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SITE into SOUND

A thesis presented in partial fulfillment of the requirements for the degree of Master in Fine Arts at Massey University, Wellington, New Zealand.

**Jude Robertson
2017**

Abstract

Sound, space and perception are expansive areas of enquiry, which I connect together through a creative investigation into location, sensory experience and inter-relationship within a wider ecosystem. Using an abstract mapping process, audio recordings have been gathered from three spatial/acoustic locations: liquid space, ground level and atmosphere. Many sites have been selected for their ecological or historical significance. Photography has also been utilised to form a multi-sensory and multi-disciplinary approach to research. Different cultural meanings of landscape have been considered, exploring how this has the potential to precipitate new relationships and a deeper understanding of ourselves, others and the environment. Since any direct experience that takes place within the environment occurs using my own bodily-sensory perceptions, this enquiry is viewed from a personal perspective that comes with a degree of subjectivity.

Key words: environment, installation, listening, materiality, perception, site, sound, space.

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All images by author unless otherwise stated.

Introduction

Within the field of contemporary art and research this body of work is situated within a geographical framework, since it is predominantly concerned with spatial experience. I am exploring notions and experiences of Encounter, while investigating space-time as layered, relational and composed of multiple trajectories. This is under-pinned by a creative abstract mapping process, which links together varied materials, objects, experiences, sights and sounds. Throughout the investigation I return to the environment as an ongoing source of material, yet attempt to move beyond a cultural appreciation of landscape by addressing some of the complex issues that inform contemporary geographical discourse. This is influenced by Aotearoa New Zealand's southern location, natural environments including conservation estate and other everyday localities. While exploring the reciprocal relationship between humans and the environment, I am investigating the environment as an active agent instead of passive object. It creates the specific conditions, which enable humans to inhabit this planet such as atmospheric composition, presence of fresh water and arable soil. I have focused on these mediums or substances in my sonic enquiry and the field recordings I have gathered are linked by a consistent exploration of spatial acoustic locations: aerial, ground and liquid space. These mediums are dynamic and shape human perspective and bodily experience through variable terrain and changing climatic effects.

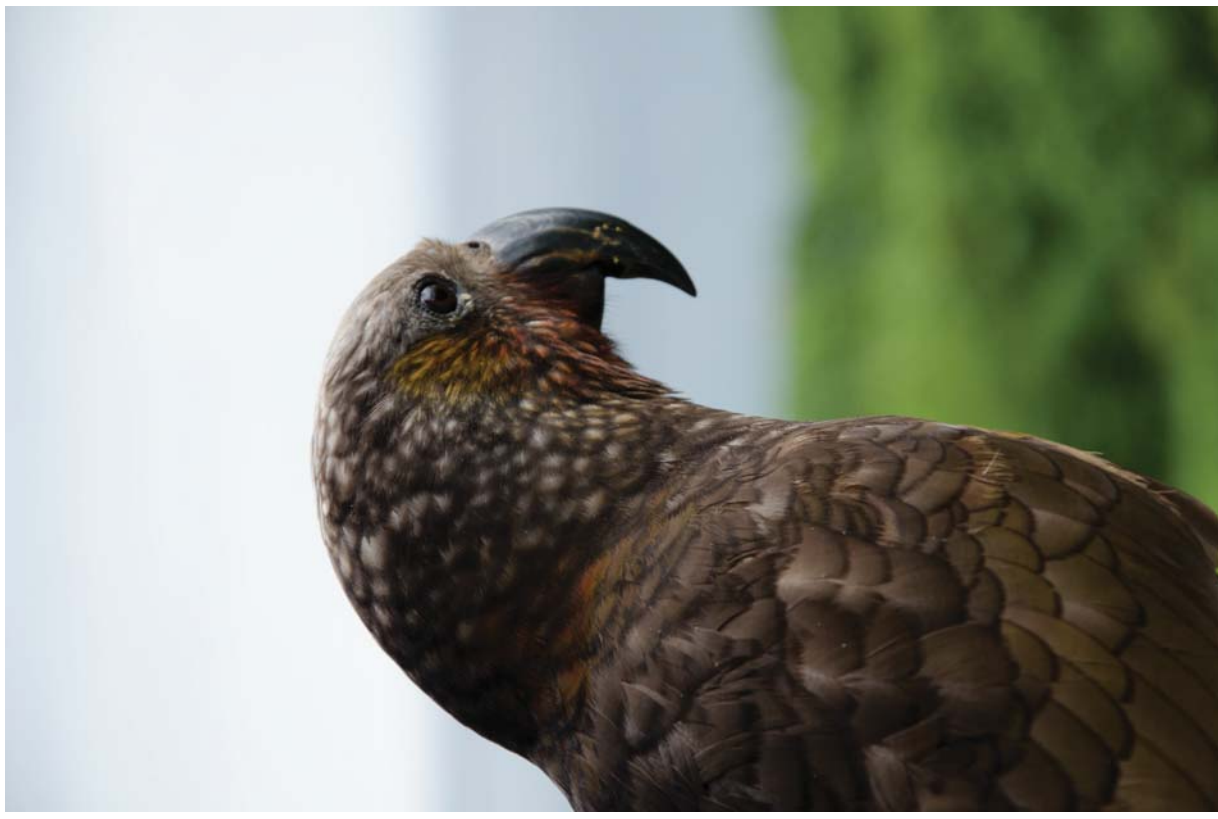
A primary aim of this investigation has been to establish points of connection between research interests in order to generate cross-disciplinary dialogue. Viewing my work through an expanded phenomenological lens has helped to articulate my mapping process as an embodied practice and connects geographical exploration with my enquiry into listening and sound. Writers such as Geoff Park, Tim Ingold, Mick Abbott and Janet Stephenson have expanded my outlook considerably and have offered valuable insights into human relationships with the environment - past and present. Influential sonic discoveries include Pauline Oliveros' philosophy and practice of Deep Listening, which aligns closely to my own personal enquiry, as she integrates bodily practices with creative and academic research.

