevent rock falls, but had also reduced its inner diameter. The narrowed tunnel, combined with its steep gradient, had caused several incidents of near-asphyxiation of train crews, with one such incident in 1942 leading to a death.

Figure 69

The Swan View Tunnel in John Forrest National Park



While walking through the tunnel, the saying “the light at the end of the tunnel” appeared as both literal and metaphorical for me—at one point, the tunnel was very dark and I had to turn on a torch. As I reached the light at the end, it was a good reminder that negative events will eventually pass. Like the crews that did survive near-asphyxiation, I was to emerge from the other end, to live another day.

The completed piece (Audio 4) was made by layering various field recordings at John Forrest National Park. I wanted a multi-textured soundscape combining various elements of the soundscape that I encountered during the day: crickets, birds, an overhead plane, a waterfall and water droplets falling from the roof of the tunnel. I started with the recording of the waterfall, playing alongside the sound of the water

droplets. I then combined the sound of the overhead plane with a version of the same recording, but slowed four times. I also slowed the crickets four times. I placed two variations of the water droplet recording around the middle of the piece—both slowed eight times, with one running through the Moscow resonator and the other through the Great Buddha phasor effect. I wanted to create an eerie, haunting sound, which was aided by resonators (of which Ableton has several). These create a type of pitched reverb that oscillates to certain pitches and frequencies depending on the settings.

After a build-up, most of the sounds gradually fade out to create the effect of reaching the end of a journey, leaving behind the sound of the waterfall.

[Audio 4. The Light at the End](#)

4.2.7 The Drowning (2018)

I was in the ocean with some people, paddling in the shallows. I was not a strong swimmer; I was content to splash about.

Some people came along with a body board. They encouraged me to hold on and took me further out into the water. My feet were no longer touching the sandy bottom.

Let go, they encouraged. It's okay, it's not deep. You'll be okay.

So I did. I felt the water immediately constrict my chest. I begin flailing my arms as I struggled to keep my head above water. The others thought I was playing around, and began laughing.

I panicked.

I wanted to scream for help, but I could barely breathe, let alone utter a sound.

I sank below the water. Exhausted, I felt myself go limp.

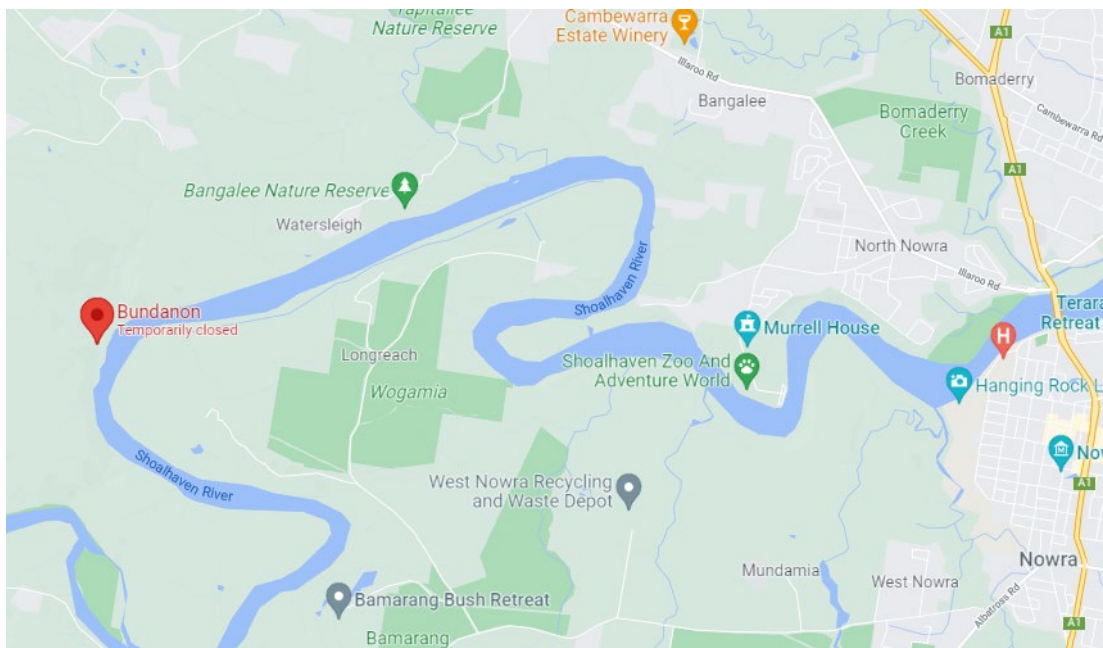
I noticed the light filtering through the water. It was a gentle yellow, flecked with blue, and swaying with the waves. As I watched the dancing light, my panic began subsiding. Instead, I felt a sense of calm and acceptance. *This is it*, I said to myself. *This is the end*.

The world began to darken. My field of vision narrowed until all I could see was a single ray of light.

Then—there was a sudden rush as I was lifted through the surface. The world came rushing back to me—the noise of people around me, my loud rasping gasps as my lungs sucked in precious air, and the piercing brightness of the sun.

Figure 70

Location of the Bundanon Estate (Map Data: Google)



After *The Light at the End*, I was interested in furthering my explorations into the intersections between history of place and personal history. I was also interested in further exploring the use of landscape as a mediator of inward reflection. When I was offered the chance to be part of a week-long artist residency in 2018 at the Bundanon Estate in New South Wales, through the Bundanon Trust, I took this opportunity as a way of exploring these themes.

The Bundanon Estate is located west of Nowra on the banks of the Shoalhaven River (Figure 70), on the lands of the Wodi Wodi and Yuin people. My intention was to traverse the area and gather source materials to create works. *The Drowning* was the result of some of these collections. When compiling *The Drowning*, I drew inspiration from two sources: the history of the area and how it related to my personal history; and Michael Gallagher's and Drew Mulholland's description of their approach as a type of 'haunting', or revisiting the past (see 3.3).

As part of my research into the history of the area, I learnt about a drowning incident that had occurred in 1922. I was particularly interested in interrogating how sound can be used as a way in which the history of a place can interact with memories of past trauma. The Shoalhaven River, which is a short walk from the estate, is a tidal river with a reputation for being deceptively deep and turbulent (Figure 71). The dark waters of the river disguise the rapid undercurrents and sudden drops in the riverbed, and in 1922 two riders drowned in the river after their horses struck trouble in unexpectedly deep water (Bundanon Trust Archive, n.d.).

Figure 71

Aerial Photograph of the Shoalhaven River



Note. Photograph taken during my residence at Bundanon Estate, using a DJI Spark aerial drone.

This tragedy reminded me of an incident when I almost drowned as a child and stuck in my mind as I walked along the banks of the Shoalhaven. I thought about how to best respond to this aspect of shared history.

As I walked along the Shoalhaven, I took several field recordings, with two recordings becoming the basis for this piece—one at the shore with the sound of a plane overlapping the waves; and a hydrophone recording.

When creating this piece, I thought back to my experience of near-drowning. I recalled three distinct stages, which I recreated in the piece (Audio 5):

1. the initial drowning, as I fell under the surface of the water
2. the experience of an altered reality while underwater
3. the eventual rescue and the sensation of resurfacing.

For the first section, I wanted to emphasise the loudness of the environment—which seemed to be amplified by my struggling—followed by the sensation of the world being muffled as I went under. I wanted to represent that feeling of going under by gradually slowing down the field recording from its original length to eight times, through an audio time and pitch-stretching process in Adobe Audition. This process allowed me to simulate the idea of the passing of time seemingly being altered. To enhance that feeling of an altered reality I also cross-faded the surface recording of the river with the underwater hydrophone recording.

When I was under water, it felt like time had slowed (I was told later it was not a long time) and I felt an eerie sense of calmness and peace as the world began to darken. To represent this sonically, I used a slowed version of the field recording (also extended eight times), layered with multiple versions of the slowed field recording running through various resonators in Ableton.

Last, I remembered the world rushing back as I was lifted out of the water, and how it felt as I resurfaced. For the final section of the piece, I repeated the first recording of the river over the surface; and to represent the feeling of life rushing towards me, I included parts of another field recording taken from another part of the estate, of birds calling to welcome the morning.

[Audio 5. The Drowning](#)

4.2.8 *The Insect Apocalypse* (2018–19)

Climate collapse has finally become a prominent, pressing topic in public discourse. It is as if the world has collectively awoken from our torpor and apathy to realise our world is on the verge of the Apocalypse.

The Insect Apocalypse is Here flashed onto my screen one morning.

My heart sank.

It was easy to scoff at the idea of the world running out of insects. Aren't they meant to be ubiquitous in most parts of the world? I remembered reading that the only place in the world without insects is Antarctica...

Don't we complain during the Spring and Summer months about the midgies flying into our faces at dusk? Or the mosquitoes sticking their proboscis into our skin, leaving behind itchy, red welts? Or the flies that threaten our food while we attempt to dine outdoors?

If *insects* are now doomed—what does it mean for the rest of us?

I did not like the direction the world was heading in yet I felt powerless to change anything. I felt like the insects described in the article—waiting for my demise on an increasingly hostile planet; a small and insignificant figure, trapped in horror while watching the world collapse.

The Insect Apocalypse is a pair of pieces based on a recording of crickets out the front of my house. The title of my piece refers to an article called *The Insect Apocalypse is Here* explaining that insect populations around the world have dropped dramatically in recent years for human-related reasons. One statement from the article struck me in particular: “When asked to imagine what would happen if insects were to disappear completely, scientists find words like chaos, collapse,

Armageddon” (Jarvis, 2018; see also Wagner et al., 2021). After reading that line, I was inspired to ponder how an ‘apocalypse’ might sound and feel from an insect’s perspective.

When I was writing these pieces, I also wanted to process my feelings of anxiety about climate change; otherwise known as eco-anxiety (see Hogg et al., 2021). I thought about how restless and tense I felt on hearing about the climate crisis and how I felt I am contributing to the problem through my own actions; for instance, driving long distances. I also thought about my sense of helplessness in fixing the problem: as an individual, I felt inconsequential in the face of the prospect of climate collapse. I wanted to create works that expressed how confronting these emotions were, particularly the overwhelming sense of powerlessness at the situation.

The Insect Apocalypse is split into two sections:

1. *The Insect Apocalypse*: a piece imagining how the ‘apocalypse’ is perceived as it is happening; thus featuring mechanical-like sounds as a way of representing human machinery and interference.
2. *Heart of the Apocalypse*: a piece that imagines how the internal experience of the ‘apocalypse’ might be experienced by an insect as it slowly dies.

For these pieces, I returned to Bailie’s concept of ‘freezing’. I was particularly interested in exploring the “hidden harmonies” (Bailie, 2014, p. 7) Bailie mentions she discovered while using time-stretching techniques on field recordings. Sitting with, and exploring a sonic moment in fine, exquisite detail was intriguing for me, so for the base soundscape, I chose a short field recording of crickets taken out the front of my house. I chose this recording because its sonic overlays play well with the theme of the compositions, with the crickets foregrounded against the

backdrop of the sound of passing traffic. For *The Insect Apocalypse*, I used a 15-sec section of the recording, and for *Heart Of The Apocalypse*, I narrowed the focus to a 2-sec cricket chirp.