I have come to the realisation that photography forms an integral part of my creative process. It enables me to gather information quickly and intuitively,

operating as a form of visual research. I slow down to look at my surroundings more closely when I am actively exploring with my camera and I find unusual details I would otherwise pass by. This may then reveal a different perspective or create visible connections between my research interests. Image making (as research) is a way of rethinking the value of everyday space (Hunt, 2014). Because of this role, numerous photographs feature as part of the following discussion. As much of my initial work takes place outside, there is also a correlation between audio field recording and photography, where observation with the camera parallels the depth of listening which occurs during sound recording.

While this work is the culmination of an intensive period of creativity, there are many life influences that have informed my particular interests and viewpoints. These include an ongoing practice of yoga, prior study (photography), travel experiences and these are reflected in a multi-faceted practice. Weaving is a useful analogy for considering this research – it is composed of multiple strands, which are woven together before taking on a more distinct form.

JOURNEYS & ENCOUNTERS



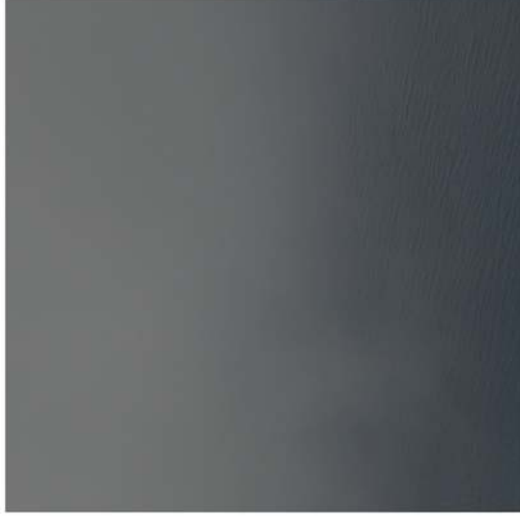
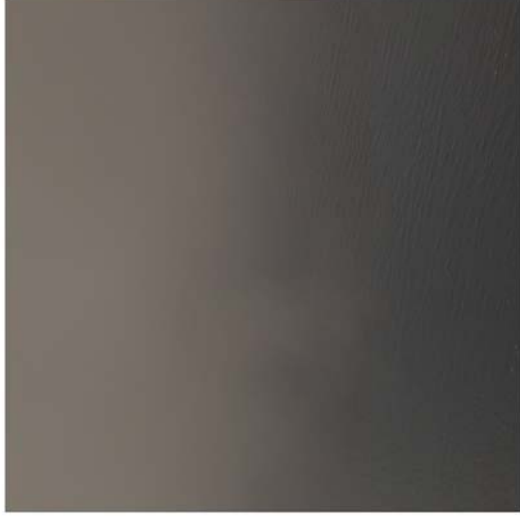
Kaka, Kapiti Island (2016).

There was an immediate and distinctive shift in the aural environment as I stepped onshore of Kapiti Island. In the mild autumn afternoon, a multitude of bird calls were audible. Due to the proximity of the sea, the first recordings I made in the lowland bush and coastal flats convey a strong sense of this island atmosphere and the sonic presence of the sea is as strong as the birds themselves. In many ways, sound dominates over the visual here: a strange scuffling noise caught my attention long before I could identify it as a pukeko scrambling about in the undergrowth. I was here to capture the dawn chorus, as a distinctive landmark of the Aotearoa New Zealand environment. As it was nearing the end of the season, I was the only overnight visitor in the Department of Conservation (DOC) area of the island and it felt like I was the only human on the island amongst abundant birdlife. This generated an intensified experience and positive sense of solitude.

At dawn I headed up Wilkinson track, making numerous recordings along the way. Due to the prolonged heat of the preceding months, the tracks were very dry which changed my usual experience of a muddy bush environment. The dry atmosphere created a sense of lightness and ease, conducive to listening. Occasionally the wind rushed through the canopy, sounding a melancholy rustle. As I wound my way up towards the summit, the bush started to mask the sound of the sea so in these later recordings the individual and collective voices of the birds become more distinct.

There is a discernable difference in the quality of these recordings compared to my earlier attempts at Otari-Wilsons bush, where introduced species dominate the avian conversation. I have identified vocalisations from red crowned kakariki, pukeko, korimako, tui, kaka and toutouwai. The kakariki has a very strong sonic presence yet I caught just a fleeting glimpse... I also captured the heavy sound of kereru in flight. At the summit I was inspired to photograph the unusual atmospheric effects unfolding in front of me. Looking south, a dense layer of cloud descended, cloaking the sea in mist. I was intrigued by the contrast between this nebulous quality and the defined lines of the swell and I imagined this as a photographic 'drawing'. Kapiti Island summit was a strategic location, the elevated viewpoint and historical associations make the photographs interesting to me. Te Rauparaha (Ngati Toa) occupied Kapiti Island from 1823. Strategically located in Cook Strait, the island functioned as both a pa and trading base during the 1820 – 1840's (McClean, 2013).

Right: *Nebulous*, Kapiti Island summit (2016).