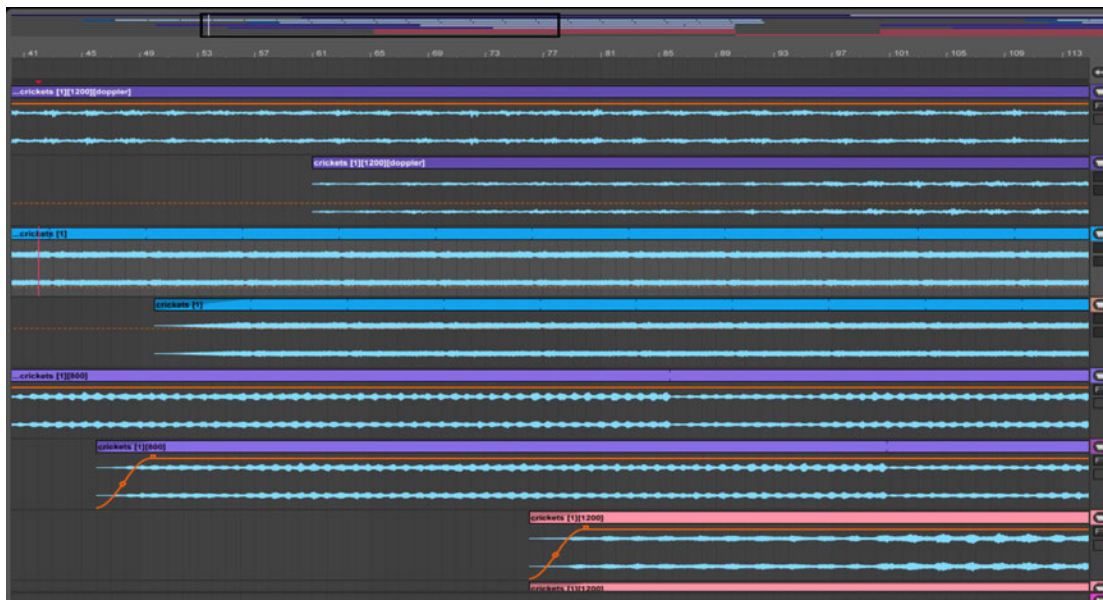
For *The Insect Apocalypse*, because I wanted to create a mechanical droning sound to the piece as an ominous backdrop, I pitch shifted and slowed the original recording in Adobe Audition 12 and 7 times, and added a doppler effect to one of the versions. The rest of the composition was created in Ableton Live, where I added delay, panning, resonance and distortion effects to further invoke a threatening soundscape. I was particularly drawn to using panning effects and arranging sounds in an asynchronous manner (e.g., playing two versions of the same sound, 30 sec apart) to create an immersive but dissonant experience for the listener.

The final composition (Audio 6) consists of nine layers (Figure 72) with each made by modifying the original recording in some way. For the first two layers, I slowed the original recording 12 times and ran the resultant track through a doppler effect. I also used the Moscow resonator, distortion and Wanderer delay effect (a delay where each repeat is panned either to the left or the right) on the second layer. I used the Around The Head panning effect for the third and fourth layers, plus a Low Tone Flutter grain delay (short delay with a bass boost). I slowed the fifth and sixth layers eight times, panning the fifth layer 90 degrees to the left and the sixth layer 90 degrees to the right. I slowed the final three layers 12 times, panning the seventh layer 45 degrees to the right with Mirage bit reduction (effect reducing the number of bits making up an audio signal, thereby adding noise and distortion while reducing dynamic range), and the eighth layer 45 degrees to the left with a Swirling Phaser effect. I ran the final layer through a Moscow resonator and reverb.

The Insect Apocalypse series is, at its heart, about the increasingly urgent issue of climate change. The sounds in the series are deliberately discordant, haunting and harsh, to highlight the uncomfortable reality that the world is heading towards a crisis.

Figure 72

Construction of The Insect Apocalypse in Ableton Live



Note. This screenshot is taken from the beginning of the piece, show the first six tracks being layered in an asynchronous Manner.

[Audio 6 The Insect Apocalypse](#)

The second piece in the series, *Heart of the Apocalypse*, continues in the same vein but with a single ‘frozen’ cricket chirp recording taken from the original field recording in my front yard. The original cricket chirp lasted less than a second, but using Adobe Audition, I was eventually able to stretch the sound to almost 9 min. The resultant sound was one of glacial shifts—slow, almost imperceptible at times,

but changing all the same. This recording became the base recording for the composition. After this process of time shifting, I experimented with a 10-band graphic equaliser to cut out specific frequency bands, and was struck by the complexity of the revealed harmonies. I arranged the bands roughly in three sections, envisaging them as an eerie choir: bass (50–250 Hz), alto (500–710 Hz) and soprano (500–1000 Hz).

The final composition (Audio 7) consists of seven layers (Figure 73). The first layer is the base track processed with the Around The Head panning effect. For the second layer, I ran a Frequency Shifter, in Ring mode (effect that both adds to and subtracts from the input) on the base composition. The next three layers are the choir above, with the alto track panned 45 degrees to the left and the soprano track panned 45 degrees to the right. The sixth layer is the bass track with the five-grain-delay Ableton effect, distortion and Around The Head panning effect. The final layer is the base recording processed through the Frozen Build Up reverb, distortion and Around The Head panning. The Frozen Build Up reverb effect is used to sustain the output indefinitely by holding the reverb tail (aka the decay of the reverb when the dry signal has stopped), thereby creating a wall of sound.

Figure 73

Construction of The Heart of the Apocalypse in Ableton Live



Note. This screenshot, taken at the beginning of the piece with the first six layers, shows how some of the various modified versions of the original field recording were layered.

[Audio 7. Heart of the Apocalypse](#)

4.2.9 A Managed Retreat (2020)

I don't recognise this place.

I stepped onto Burns Beach, a place I had been many times. I remember as a child my parents and I being the only ones around in the early morning. My father would fossick through the rocks searching for abalone. Sometimes, if the tide was low enough, my paternal grandmother would join in. I would walk along the shore with my mother, dodging waves.

This iteration of Burns Beach bore little resemblance to my memories. Cement slabs had replaced the shoreline. All due to erosion. It was a shock.

I pay more attention to my local beach at Quinns. I notice the erosion as well, with the ocean threatening to wash away the beach. Washing away memories and histories.

One issue I have continually tried to resolve in my works is how to weave multiple sources of information into a cohesive narrative within a work. While the methods I had tried thus far had featured some integration of information—particularly regarding aural and visual aspects—I was still searching for a deeper embedding of this into my work. I was conscious of how there was still a gap between the aural and the visual in that the relationship between them was not always clear. I wanted to further narrow this gap.

One of the techniques from my earlier compositions that I did enjoy applying was using contours of a photograph to drive part of the composition. I found this a useful way of incorporating part of the shape of a place as a driving force behind a composition. The main issue in the use of this method was how time consuming it was to create a section, as each had to be rendered manually from the photograph for input into Ableton. I wanted to find a way of automating the process.

My search for a program took me to Xenakis and his architectural compositions. I was particularly intrigued by the UPIC, where sounds are created by drawing shapes with a stylus. Through this, I became acquainted with the software Iannix, which is based on Xenakis's work. One of the advantages I found with Iannix, as opposed to other methods I had explored to date, was that Iannix offers a macro perspective of an image, unlike the more micro forms of HEX data and spectrographs. One of my dissatisfactions with my usage of HEX (in particular) was that the works were based on a small section of a photograph, which meant that it could not be representative of the entire image. The combination of a small dataset, along with the abstracted method of conversion into music, resulted in a tenuous relationship between the original photograph and the eventual composition.

With Iannix, however, I was able to use the overarching shapes and contours of an image to structure music. These shapes and contours could also be used to drive a self-perpetuating and generative musical instrument, by marking contours and pathways for cursors and triggers.

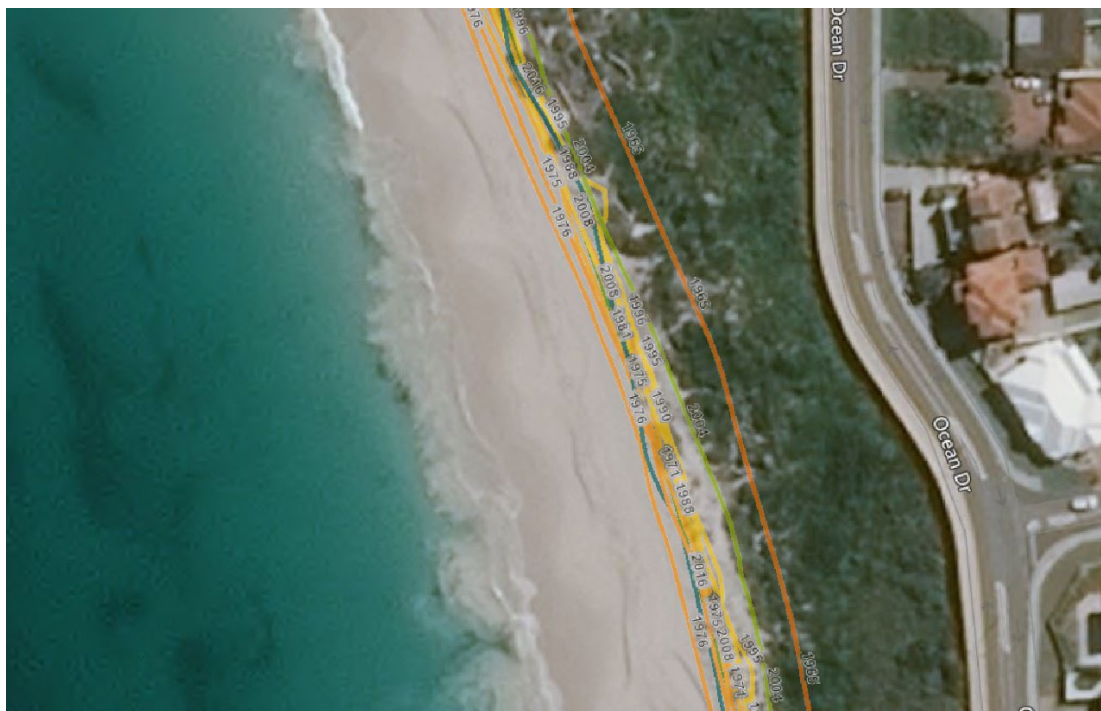
The piece was initially inspired by news reports of various areas in Australia being severely impacted by coastal erosion, in part because of climate change. One of the articles mentioned that ultimately, a 'managed retreat' was the only way for inhabitants of the area to handle the issue. This led me to researching whether there

were areas in Western Australia that might be experiencing similar issues. One of these places was Quinn’s Beach, which I chose for this work because of its proximity to my residence—I often go to Quinn’s in the summer as it is only a short drive from my house.

With this piece, I wanted to explore how to sonify this information, and convey anxiety around the rate of coastal erosion. The initial image for *A Managed Retreat* is from Geosciences Australia, which manages an interactive map called Digital Earth Australia, a resource containing Australia-wide geophysical information. I found multiple datasets for the Quinn’s Beach coastal vegetation line dating from 1965 via Geosciences Australia, and from these datasets created a photographic outline (Figure 74).

Figure 74

Screenshot of Quinn’s Beach from Geosciences Australia (Geosciences Australia, n.d.)



Note. Each colour in this screenshot represents a separate year between 1965 – 2008, showing the shifting coastline over the decades.

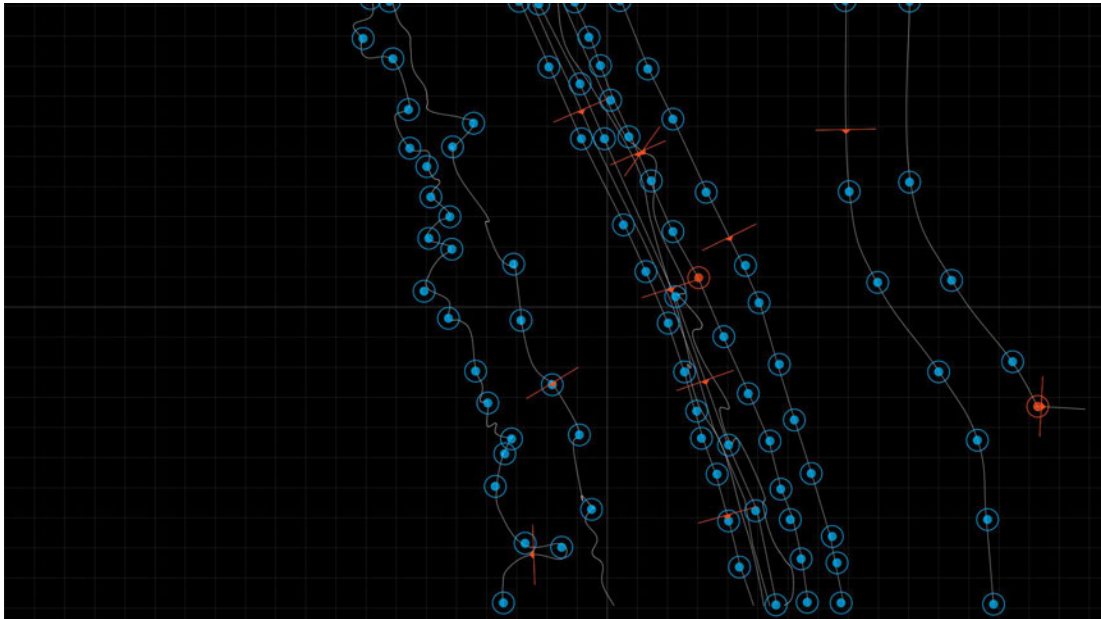
To make the instrument, I traced the lines in Iannix. To give the map more geographical context, I included the lines of the road and the wave breaks. For the placement of the triggers, I used differences between the lines as a guide.

I also wanted to include more data regarding coastal erosion at Quinn's Beach. I found a 2015 report that contained information about erosion patterns on the beach, as part of a study on how to mitigate erosion (Cardno, 2015, p. iii). From this report, I took information about the volume of sand lost between 2002 and 2012, and changes in the beach's sediment budget during the same period (Cardno, 2015, p. 47).

To sonify the data, I used Adobe Audition's tone generator option and converted the values into hertz. To convey the volume of sand lost between 2002 and 2012, I used the 'sweep frequencies' parameter that allowed me to input changing values over the course of 1 min, to evoke the sensation of movement, and overlaid the tones to create chordal textures. In the final version (Figure 75) I included a field recording taken from Quinn's Beach, which plays alongside the sonified map and data as an additional way of establishing place.

Figure 75

Still From Completed Video of A Managed Retreat



4.2.10 *Automata* (2020)

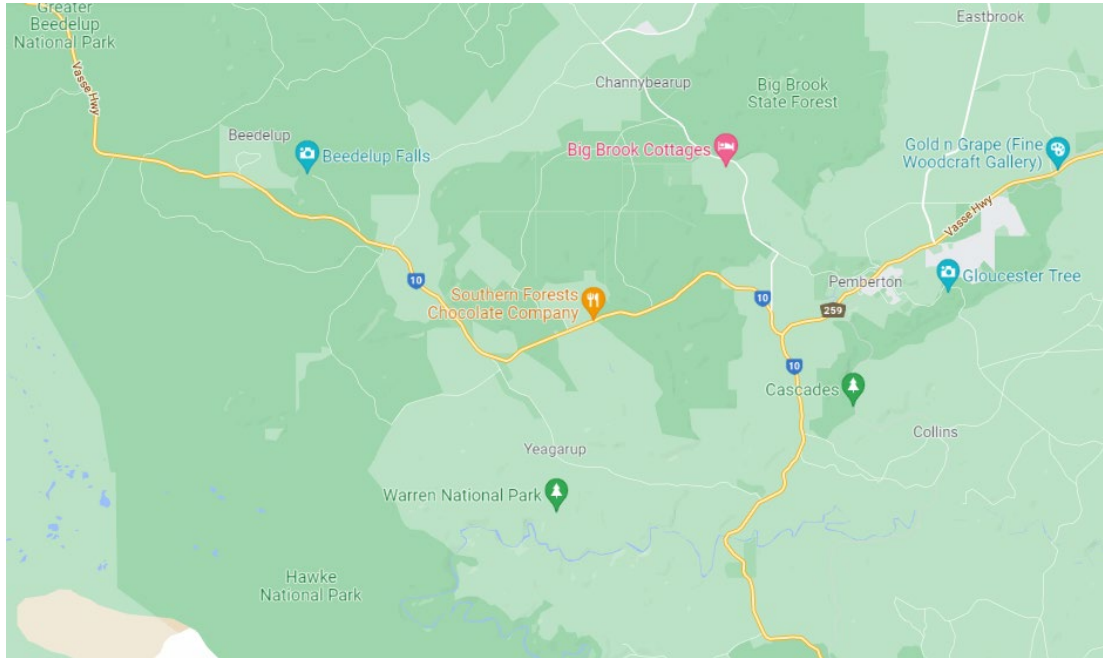
One of my works exploring the interplay between artist, soundscape and physical elements of the landscape is *Automata* (2020), an audio-visual piece commissioned by the Tura New Music @theRoots program. The piece contemplates the interplay between machine and nature, and is part of a greater exploration within my practice of combining automated graphical sequencers with aspects of nature. I also wanted to create a piece that highlights the delicate balances in the ecosystem.

The piece is based on a photograph of water droplets on the Warren River in Warren National Park (Figure 76) near Pemberton/South West Boojarah region, Western Australia, accompanied by field recordings from the same area. In 2017, I spent some time walking along the banks of the Warren River, admiring how beautifully melodic the ripples appeared as they intersected and danced around each other. I also admired how full of life the river was, both above and below the surface, and the importance of this river to the South West's ecosystem. I wanted to portray

the fragility of the place, and how the calm exterior of the river belies a sense of urgency for survival underneath the surface.

Figure 76

Location of Warren National Park and the Warren River



Note. This map shows the location of Warren National Park and the Warren River in relation to the town of Pemberton and surrounds (Map data: Google).

As part of my documentation, I took some photographs of the area and made field recordings. The field recordings were made on a Zoom H1 handheld recorder, edited in Adobe Audition for length and clarity (using Audition’s multiband compression) and then input into Ableton as a way of contextualising the location for listeners. These field recordings were intended to imply that the listener themselves was at the banks of the river, listening to the sounds of the area while gazing downwards. From the series of field recordings done by the side of the river, two were used to represent the area: one of frogs and insects, to highlight the ecology of the river; and the other of moving water, to denote the river’s movement.

Figure 77

Photograph of the Warren River



Note. This photograph of ripples on the surface of the Warren River was later used to create *Automata*.

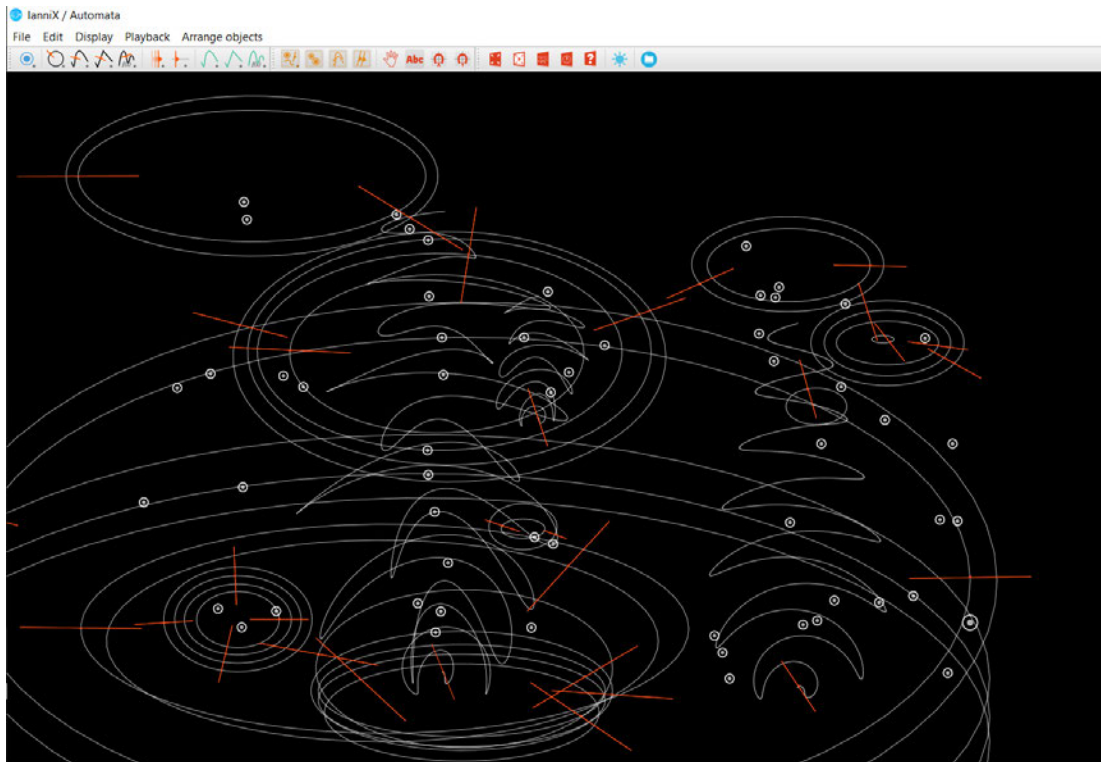
One of the goals for *Automata* was to have a visual element that was both a narrative device and driver of the sound. From a compositional perspective, I wanted to explore the use of the visual elements of a place to drive sound in a composition, and particularly wanted to emphasise the importance of place in the composition itself. I used one of the photographs of the ripples in the water as the base image for the work (Figure 77). The water droplets struck me as an apt reflection of fragility—as the circles made by these droplets were quickly broken and scattered.

For *Automata*, I used Iannix to trace the shapes of the ripples in one of the photos to control the movement of the cursors and placement of triggers; and Ableton to process the field recordings and provide the virtual synth instrument (Figure 78). To heighten the sense of frantic energy and urgency in the movement of the cursors, I removed the visibility of the cursor paths by changing the visual settings. Using Iannix’s ‘light’ mode and turning the cursor paths white leaves the viewer with the sight of the cursors moving alongside—and sometimes against—each other while

trigger points flash on and off the screen. I also found the effect of removing the cursor paths made the movement of the cursors seem almost organic, because their movements are not immediately telegraphed to the viewer.

Figure 78

Shapes and Curves Created in Iannix



Note. The shapes and curves shown in the screenshot are based on the photograph of the ripples (Figure 78).

To link the Iannix instrument to Ableton Live, I used LoopBe1, a free virtual MIDI driver that sends all MIDI output data to a receiving application in real time (because Iannix's output is MIDI). Through this, I was able to have the Iannix instrument playing alongside the field recordings, which I placed in Live on separate tracks. For the MIDI-generated note data, I chose a bell-like sound. This was because the number of cursors and trigger points meant that I required sharp and clear tones

so that the various overlaid harmonies and counterpoints as the cursors moved could be clearly differentiated.

In the completed piece (Figure 79), an interesting counterpoint melody is created by the moving cursors, as the cursors move across various triggers (based largely on darker parts—or dots—of the original photograph). There is a sense of motion and urgency from both the movements of the cursors and the field recording, which is largely made up of moving water.

Figure 79

Still From Completed Video of Automata



4.2.11 *The Lost* (2021)

The first loss was in January 2020. It was my grandmother, the person who helped raise me through childhood. We were close, but like the lost wetlands of Perth, time had faded her memory. Alzheimer’s had taken hold, reduced her memories to remnants and scrubbed away her identity and self.

When I heard the news, I felt disorientated and dislocated. Life was happening around me—yet there was a profound feeling of disruption, that something had irrevocably changed in my life. I was standing still with my memories yet going through the motions of everyday life.