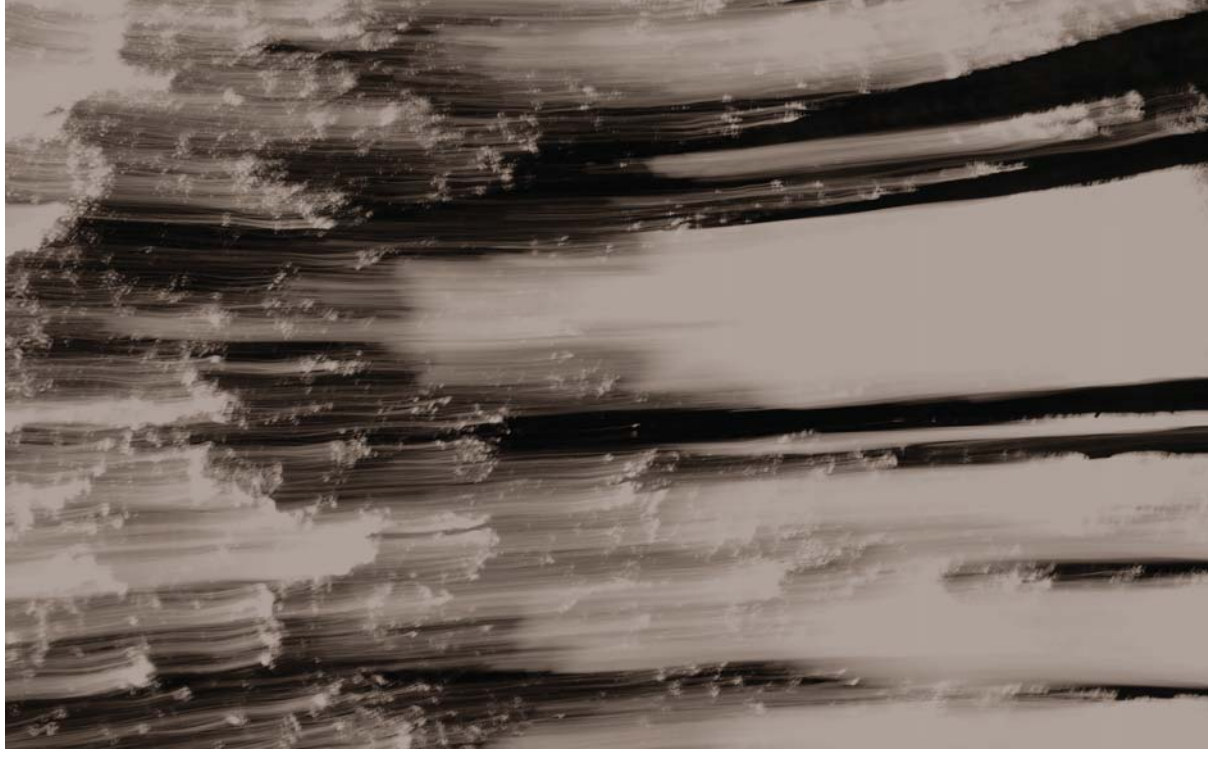


As I descended I encountered day visitors to the island. Intermittent fragments of speech and footsteps carried through the bush, highlighting how noisy people are. These unexpected human encounters and acoustic shifts prompted some reflection: How are noise and silence experienced? What is the relationship between growth, preservation and space?

Regular encounters with the natural environment form an integral part of my creative cycle as I gather material and gain inspiration and creative renewal. Last summer I made a loop around the centre and west coast of the North Island. My primary intention was to make sound recordings of the Whanganui River. Due to its historical and ecological significance, it now has the legal status of a person. It was once a major transportation route for both Maori and Pakeha and the rugged isolation gave me a deeper appreciation of the hardships early settlers experienced here. Once known as the 'Rivera of the south Pacific' the river was valued for its scenic qualities and was one of the first areas to be protected as a scenic reserve (Nightingale & Dingwall, 2003). From a sound perspective the river tends to flow slowly and smoothly, which generates very quiet recordings. Faster flowing areas, especially around rocks, tend to generate more dynamic sounds.

The sonic highlight took place in Tongariro National Park during a walk to Taranaki falls. Before the stream begins its dramatic descent, I recorded its velocity as it flowed over numerous boulders. It produced a particular sound I hadn't heard before, created by the steep gradient and swift flow of water. I also stopped at the tiny settlement of Owhango to visit the lesser known Owhinetonga scenic reserve. In contrast to the busy trails in Tongariro National Park, Owhinetonga was noticeably quiet and devoid of other human presence. The reserve contains old growth forest and these giant trees emit a palpable energy. I was inspired to capture this photographically but found it challenging to convey the multitude of meanings the bush has for me in a single image. This complexity is also reflected in the installation, as multiple elements are employed to convey the environment as polyvalent. Low light and the density of growth also revealed technological limitations, creating a lacuna between the experienced and the recorded. I later attempted to creatively convey the intensity and destruction of burning forest.

Right: Beech forest, Otaki (2017).



Throughout this investigation, Geoff Park's writing on ecological history has resonated deeply with me, as he discusses specific locations in Aotearoa New Zealand including the Whanganui River and Hutt Valley. As I have been able to identify with places I have lived in or visited myself, this sense of place has helped to inform my discussion. In *Nga Ururoa*, Park writes of the widespread silencing, which occurred in lowland bush in the nineteenth century. Due to rapid forest clearance, ecological corridors between the mountains and the coast became disrupted, leading to the massive loss of birdlife and their natural habitats (Park, 1995). He reminds us that the memory of these landscapes can be found in isolated scenic reserves (such as Owihinetonga) which function as remnants of an ecological past. Park implores us to protect these last stands of lowland bush, to act as a living archive and to help restore a portion of our lost landscape. Interestingly, he calls upon spirituality and ritual as well as ecology and policy to help keep these alive, acknowledging the role of Maori knowledge/practice in conserving Aotearoa New Zealand's natural heritage (1995).

The environment forms a strong part of national identity and contains culturally bound meanings. For Pakeha, the bush literally built the colony and birds such as kiwi became symbols of an emerging national identity (Abbott, 2008). Historically the bush also generated other emotional responses. Abbott describes the disappointment and hostility towards the native forest, which many settlers viewed as an obstacle towards agricultural progress: '...domesticating the wilderness had a missionary sensibility...' (2008, p. 92). There was a drive to impose colonial order on what was widely seen as empty, wild and unproductive landscape. The introduction of exotic species for both food and trade, and Government incentives to clear bush had a profound impact on indigenous people, flora and fauna. This contrasted with the Maori world view of environment - an understanding of land and water as ancestral connection. This is conveyed by a phrase from the Whanganui area: '*Ko aute te awa, ko te awa ko au - I am the river, the river is me*' (Meder, 2017). New Zealand's two hundred million a year bio-security system and the Treaty of Waitangi settlements are two of the ongoing efforts to redress some of these actions (Ginn, 2008). Although this is highly relevant, a full discussion about the impacts of colonisation and subsequent post-colonial politics is beyond the scope of this essay.