Eventually that feeling of disorientation subsided ... but only for a moment.

The losses continued. 2020 became the year of mourning as friends—near and far—began departing this mortal realm. I began to dread those evening messages and phone calls, telling me of the next person to have passed. Of the condolences on social media. Of people similarly battling with their shock and dismay.

Some of the losses were not a surprise. Some were sudden shocks. It didn't matter, the effect was still the same. The same dazzled silence. The holding pattern of a number of emotions as I processed the news.

I find myself repeatedly standing still with memories of the ones who have left, trying to process the latest loss. Trying to find a form of catharsis to channel these feelings.

The Lost (2021) is an audio-visual work contemplating the sensation of loss and subsequent feelings of emotional dislocation. It was released under my preferred name, Sze Tsang. The work is based on two maps of Perth/Boorloo: one from circa 1830 (Perth Wetlands Map, 2011) and the other from 1838. Both detail many of Perth's former wetlands (lost to in-filling and development). I sonified the first map into an autonomous instrument using Iannix and combined the map with a field recording from Herdsman Lake, one of the remaining remnants of these wetlands. I

sonified longitudinal and latitude values of where some of these lost wetlands would have been located.

The Lost was initially inspired by a friend's comment about how some of Perth's lakes were connected before parts were filled in, which made me explore more about how Perth appeared prior to colonisation. Prior to the British colonisation of the land now known as Perth in 1829, the wetlands were inhabited by the Noongar people. They served an important part of Noongar life both as camping areas and meeting grounds during Kambarang (Spring) and Birak (Summer); and as a place of abundance (Brady and Murray 2018, 299-300). The draining and filling of the swamps, and the eviction and subsequent marginalisation of Noongar people from their country meant that many of these sites were no longer physically accessible, either through denial of access or removal of a site's existence. These areas, with their rich histories, became dislocated memories.

Another catalyst for *The Lost* was the experience of losing multiple people in my life over the course of a year; I wanted to find a way to process and express that sense of dislocation through a composition. What drew me to using the lost wetlands was the idea that something that had existed at one point was no longer there, except for fragments—such as memories and remnants—which resonated strongly with my recent experiences of loss.

To embed the geographical features of a place into the composition, I decided to sonify a map by rendering the image into an autonomous musical instrument. To begin the process of creating the work, I first used a map of Perth from circa 1830 (Figure 80).

Figure 80

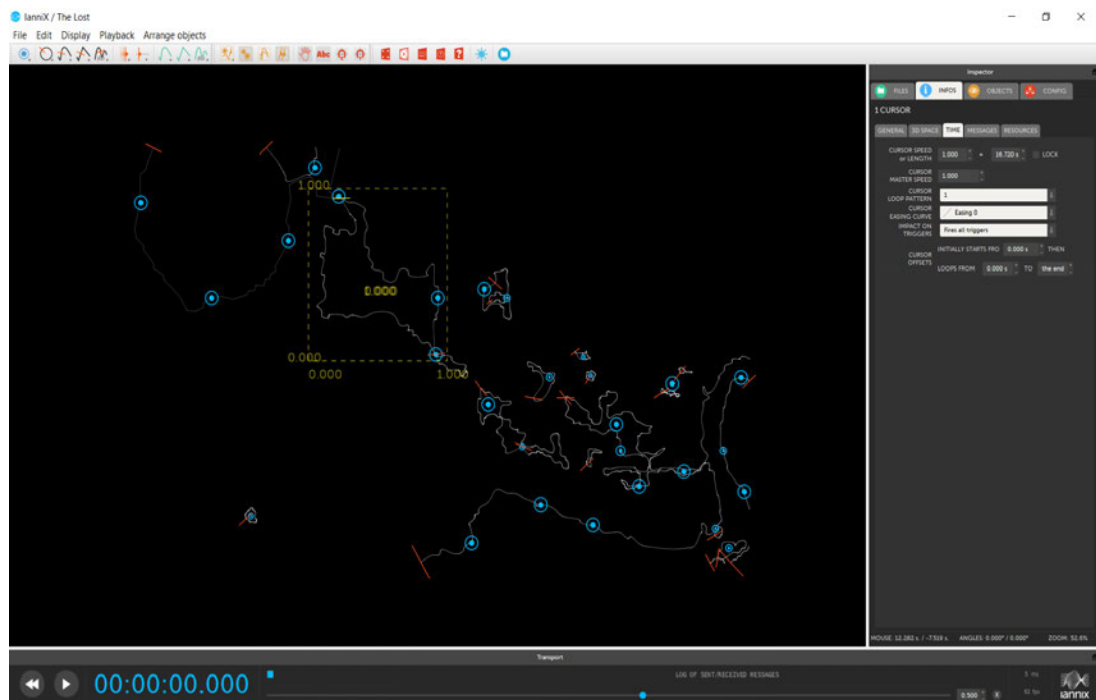
Map of Perth circa 1830, Showing the Wetlands (Perth Wetlands Map, 2011)



For the autonomous instrument, I used Iannix to trace the map into a generative score. Figure 81 shows the score and visualisation as it appears in Iannix.

Figure 81

Rendered Map in Iannix



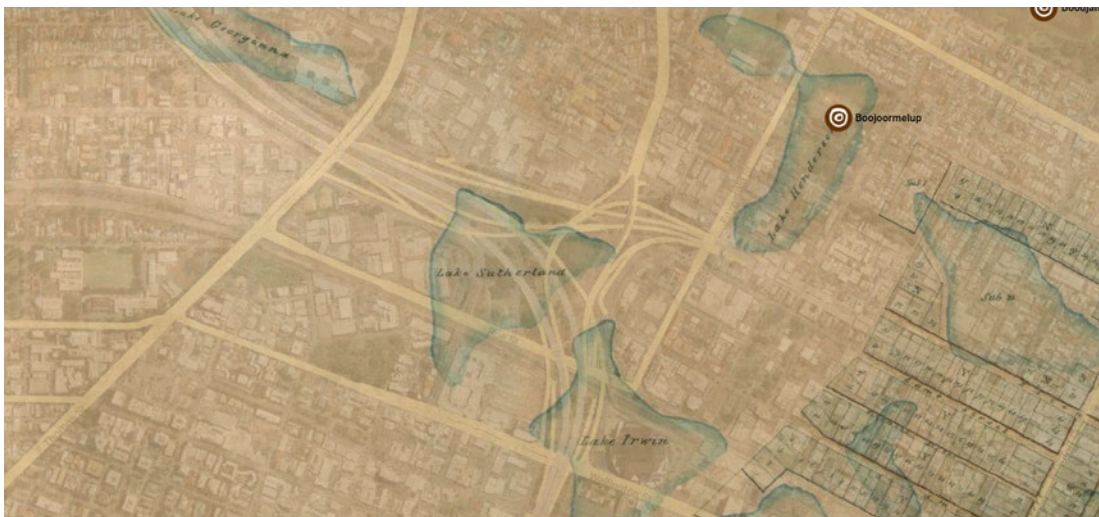
I also considered other ways of incorporating place into the work. One such way was to include a field recording that I made at Herdsman Lake, one of the

remnants of the wetlands system. I wanted to use a field recording as a way of aurally anchoring the listener to place, by giving listeners an aural touchstone of what, and where they were listening.

For the map of the wetlands, I turned to an interactive map of the Perth CBD called Gnarla Boodja Mili Mili (Figure 82), made to map Noongar places of significance. It shows where some of vanished lakes would have existed in relation to modern-day Perth. For the purposes of this work, it was very useful because it provided an overlay of a map of Perth from 1838 with modern-day Perth, which gave a very clear idea of where the lost lakes used to exist. I then converted the latitude and longitude values from the map into hertz via Adobe Audition's tone tool.

Figure 82

Map of Perth From 1838 Overlaid on a map of Current-day Perth



Note. The original maps are taken from Gnarla Boodja Mili Mili (Department of Local Government, Sport, and Cultural Industries, n.d.).

I assembled all the above sounds together in Ableton Live, and added various effects to tracks, such as echo, reverb and panning. I also transmitted MIDI from

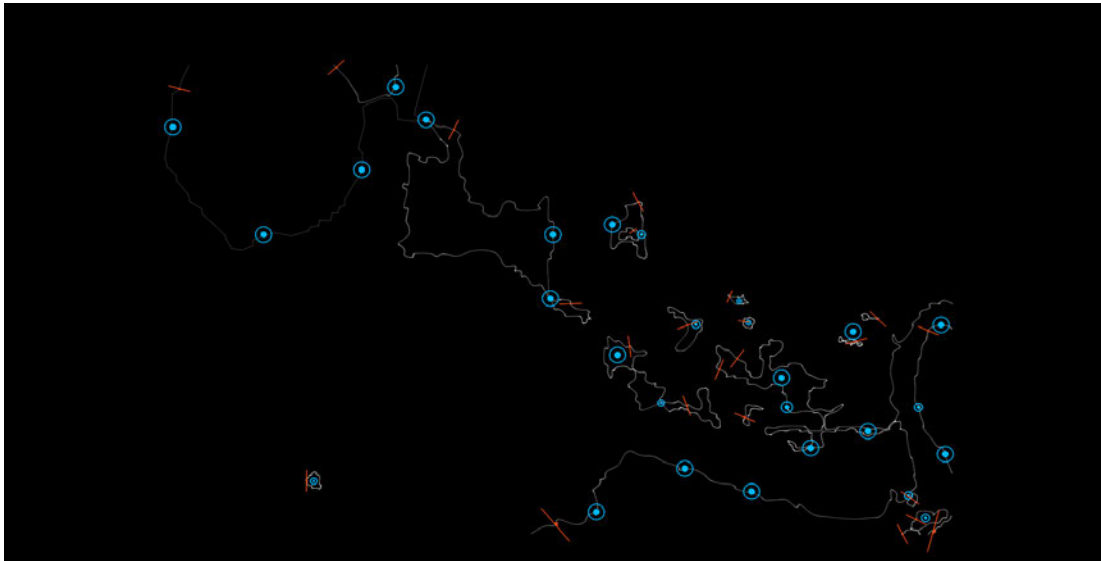
Iannix via LoopBe1 so that these events could trigger a plugin virtual synth hosted inside Ableton Live.

An important aspect of making the Iannix instrument was selecting the type of virtual instrument that would be driving the sound, as the sound of the sonified map is both supporting and complementing the work as a whole. One of the challenges of sonification is answering the question, “What does this sound represent?”. For *The Lost*, I wanted to give the Iannix instrument a sound that would highlight the fragility of place and memory. The sound I ultimately chose was one that was bright, but also brittle and with a hint of echo.

The completed piece (Figure 83) features the sonified map as the visual element of the work, with the piece beginning with an interplay of the map with the field recording from Herdsman Lake to establish place for the listener. As the piece unfolds, it becomes increasingly abstract and dark, and features warping of the field recording with a combination of echo and reverb effects. The piece also gradually brings in the sonified latitude and longitude coordinates, introducing a level of dissonance into the sound world. This culminates around the middle of the piece where the sonified longitude coordinates are playing together and converge closely enough to create a pulsating beating effect. I wanted this effect to create a sense of the dislocation that can happen from loss—a paradoxical feeling that time is both standing still yet in motion.

Figure 83

Still From Completed Video of The Lost



4.2.12 *Djenark (the Silver Gull)* (2021)

1. *Booriarup*
2. *Djenark*
3. *The Gathering Of Souls*
4. *The Call*

February 2019. I am in Hong Kong for the Lunar New Year with my family. I was looking forward to joining in the celebrations—while I have made regular trips to Hong Kong over the years, it was the first time in decades that I was in the city for New Year.

Amid the celebrations, there is an undercurrent of unrest. Among the market stalls at the Flower Markets are various pro-democracy groups passing out pamphlets and broadcasting slogans. The air is electric with anticipation. Joshua Wong, one of the stars of the pro-democracy movement, is there—my parents happily take selfies with him and proclaim their support.

Later, back in Australia, we watch the democracy protests unfold. We hope for the best, but anticipate the worst.

Then the clampdown begins. We watch with horror as the protests are violently suppressed. Hong Kong becomes a husk of itself. There is nothing we can do—separated by oceans, we can only watch as the Hong Kong we remembered is being slowly dismantled on our screens, its soul ripped out in real time. Could we ever return? Would it ever be safe for us there?

Ever since the unrest in Hong Kong, I had been wanting to create a work addressing my feelings around the events. In late 2020, I received an invitation from Jo Politt and Mindy Blaise to create a series of works centred on ‘unwanted’ creatures living around Perth. The provocation I received from them was the silver gull/djenark. As a scavenger, the silver gull has developed a remarkable adaptation to urban environments, to the point of being seen as a pest and derided as an unwanted annoyance. However, it is also highly important in Noongar spirituality as the bringer of spirits trapped on Rottnest Island/Wadjemup (and other islands), allowing these spirits to re-join other spirits in the land (Hancock, 2014).

When I was given this provocation by Jo and Mindy, I was excited and intrigued by the possibilities for exploring place, meaning and personal history in the context of the silver gull/djenark. I came to realise that I too felt unwanted at some level, lost in this landscape far from where my family originally came from and to where we had once been able to return each year. The provocation gave me the opportunity to intertwine my feelings about Hong Kong with reflections on the history of place.

I was particularly keen on creating a work that acknowledged the pre-European history of the area. I believe that this sense of importance must be sensitively approached and acknowledged by artists working in the Australian landscape, with its deep, ancient history. I wanted to be sensitive to *not* be the one relaying Indigenous culture as if it were my own, but to create work that reflects on this existing knowledge. I particularly wanted to acknowledge that, counter to initial impressions by non-Indigenous perspectives, the Australian landscape was not merely empty, open vistas or untamed wilderness before European colonisation. Within Australian First Nations cultures, place plays a far more active role in a person's life relative to other cultures in Australia, and place is often viewed as an active, sentient agent full of significations:

Country is sentient, country has agency. Country assumes the social form of persons. Indeed, country is inhabited by various other-than-human persons, and it is these beings, and their traces (which are consubstantial with the beings), that vest the country with such sentience. (Glaskin, 2012, p. 305)

The created series of works explores the spiritual dimensions of *djenark*, as well as concepts of change, longing and loss. The series consists of four works:

1. *Booriarup* explores the area around modern-day Pelican Point/Booriarup using an automated musical instrument drawn from a current map of the area and field recordings.
2. *Djenark* uses a recording of the silver gull (slowed 32X) to explore the hidden depths and harmonies behind the calls, and how a spirit might feel as they are transported back to the mainland.
3. *Gathering of Souls* is an extension of the explorations in *Djenark*; in particular the motion of being underwater.

4. *The Call* reflects on the feeling of spirits left behind as they await reunification; I used this idea as a springboard to reflect on my feelings regarding what was happening with the handover of Hong Kong to Communist China and the subsequent crackdown.

I conceived the work as a journey about the silver gull's movement across the ocean towards Pelican Point; or in a sense, of my family and our ambivalent, haunted relationship with Hong Kong and China.

4.2.12.1 Booriarup

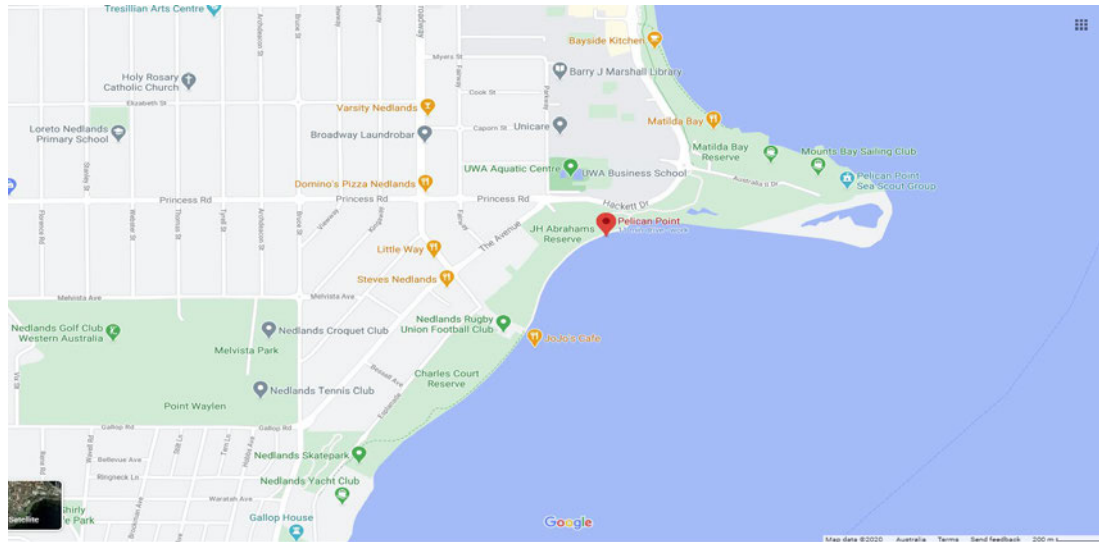
When considering where to start with the series, I first thought about the place itself, and how to incorporate the area into the composition. For *Booriarup*, I wanted to combine documentation of place (through field recordings) with sonification of geographical features (for this piece, through cartographical features) as a way of incorporating both visual and aural elements of place into the work, and to establish Pelican Point as a geographical anchor point for the rest of the series. As the provocation involved working with Noongar mythology, I also wanted to honour the Noongar name of Pelican Point, and called the first piece *Booriarup*.

For the documentation, I first visited Pelican Point and walked along the shore of the Swan River/Derbarl Yerrigan. As part of this walk, I recorded the sound of the river lapping against a jetty. I also took a few recordings of the silver gulls in the area.

For the sonification of the map, I traced the map of Pelican Point/Booriarup (Figure 84) into Iannix to create an autonomous instrument. In the case of the instrument I designed for this work, the lines and curves of a map become playable cursors and triggers, with the horizontal positioning of these triggers corresponding to pitch. A note sounds as each cursor (in red) moves across a trigger (white dots).

Figure 84

Map of Pelican Point/Booriarup (Map Data: Google)



Iannix also features options to change the speed and size of the cursors and their behaviour—such as their movement, ranging from steady, linear forward movement to more pendulum movements—as well as looping patterns and gaps between loops. All these options combined can give the autonomous instrument variety in sound, as each cursor is interacting differently in the space.

For the placement of the triggers, I wanted to further incorporate elements of the geography into the composition. For this, I used a combination of the marked features on the map and road intersections as guides. I also wanted to emphasise the interconnectedness of place and movement, through viewing the road intersections as meeting points between two or more lines. Another way of incorporating the geospatial information for the place was to sonify the latitude and longitude coordinates of Pelican Point. I mapped the values of the coordinates (−31.98, 115.81) to frequencies in hertz, sonifying them via Adobe Audition’s tone tool.

An important consideration with the sonified map was choosing the VSTs to give voice and character to the map and composition. I chose three VSTs to voice the sonified map on the basis that they had a relatively organic quality:

1. Glacier Voices is a vocoder-like VST that gave the map a human-like quality as a way of representing the level of civilisation surrounding the area.
2. Sonnenwind is a wind-sounding VST replicating how wind might sound when blown through pipes, to emulate the windy conditions often found around the river.
3. Alter Garten is a VST based on the sounds of objects striking dirt, to add an earthy texture to the sound and emphasise the idea of a solid place.

The completed work (Figure 85) features the autonomous instrument playing alongside the field recording of the water jetty, with the longitudinal and latitude tones gradually fading in.

Figure 85

Still From Completed Video of Booriarup



4.2.12.2 Djenark

The second piece, *Djenark*, is based on the Noongar belief about the silver gull/djenark taking the souls from Rottneest Island/Wadjemup to the Swan River/Derbarl Yerrigan. I wanted to explore that idea through the call of the silver gull itself; the aural part of the work features multiple uses of a single field recording of the silver gull. There were two reasons for this. First, as the centrepiece of the work is the silver gull, it is fitting that the work would be comprised solely of the bird itself. Second, one of my other preoccupations with sound was manipulating tracks via time stretching and asynchronicity, and allowing these layers to tumble together as a way for the sound to reflect upon itself.

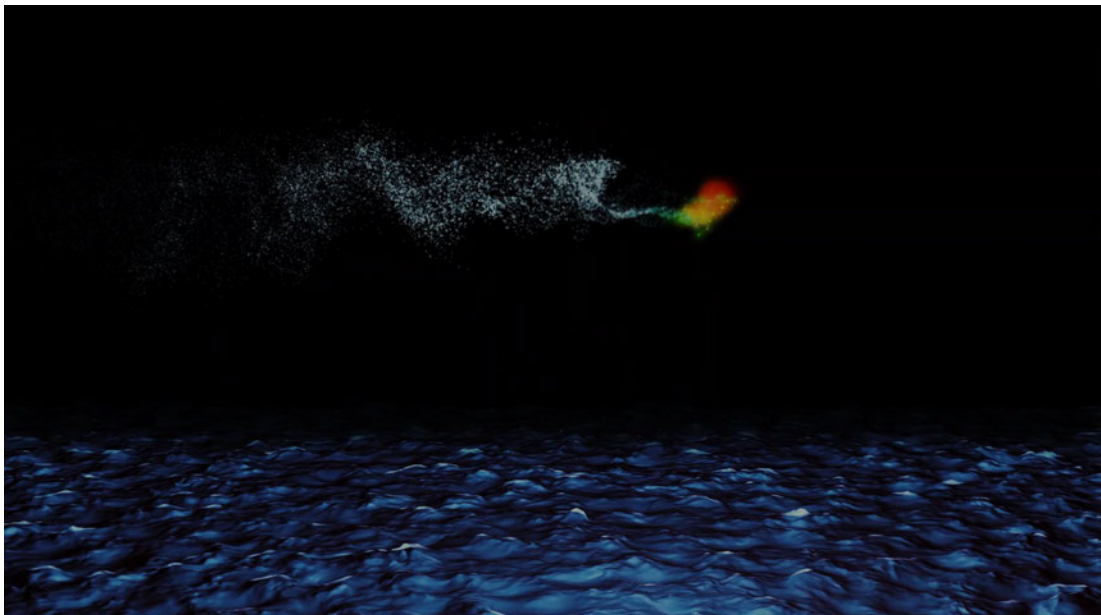
For *Djenark*, I took a 4-sec snippet of a silver gull and stretched it 32 times to become 6:40 in length. Unexpected melodies, rhythms and dissonances are teased out when sounds are stretched and explored at this length. I layered this track with the same, stretched version of the silver gull but played 30 sec later to create a second echo, so that at various moments during the work, the sound is tumbling and harmonising with itself.

To create more melodic interest, I also used Ableton's convert-audio-to-MIDI options on the slowed silver gull sound. With this option, Ableton identifies the pitches in an audio file and places them in a new MIDI track. I used both the Convert Harmony to MIDI and Convert Melody to MIDI options. For the VSTs, I used the Glacier Voices and Bowed Metal sounds—the former for the 'harmony' conversion, to emphasise the higher-ranged notes and - create an ethereal, human-like quality; and the latter for the 'melody' conversion, to emphasise the bass notes.