There is also a persistent ideology, which situates people outside of the environment (Abbott, 2008). This dichotomy of nature/culture could be attributed to the landscape aesthetics such as the picturesque and the sublime, which were imported to Aotearoa New Zealand during colonisation. Once the rush to clear land had settled and timber resources dwindled, reserves and parks were preserved for their grandeur

scenery, as a product to be visually consumed instead of inhabited (Park, 1995). Nature became *spectacle*. Abbott points out 'sublime framings of the NZ landscape have led to an understanding of the conservation estate that is dominated by aesthetic sensibilities' (citing Park, 2008, p.101). However, I believe the historical and cultural layers of meaning that exist in natural environments place people back into the environment.

Using case studies in Akaroa and Banmookburn, Janet Stephenson discusses multi-layered understandings of the Aotearoa New Zealand environment and the relatively recent attempts to move beyond the conceptual dichotomies such as nature/culture or space/time within contemporary geographical discourse (2007). By acknowledging both temporality and different cultural values of landscape she offers a new Cultural Values model.

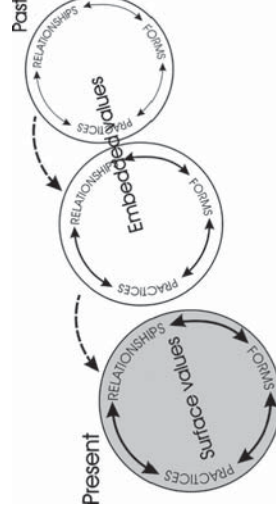


Figure 1. The Cultural Values Model, showing surface and embedded values. From 'The cultural values model: An integrated approach to values in landscapes' by J. Stephenson, 2008. *Landscape and Urban Planning*, 84, p. 136. Used by permission.

This is characterised by the dynamic interactions of forms, practices and relationships within an environment. In this model, forms represent physical features in the environment, including natural forms, features resulting from human intervention or a combination of both natural and human processes (Stephenson, 2007).

Practices are defined as the actions and interactions of humans and natural processes. Relationships describe the situated meanings generated by interaction between people and their environment. Importantly, this view situates humans as embedded within the environment and I believe this model offers a productive framework for future land use consideration. Due to the Treaty of Waitangi the model is of particular relevance to Aotearoa New Zealand, as it recognises both surface and embedded values, which takes into account the varied and shifting cultural meanings ascribed to particular landscape features and processes.

Recently I have taken a more active interest in the restoration initiatives occurring between local volunteer groups and larger organisations such as DOC. In small sanctuaries, the sustained predator control is evident in increased birdlife and forest growth. Although the need to create distinct boundaries in ecological sanctuaries can be seen as another form of ordering and control of nonhuman species, it does offer threatened bird species a safe habitat and the potential to recover (Ginn, 2008). This highlights the changing hierarchical values around indigenous and introduced species. Where indigenous species were once regarded by European settlers as inferior, native species are now highly valued in conservation efforts - as evidenced in the hibi-breeding programme on Kapiti Island and kiwi programmes on Stewart Island (Ginn, 2008). This also demonstrates the significant role islands play in conservation, due to their relative containment and natural isolation from predators. The success of Kapiti Island and Zealandia as predator free sanctuaries has led to other restoration projects such as *Nga Ururoa*, (named after Geoff Park's book which aims to bring Kapiti Island's dawn chorus back to the mainland by creating a continuous green corridor from Waikanae to Porirua. Pest control is also taking place on a neighbourhood scale. In 2015, the Wellington suburb Crofton Downs became pest free with every fifth household setting traps. While there are many encouraging projects going on, there are also many pressing ecological issues. Aotearoa New Zealand's largest export earners - dairy and tourism - have significant impacts on the natural environment, especially on erosion and waterways. This is a contentious subject with conflicting views around land use management. There are seemingly no easy answers to find a balance between ecological, social and economic well-being, unless we radically redefine our criteria for growth and prosperity.