For the visual elements of the piece, I wanted to evoke an image of a spirit moving across the water. I depicted this by creating an audio-visual work featuring two elements. The spirit is represented by an orb moving above an animated ocean. To create the orb, I used Adobe After Effects and the Trapcode Suite. I specifically used two plugins: Trapcode Sound Keys, which analyses audio and creates animation keyframes; and Trapcode Particular, to create animated particle effects. By linking the key frames to Trapcode Particular, the composition acts as the main driver for the orb's motion. For the ocean effect, I used Trapcode Form. Initially I attempted to link the animation keyframes from the composition to the motion of the waves, so that the composition would be driving both visual elements. As this unfortunately created highly erratic waves, for the final version (Figure 86) I used the time duration of the composition to drive the waves' motions.

Figure 86

Still From Completed Video of Djenark



4.2.12.3 Gathering of Souls

Gathering of Souls is a continuation of *Djenark*. In the narrative, I imagined that the silver gull/djenark had landed on the shores of the river; the work explores the idea of numerous souls gathering in the Swan River/Derbarl Yerrigan, as the silver gull dips its beak into the water.

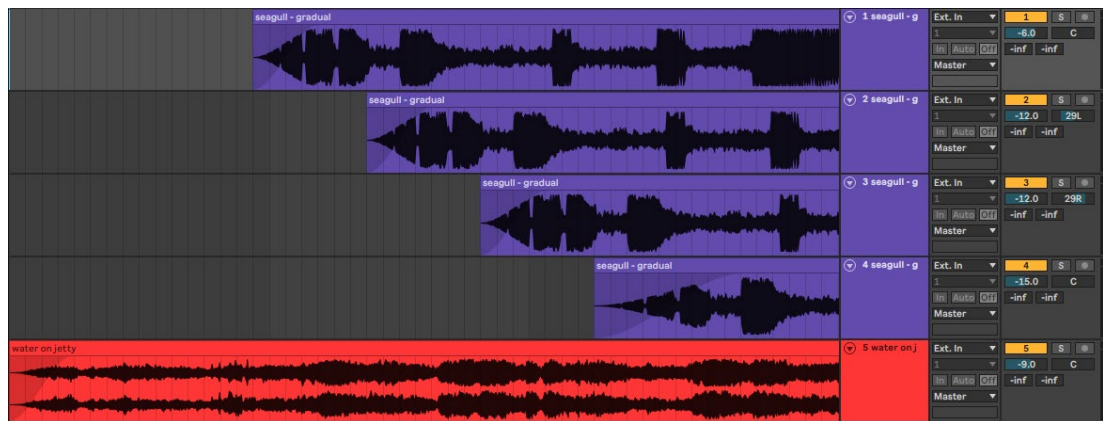
For the composition, I chose to open with the same sound as used in *Booriarup*—the sound of the river against the jetty. Using the same 4-sec snippet of the silver gull as *Djenark*, with *Gathering of Souls* I instead gradually slowed the call to last 4 min. I chose to gradually slow the track to reflect how it might feel for a soul to be submerged underwater, and the feelings of peace as the soul awaits the next part of their journey.

I layered four of the gradually slowed silver gull calls on top of each other, each playing around 14 seconds behind each other (Figure 87). I layered them in such a way that as the first call fades away, the second call begins. For each of the four tracks, I added different effects to emphasise different textures in the sound layers:

1. Convolution Reverb, to emphasise the spaces in the call
2. Moscow resonator, to emphasis the bass frequencies
3. Berlin resonator, to further emphasis the bass frequencies
4. Echo Spatter, to give the call an otherworldly texture, reminiscent of spirits.

Figure 87

Track Layering in Ableton for Gathering of Souls

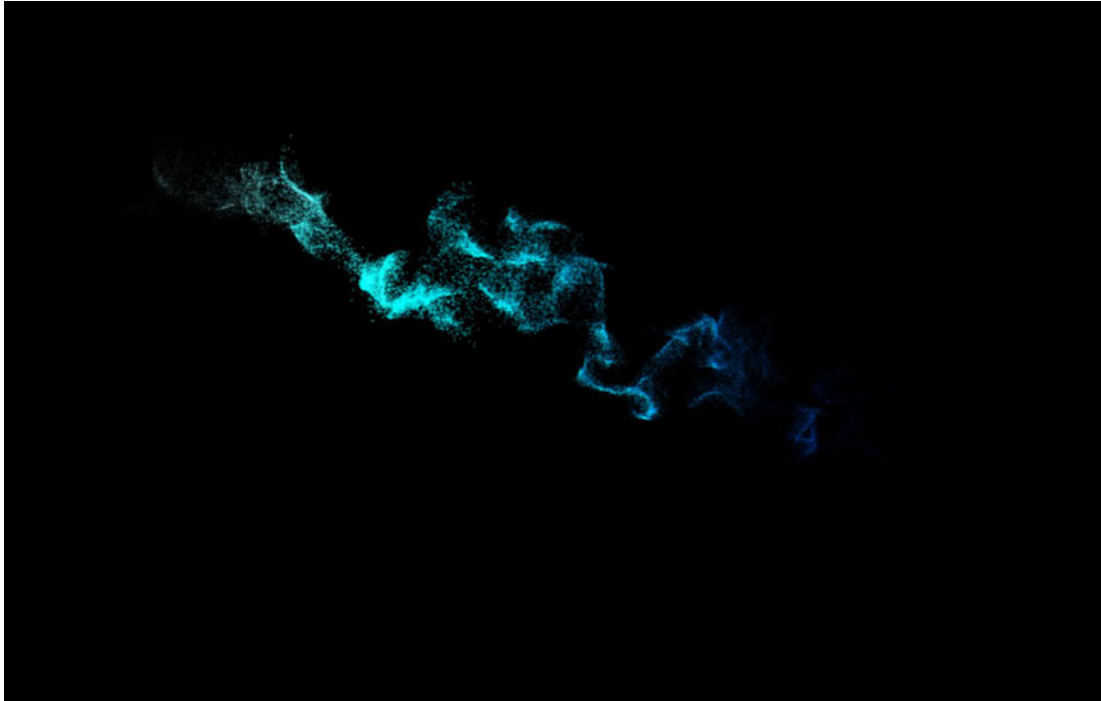


Note. Screenshot showing the track layering in Ableton for Gathering of Souls. This section references to the multiple layering of the Silver Gull call.

For the visual aspect of the work, I used Adobe After Effects and the Trapcode Suite to create a music visualisation that featured downward motion into darkness, to emphasise the idea of submerging (Figure 88).

Figure 88

Still From Completed Video of Gathering Of Souls



4.2.12.4 The Call

With the final piece, *The Call*, I reflected on the idea of movement across water, and the feelings that souls left behind on Rottnest Island/Wadjemup might experience as they await reunification with the river. I thought about their feeling of uncertainty and restlessness as they waited for what might happen. I found myself relating a part of my personal history to the idea of being left behind, separated by oceans: I thought about my own experience with being separated from my homeland (Hong Kong) and uncertainty around being able to return (see autoethnographic transcriptions above).

The composition begins with the sound of the water lapping against the jetty, as a way of setting continuity in place, alongside a 4-sec clip of a call from the silver gull/djenark. Like in *Djenark*, I slowed the 4-sec call, but this time extended it to 8:32. To emphasise the different harmonies in the slowed track, I used Adobe Audition's Graphic Equaliser to narrow the frequency ranges on the slowed track.

The composition features three versions overlaid on each other to create a chorus effect:

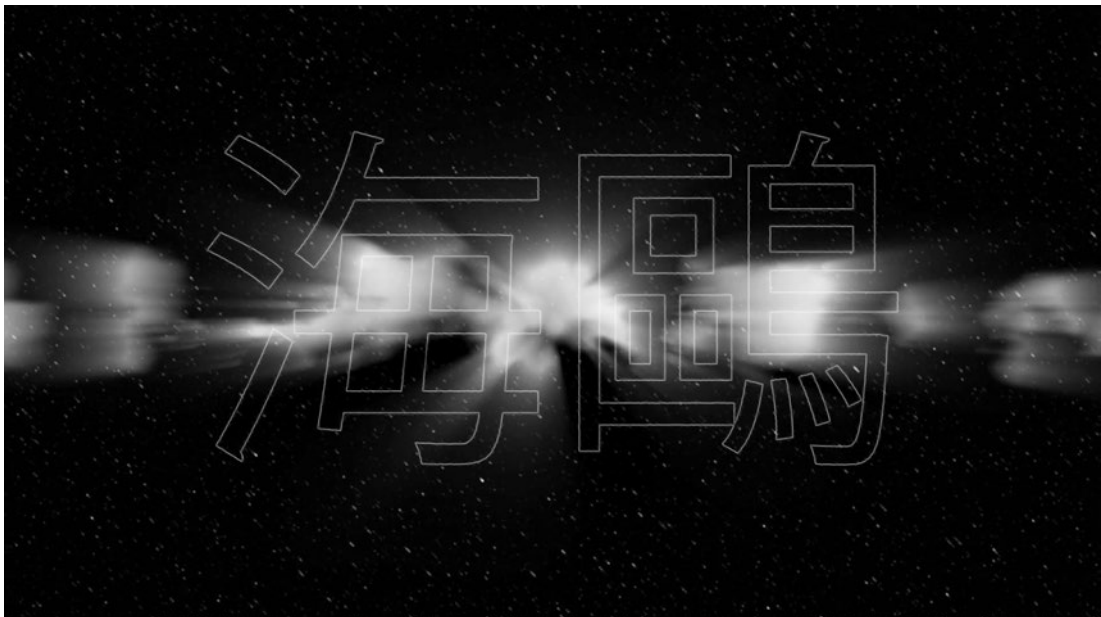
1. silver gull/djenark, slowed—no graphic equaliser
2. silver gull/djenark, slowed—125–250 Hz
3. silver gull/djenark, slowed—250–500 Hz.

The second half of the composition also features samples of my voice, as I wanted to emphasise the personal connection between myself, place and work.

For the visual elements, the piece features the Chinese characters 海鷗, which translate to ‘seagull’, as a visual representation of my heritage. Behind the characters is a music visualisation of shifting white light (Figure 89) made using the Trapcode Suite in Adobe After Effects, representing the restlessness of the spirits (and myself) in being left behind. The background is static, to represent the feeling of uncertainty in this space.

Figure 89

Still From Completed Video of The Call



Chapter 5: Conclusion and Findings

When I began my research, I was interested in bridging the gap between self and place, and finding methods of interrogating this relationship by incorporating elements of the landscape. How would this cartography of place sound, and look? How do I convey this active relationship I have with the landscape to others?

Using a practice-led methodology has given me the space and opportunity to refine my compositional processes. My research into how sound art and audio-visual work can portray dialogues occurring between self and place has allowed me to explore ways of offering multi-layered perspectives of place through various compositional and visual approaches. I have been able to experiment with different compositional approaches, on both technical (field recording, sonification, sound manipulation) and conceptual (soundscape composition, psychogeography, place and connection, sound mapping) levels.

My research suggests that sound art and audio-visual works can exist as both metaphors for personal experiences, and as commentary on the history and culture of place. I believe that a person-centric approach to composition, where multiple elements of place are viewed through the prism of the self, can be a valuable way of exploring the history and geographical aspects of, and personal connections to, place. This is particularly so when the physicality of place can be incorporated as an active part of the creation of the soundscape.

5.1 Towards a Cartography of Place

My research journey has been around creating a cartography of place—a narrative where place and self can co-exist and inform each other in the compositional process; much like the dialogues that occur between place and self while in the landscape. Underpinning the process was also the desire to create a

compositional method that was meaningful to me, on a personal level—one where I was able to process my life experiences and emotions through the prism of landscape.