SHIFTING CARTOGRAPHIES

While maps have often been presented in the guise of neutrality, they have strong geo-political associations. Borders are continually shifting and redrawn over time. Before I explain the role of mapping in my own practice, I think it's useful to take a very brief look at the history of mapping. The earliest known maps (dating back approximately 16,500 years) are found in cave drawings such as in Lascaux, France. These maps represent star constellations instead of the Earth (Whitehouse, 2000). Recent discoveries of clay tablets from ancient Babylon are believed to have depicted movements of planets such as Jupiter (Chang, 2016). Kenneth Olwig discusses the ancient roots of geography in relation to the Greek scholar Ptolemy (85-165 AD). Ptolemy's eight volume text *Geographia* was republished in 1492 and is believed to have influenced the European Renaissance (Olwig, 2001). Ptolemy is also credited with the development of a co-ordinate system using latitudes and longitudes and used new methods of perspective to project the spherical earth onto a flat surface. *Geographia* contains other conventions such as locating north at the top and east on the right of the map (Olwig, 2001).



Figure 2. *Geographia*. From 'Typus Orbis Universalis' by C. Ptolemy, republished 1540. Retrieved from https://commons.wikimedia.org/wiki/Category:Ptolemaic_world_maps#/

While the measurement of space is classically linked to mathematics and logic, I have focused on more contemporary and experiential interpretations of space. Edward Casey points out the grid can be perceived as a limitation imposed by humans on the representation of space (2005). A traditional two dimensional map tends to convey space as fixed and closed instead of open and unfolding - instead space can be considered mobile and inherently relational, with an emphasis on depth and flows (Massey, 2005). Massey also defines space in relation to time: time as circular and continuous instead of discrete units and in this temporal context: space becomes unfolding moments of juxtaposition, encounter and entanglement (2005).

'If time unfolds as change then space unfolds as interaction. In that sense space is the social dimension. Not in the sense of exclusively human sociability, but in the sense of engagement within a multiplicity' (Massey, 2005, p. 61). The biomass is an essential actor (natural not just social) in the creation of liveable places (Massey, citing Little, 2005, p.181).

The contours of the earth have been shaped by dynamic forces over millions of years, including an ongoing process of sedimentation and erosion. Conventional maps attempt to simplify this into a system of lines, easily readable for the viewer to get their bearings in a new location. While this has much practical value there are also layers lost in this two dimensional translation. It is impossible to convey the immense span of geological time, which is as integral to the topography as the substance of the earth itself. Maps cannot fully convey the transformations which have slowly taken place, instead suggesting static points of location and fixed points of time. Perhaps this is beyond our own bodily comprehension? If we stepped beyond the system of grids and co-ordinates, what would a phenomenological map look like? How could I convey the sense of flux and flow, the overlapping sensations, which comprise my lived experience in the environment? These questions inform my spatial acoustic exploration of location.

At this point, I think it's important to clarify that I have chosen to explore mapping (verb) instead of mapmaking. This focuses on exploration instead of representation and implies an action, which is still in process of unfolding. Mapping allows space for the unknown and unknowable. Casey suggests 'mapping out' implies immersion into our surroundings and 'mapping within' implies an embodied experience (2005). In my opinion this expanded definition of mapping also suggests multiple viewpoints and sensory engagement. Tim Ingold emphasises the difference between mapping and mapmaking. As mentioned, a map traditionally uses mathematical methods to describe three-dimensional space on a two-dimensional surface and it assumes a

bird's eye view of the world, which is rarely experienced in everyday life. Instead passage through an environment usually reveals a partial view and this is constantly shifting as we move (Ingold, 2000). Sonically we can hear in many directions simultaneously, although we can usually see further than we can hear. I'm interested in how Ingold weaves together myriad threads to (re)interpret a wide array of subjects ranging from lines to the weather. He also differentiates between spheres and globes, which is relevant due to the ubiquitous use of global in contemporary culture. Where the globe places people on the surface, a sphere envelops and implies a more centred and holistic viewpoint (Ingold, 2000). The use and metaphor of a globe, sphere (and circle) is prevalent in my research, as I have come to the understanding that my creative process is cyclical. I tend to synthesize a broad range of material, over time connecting and integrating these facets. I am attracted to contemporary writing and art, which challenges the classical separation of the senses and instead promotes an interconnected experience – we see *and* hear, feel *and* move, our sensory experience is in a constant state of unfolding rather than a static experience. While the visual is arguably the dominant sense in contemporary society, an expanded field of sensory perception is being explored in both art and science, which contributes to a greater awareness of the lived body and its environment.

Sitting on a jetty, small enough to feel like an oversize raft, I'm surrounded by water. It's full tide and the water runs clear, small pieces of eel grass and seaweed float by, swaying gently with the movements of the sea. There are no actual waves, more a rhythmic pressing, where the density of liquid volume meets the resistance of concrete barricade, the pressure of the incoming sea creating an audible overflow. Sitting slightly suspended above the surface of the water, I am immersed in sound. I am porous, the sound enters me but I stay slightly separate as my body maintains terrestrial dryness.