I found sonification—in the form of sonifying maps and geospatial information (see *A Managed Retreat* (2020), *Automata* (2020), *The Lost* (2021) and *Djenark (The Silver Gull)* (2021))—to be an important element of my research. I was able to situate place (in a literal sense, through the aforementioned maps) into compositions, and use maps as a launchpad to explore history and personal experiences. The geometry of a photograph—and by extension, the place itself, as captured by the camera—plays an integral part of the overall sound composition.

Sound mapping (see 3.4) was influential in my compositional process for this thesis, as the practice offers pathways to explore the personal through place. I employed an expansive view of ‘place’—one that encompassed historical, cultural and geographical aspects. Place—and by extension, objects used to depict place—is not only literal, but also metaphorical and symbolic, with significance shifting depending on the individual.

A practice encompassing all these elements requires a multimodal approach. In the same way as there is no singular experience of place, there is no singular representation of place. As Milena Droumeva notes in their analysis of sound mapping as critical cartography, “There is no one ‘soundscape’ of any given place, but a multitude of individual aural experiences” (Droumeva, 2017, p. 338). In my case, representation of place took form visually, in the form of field photographs, recordings and sonified maps and aurally through manipulated field recordings and sonified geospatial values.

Exploring temporalities held within a place is a prominent factor in my practice of cartographies of place. Time spans at multiple scales within my works, where histories of place sit alongside my contemporary preoccupations at the time of composition, such as in *A Managed Retreat* (2020), which combines decades of spatial information with my anxieties regarding climate change; and *The Lost* (2021), which represents a manifestation of the combined centuries of knowledge with my lived experiences over the previous 12 months.

My explorations with temporalities extends to my approach towards arranging and manipulating field recordings. Time shifting—particularly the extreme sound elongation practiced by Truax and Bailie—was another invaluable part of my compositional practice. The act of elongation allowed me to dive into the hidden resonances and harmonies behind brief moments in time, while also allowing me to engage with the history and ecology of the area itself through the manipulation and arrangements of these normally hidden and momentary sounds. In my own practice, I found this level of engagement valuable in constructing narratives within my compositions, and for reflecting on my motivations for creating a piece. These methods can be avenues for reflecting on fieldwork and knowledge gained in the field; for instance, part of *Corridor* (2017) is also about acknowledging the local history of the area and the importance of its continual existence.

Ultimately, this approach to creating works—with its emphasis on self-reflexive narrative—can create multi-faceted works that can trigger strong emotional memories and associations for both artist and listener. This method also highlights the active agency of the artist by acknowledging the emotive responses behind the recording (and creation) of a soundscape. It has allowed me to articulate both *how* I felt and also convey the *intensity* of my emotions. I have been able to situate place

into compositions and use maps as a launchpad to explore history and personal experiences.

5.2 Incorporating Live Performance and Fixed Media Presentations

Another consideration for me in the creation of these works was how to present them to audiences. As a musician, I also wanted to perform these works live, as a way of literally integrating my presence with the composed soundscape. Initially, I accompanied pre-composed audio-visual work with live guitar (Figure 90), but found this increasingly difficult as my soundscapes moved away from standard musical structures (as in *Dam of Discontent* (2015), *There is no Escape From Yourself* (2016), *Beringbooding* (2017) and *The Light at the End* (2018)) and into atonal and abstract sonic territories.

Figure 90

The Dream is Over Live at the 2018 Gender Diversity in Music Making Conference, Monash University



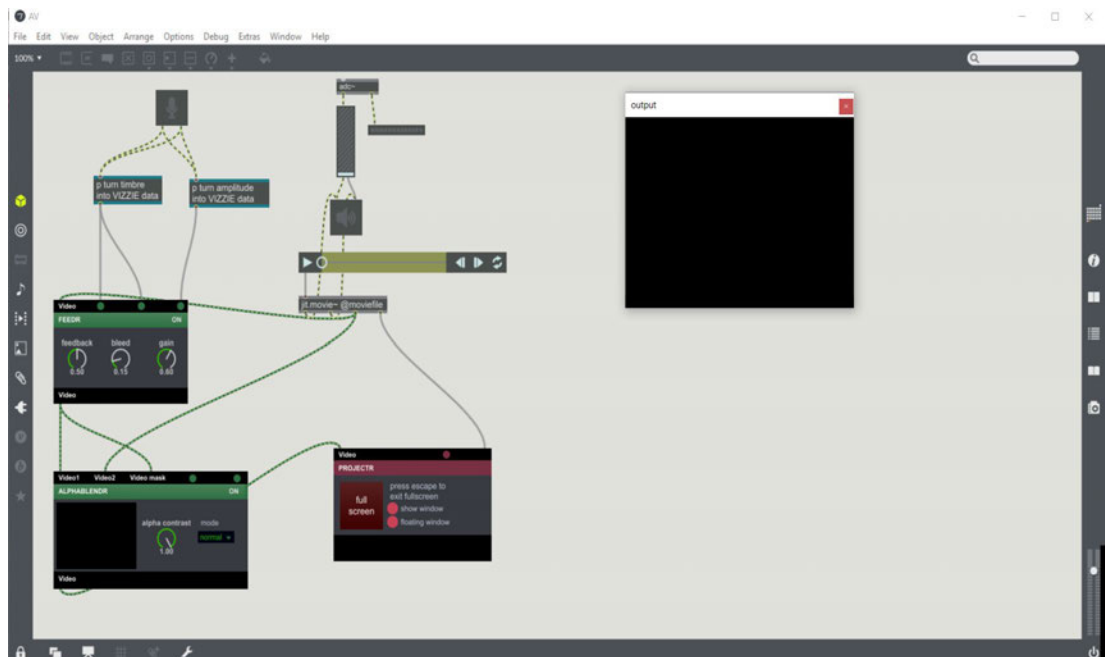
I began exploring other forms of instrumentation, particularly vocals, because I found it easier to harmonise with some of the tones of the soundscape. There was

also a level of intuition that I found missing from using my voice when playing guitar. One piece for which I performed live vocals is *Bering(forboding)* (2017), which contains multiple versions of a slowed crow sound.

I had created an audio-visual piece based on the recorded version of *Bering(forboding)*, and for live performance I wanted to add an extra layer of reactivity between my vocals and the fixed media. In this way, not only was I performing live, I was also actively engaging in a dialogue with the video work. I used MaxMSP to create a patch that would respond to the loudness of my voice. Using the FEEDR and ALPHABLENDR Vizzie modules, I was able to change the contrast and brightness of the video work (Figure 91). The video was projected behind me onto the second screen, and I was able to see a small preview via MaxMSP's video window.

Figure 91

Screenshot of MaxMSP Setup



Note. This screenshot shows the how the various modules described above were organised for live performance. The output window would be placed on the projection screen.

I performed *Bering(forboding)* multiple times with this setup, most notably as part of the 2017 ACMC concert series at Elder Hall, Adelaide. Alongside the MaxMSP setup above, I ran a microphone to my laptop through a Steinberg UR-12 interface and used Ableton Live's delay effects to simulate the sensation of multiple harmonising voices (Figure 92). For the performance, the video played behind me while I sang to the audience.

Figure 92

Live Setup at ACMC 2017 at Elder Hall, Adelaide



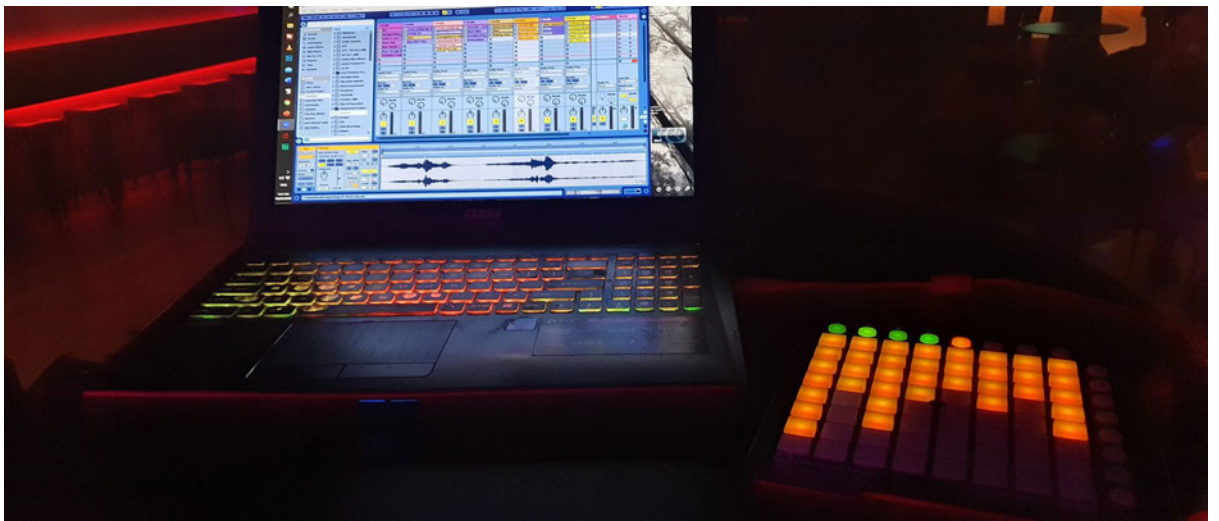
Note: This photograph shows my live setup for processing vocals and video—my laptop running MaxMSP, with a microphone connecting to the laptop via a Steinberg UR-12 audio interface

While this setup was effective, it had two notable limitations. First, it was only effective in spaces with a projector, and not every space in which I was invited to play could accommodate this. Second, with all the separate technical elements—two programs, an interface and a microphone—there was more chance of technical failure. The latter did occur a few times during performances, requiring delays and reboots.

I decided instead to pare down my setup to essential elements, beginning with just my laptop. I paired Ableton with a Novation Launchpad Mini, an external device that allows quick access to synths and controls (Figure 93). With this setup, I was able to quickly load and combine field recordings, in a similar fashion to my compositional process, and could control the volume and panning of each field recording. I was also able to accompany my works by playing synths on the launchpad.

Figure 93

Performance With Ableton Live and Novation Launchpad Mini—Basadena 01, Perth 2021.

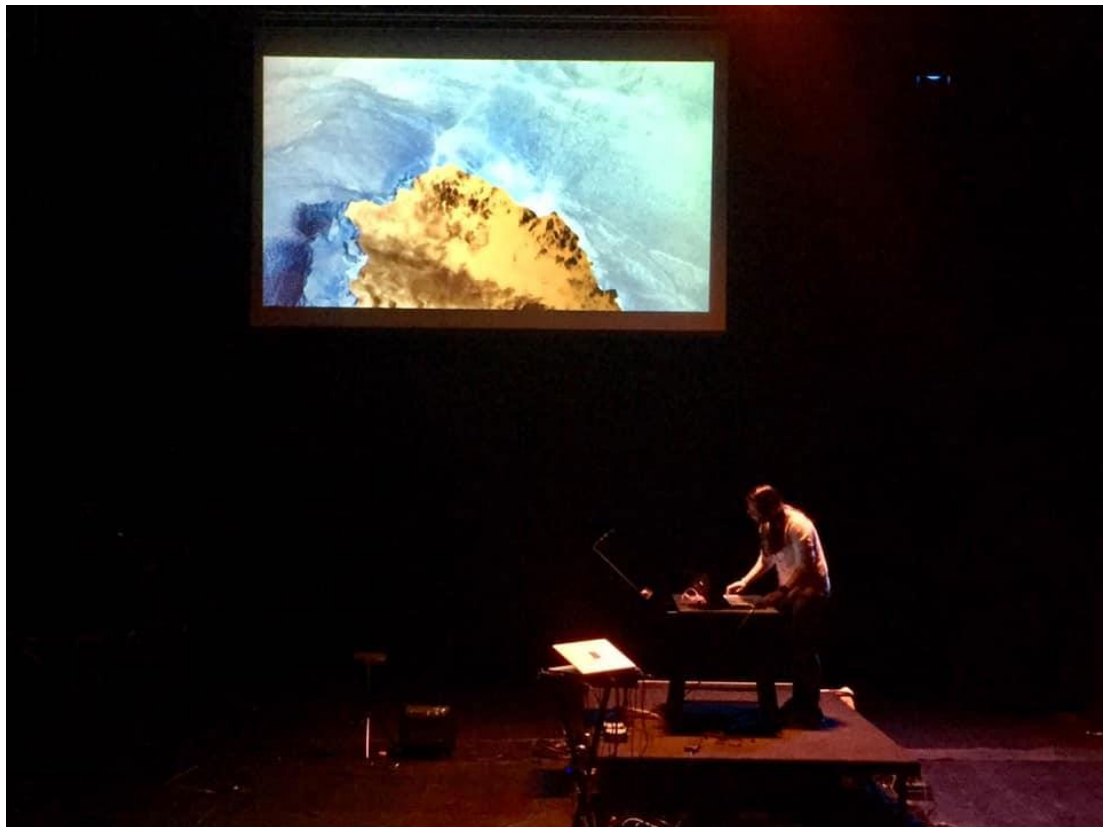


Simplifying my setup to two elements allowed versatility in my live performances. If I chose to, I could add an audio-visual element to my work (Figure 94), while knowing that there was less chance of technical failure during performance. As part of my performance, I also chose experimental-style synths intended to add ambience and texture, rather than melody, to the soundscape.