Pacifica mapping

Alternate sensory forms of mapping have been used throughout Polynesia. In describing the Pacific as fluid continent, Epeli Hau'ofa evokes ideas of fluid passage and inter-change, challenging the view of ocean as isolating boundary (1994). The sense of touch featured in traditional Polynesian navigation as the movement of the vessel was felt to identify one's location using the direction of the current as a coordinate (Pickles & Cooke, 2015). The position of southern star constellations were used as navigation tools, guiding the early migrations from Polynesia to Aotearoa.

Steven Feld provides an insightful and sensitively written account of place in Bosavi, Papua New Guinea (1996). Although it is located within a very different cultural context from my own, *Waterfalls of song* is relevant to my investigation as it explores place using a sonic rather than optic sensibility. Feld discusses the importance of hearing for the Kaluli people, as in a dense forest setting much can be heard that is not visible. This is illustrated by the Kaluli term for locating sound in the forest, translated as 'lift-up-over-sounding' (Feld, 2006, p. 100). Here upwards is also outwards and a strong sense of movement is implied (Feld, 2006). Historically, different forms of song have been culturally significant for the Kaluli people and water is central to song composition. The flow of water can be likened to the flow of voice through the body and songs form a 'poetic cartography' with places inseparable from 'memories, biographies and feelings' (Feld, 1996, p. 114). The importance and significance of naming are highlighted as people, events, histories are embedded into place names. Feld also emphasises the interplay of multiple senses, which contribute to a highly local sense of emplacement: '...as place is sensed, senses are placed; as places make sense, senses make place' (Feld, 1996, p.91).

Lynette Carter identifies similarities between the oral traditions of the Kaluli people and the Maori practice of *waiata*. Carter opens with both a *karanga* and *karakia*, speaking to the close relationship between ancestors, land and people (2015). She asserts oral traditions encompass spatial and temporal tools, which reveal multi-layered histories and information about events and change within the local landscape.

Maori *waiata* too, sing knowledge... and contain place names weighted with memory, and thus create mapped paths across the landscape... Place names and the order in which they are sung, provide structural layering of information that advances a story (or purpose) through the songs (Carter, 2015, p. 7).

Waiata can be seen here as a system of mapping which provides a spatialised sense of identity, conveyed through the sounding of forms, such as mountains, rivers and lakes. Singing (the land) can also be interpreted as an embodied form of mapping – a bodily exhalation which connects people to land and contains the traces of a shared narrative. The naming of landscape becomes an act of locating oneself culturally, symbolically as well as physically in place. The process of naming and renaming place has become a tangible reminder of the multiple and conflicting histories inherent in a colonised country. Naming can reveal cultural divides as well as shape future relationships surrounding landscape. Divisiveness and compromise were reflected in the public debate about the dual naming of W(h)anganui in 2015, which now reflects both Maori and Pakeha histories and values (Carter, 2015).

Abstract Cartographies

The diagram on the right maps out flow, tone, density and environmental properties within an installation space. It was undertaken as an experimental rendering of space and helped me to intuitively identify areas for further exploration. In observing my external surroundings and the layered topography which exists outside, I have been drawn to explore different levels of space. This spatial focus expands on previous creative exploration into both ground (*Ecological Score*, 2009) and elevation (*Cascade*, 2014). Through this preoccupation with space, I believe my practice intersects with contemporary geography, which is concerned with mapping feelings, textures and experience of everyday space and place (Hunt, 2014).

'Locating' is simultaneously an act of relating – relating to/with/alongside/against – and of getting one's bearings, and it's not so directionally straight forward when spatial and temporal co-ordinates are interlocked (Toh, 2013, p.111).

I have found Toh's insight to be relevant to my own practice: sonic exploration of specific geographical locations has revealed layers of ecological, cultural and historical significance. The present moment merges with the past, creating multiple time-spaces. Location ceases to be a strictly geographical concept.