Figure 94

Performance with Ableton and field video—JOLT Sonic Festival, Melbourne 2019

(Photographer: Jon Murphy)



In later performances, I moved towards combining Iannix with Ableton. In these performances, I ran the Iannix instrument through my laptop, and triggered sounds and played synths using the Novation Launchpad (Figure 95). If possible, I would project the Iannix instrument via a projector so the audience could also watch the sonified map.

Figure 95

Performance with Iannix and Ableton—Outcome Unknown, Perth 2020

(Photographer: Eduardo Cossio)



Another way I found of presenting my work was through sound installations at art galleries. *Djenark* (2021) was one example, with the series being shown on four iPads with connected headphones and each video shown on a loop (Figure 96). This gave visitors the chance to listen to each piece individually and engage personally.

Figure 96

Djenark (The Silver Gull) at Gallery25, Edith Cowan University



Note. Photograph shows three of the works from the Djenark (The Silver Gull) series on three iPad tablets placed on a table against a wall, each connected to a separate headphone.

5.3 Further Research

One area I would like to continue exploring are methods of incorporating field recordings into the sonified maps. A potential method is creating VSTs using field recordings and using the resulting instrument to voice the maps. One way this could be approached is through the Simpler and Sampler instruments in Ableton Live, both of which can reproduce and manipulate field recordings. Phasing out the use of pre-made VSTs could potentially lead to a deeper exploration of place, by using material gleaned directly from place.

Another aspect I would like to explore further is the role of trauma in landscape, and how I might reconcile my experiences of this with the collective trauma experienced on, and by, the land. I found creating works such as *The Light at*

the End (2018), *The Drowning* (2018) and *The Lost* (2021) cathartic because I was able to reconcile my personal experiences through the prism of a traumatised landscape. There is potential for this style of composition to dive deeper into the emotional history of place—particularly in a land like Australia with its fraught, conflict-ridden, colonial history.

One aspect I appreciated during the creation of the aforementioned works was how I was able to process emotions through the ambiguity of sound. There was a sense of freedom in being able to convey an array of emotions through the morphing of harmonics and the textural layering of sound, rather than through the specificity of language. This is similar to Patrick Zuk’s analysis of music as post-traumatic discourse, where he notes that, “Music can furnish symbolic analogues to characteristic phenomena of post-traumatic mentation such as ... dissociation and psychic numbing, which prevent overwhelmingly distressing emotions, thoughts and somatic sensations from being admitted to consciousness” (Zuk, 2018, p. 105). Often, I found myself unable to fully express my experiences with words—particularly with *The Light at the End*, *The Insect Apocalypse* and *Djenark* (2021)—but was able to express my emotional state with sound. Zuk’s observation that, “What music can evoke with remarkable vividness is a succession of emotional states unfolding in time and the long-range accumulation of tension and its release” resonated for me (Zuk, 2018, p. 106). Trauma causes destabilisation. Music can be used as a conduit for navigating and re-imagining the emotions and narratives surrounding events.

Outside my work, there have been relatively few non-confronting outlets for me to discuss my past experiences. For me, part of this stems from cultural conditioning, where I have been socially trained not to discuss these issues. I am not

meant to discuss my experiences because it makes others uncomfortable; I am not meant to rock the prevailing ideal that the world is a safe and just place. I have found that one of the few safe outlets for discussing my experiences of trauma is through the creation of sound and audio-visual works. When I am out in the field, there is no judgment from the land. I am not burdening anyone with my words. When I create the works in my studio, there is no need to talk explicitly or at length about my past experiences, or to justify my perspectives and feelings on events.

To expand further on the idea of trauma and destabilisation—when you are traumatised, your sense of self is essentially torn apart. To recover from trauma is to re-form these fragmented parts of self into a new whole. As an example, I can see the fractured landscape of the Western Australian Wheatbelt as being a physical manifestation of the aftermath of trauma, which is one of the reasons why I find that landscape endlessly fascinating: like the self, we work on repairing the damage done in the past on the land, while knowing there is some damage that is irreparable.

In the Wheatbelt, there are areas designated as wildlife corridors, in part to help reconnect disparate sections of bushland. I see a correlation between experiences of trauma, the trauma of the landscape and artistic work. Through the creation of soundscapes and audio-visual work, there exists the opportunity to recreate and repair internal connections within the self, much like these wildlife corridors between remnants of bushland can help repair the land.

5.4 Concluding Remarks

Through the course of my research, I have gained a deeper appreciation of the complexities of the nature of place, and the relationship between self and place. These relationships are coloured by the interplay of various external and internal elements: the physical features of the place, its culture and history (and the symbolism and imagery these invoke), and my emotional and creative responses. By exploring and acknowledging my personal experiences as a key compositional component in the creative process—particularly through works such as *The Drowning* (2018) and *The Lost* (2021)—there is potential for me to create deeper emotional connections between self and place.

Through extensive work within landscapes, I became acutely aware of the cultural, historical and ecological aspects of place. By traversing the physical terrain of the environment, I was able to explore the terrain of the self—I became aware of my own responses to these aspects, and how they were expressed symbolically based on my own personal history. From these experiences, I became drawn to methods of incorporating landscape into works as a way of conveying narrative, expressing the physical (topographical) and spatial (geospatial) features of the landscape as part of the composition, and conveying the dialogue and subsequent emotional catharsis occurring between self and place. This process has also expanded my compositional approach from my initial interest in sonification, and encouraged me to develop a cross-disciplinary practice further incorporating field recording, photography, videography, music visualisation, sound mapping and live instrumentation.

Through embedded knowledge of place, I have developed a greater appreciation for the power of sound in conveying narrative and meaning. Places are often ignored and their presence taken for granted. Rather than viewing place as

spaces between points, or as pathways to destinations, sound encourages listeners to form alternative perspectives of place, by inviting listeners to stop, float across temporalities and re-imagine their relationship with place. By incorporating the physicality and ecology of place through using field recordings and basing parts of works on the contours of the landscape, the boundaries between landscape and culture, internal narratives and external experiences, become permeable.

Sound also allows artists to engage with audiences through being a spectral presence in public spaces, or as a conduit for listeners to explore an artist's personal history. Sound can foster a sense of intimacy among audiences through a shared experience. Although my work exists within the digital realm, the concept of shared listening remains. As the works represent the sono-environmental reflections arising from looking both inwards (towards the self) and looking outwards (on the history, cultural significance and geospatial features), audiences are invited to traverse through the cartographies of images, sounds, and maps of place.

The ephemerality of sound reflects the ephemerality of being and the fragility inherent in our relationship with place. The combination of field recordings, abstracted sounds made from natural sources, and the physicality of place aim to both embed the listening experience and disrupt the listener spatially and temporarily, through engaging in dialectical and dispersive movements and transits across a visual, sonic and temporal field. Through these works, sound and audio-visual work are used as ways of disrupting daily routines of (not) listening, and (not) looking, and encourages us to become more grounded and aware of ourselves and our surroundings.

Appendices

Appendix A: List of Publications During Candidature (2016—2023)

- Tsang, S. (2024). Artist and Agency: Technologies for Exploring Self and Place. In Lesage, F. and Terren, M (Eds.), *Creative Tools and the Softwarization of Cultural Production*. Palgrave Macmillan.
- Tsang, S. (2022). Exploring aspects of place through sound mapping. *Chroma: Journal of the Australasian Computer Music Association*, 38(1).
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- Tsang, C. (2021). Sound Art as ways of exploring aspects of place. *Fusion Journal*, 19. <https://fusion-journal.com/issue/019-listening-in-the-anthropocene/sound-art-as-ways-of-exploring-aspects-of-place/>
- Tsang, C. (2019). Addressing Climate Change Scepticism Through the Sonic Arts. *Soundscripts*, 6(1). <https://ro.ecu.edu.au/soundscripts/vol6/iss1/16/>
- Tsang, C. (2019) Composing soundscapes from a single field recording. In *Proceedings of the ACMC 2019: Seeing the inaudible, hearing the invisible* (pp. 58-62). Australasian Computer Music Association. <https://computermusic.org.au/conferences/acmc-2019/>
- Tsang, C. (2018). *Layered histories – using facets of the landscape as compositional elements to reflect lived experience* [Paper presentation]. Musiological Society of Australia Conference, Perth, WA, Australia.
- Tsang, C. (2018). *Landscape as Personal Narrative – using elements of the environment as a multi-modal approach to composition* [Paper presentation]. Postgraduate Music Conference, Melbourne, VIC, Australia.

- Tsang, C. (2018). Resounding landscapes – combining psychogeography and elements of the landscape as composition. In the proceedings of the 5th *International Conference on New Music Concepts*.
- Tsang, C. (2017). *Sonifying and Visualising the Found Environment* [Paper presentation]. Sounding Out the Space Conference, Dublin, Ireland.
- Tsang, C. (2017). Finding meaning in data: Using data elements to sonify and visualize the found environment. *The Soundtrack*, 9(102), 73-90.
https://doi.org/10.1386/ts.9.1-2.73_1
- Tsang, C. (2016) Hexadecimal compositions – using HEX data to sonify images of the found environment. In *Proceedings of the 2016 Annual Conference of the Australasian Computer Music Association* (pp. 75-80).

Appendix B: List of Direct Links to Works Featured In Exegesis

[A Small Timequake](#)

[Dam of Discontent](#)

[Of Shifts and Currents](#)

[The All-Encompassing](#)

[In The Morning Glow](#)

[Fire In The Sky](#)

[Who Is Of This Earth](#)

[There Is No Escape From Yourself](#)

[Time Of Below](#)

[Hidden Landscapes](#)

[Changes Within The Ecological Self](#)

[The Road is My River](#)

[Ephemeral Echoes of Time](#)

[Bering\(for\)boding](#)

[If An Echo Could Talk](#)

[The Sentry Watches](#)

[L'appel du Vide](#)

[Corridor](#)

[Truth and Consequences](#)

[Rising From The Depths](#)

[The Dream Is Over](#)

[The Dream Is Over \(live\)](#)

[The Light At The End](#)

[The Drowning](#)

[The Insect Apocalypse](#)

[Heart Of The Apocalypse](#)

[A Managed Retreat](#)

[Automata](#)

[The Lost](#)

[Djenark \(The Silver Gull\)](#)

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