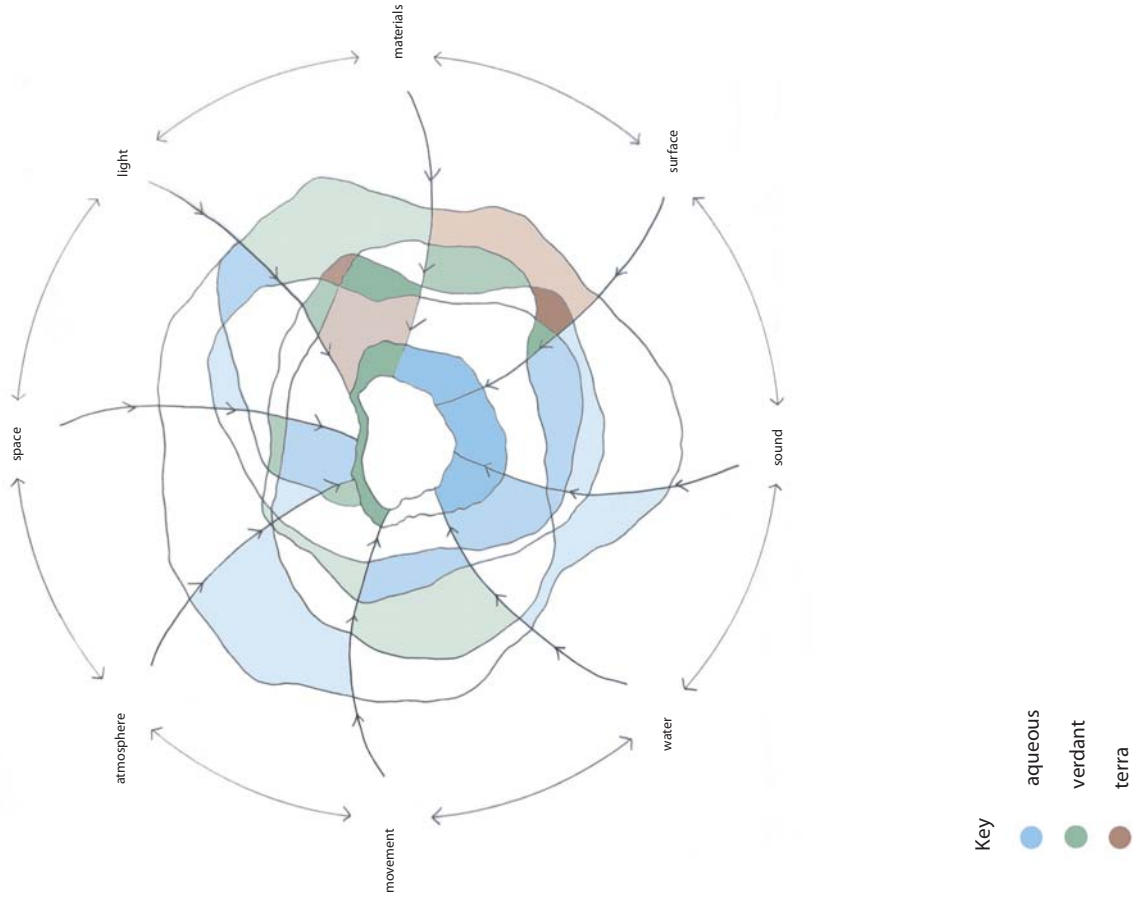


Figure 3. Installation flow (2015).

SOUTH

'How might engaging *with*, rather than setting *apart*, the particular and variable attributes that position this country in the south of the South Pacific locate more strongly all its people as *belonging here*?' (Abbott, 2008, p.146).

Through my interest in location and mapping I have begun to investigate the notion of South and how this term is variously defined in contemporary dialogue. Historically south has been associated with primitivism, the periphery and the exotic. It is now associated with post-colonial discourse and links 'a series of places that share similar patterns of colonization, migration and cultural mixture' (Papastergiadis, 2010, p. 143). Raewyn Connell discusses south in relation to the northern orientation of sociological theory, an observation which arguably could be extended to theory more generally. She asserts that theory is generated in the Euro/American metropolises and then exported to the global periphery, which historically act as sites of information gathering rather than theory generation (Connell, 2007). Connell identifies four characteristics which result from this geo-political location: 'the claim of universality, reading from the centre, gestures of exclusion and grand erasure' (2007, p. 44). While much discussion is constructive, I find it unbalanced that writers from countries situated in the northern hemisphere such as Iran and India are included, yet Aboriginal, Maori and Pacific voices are excluded from the conversation, especially when these cultures offer different systems of knowledge. Ironically, I believe this omission mirrors her observation about 'gestures of exclusion'. Not only are many Pacific countries located on the political and economic global periphery, geographically they are also situated on islands, small land masses surrounded by vast oceanic areas which can further exacerbate the issue of isolation/exclusion. Interestingly in Aotearoa New Zealand, it could be argued that this global dynamic of knowledge is reflected in the dominant understanding of the landscape through the picturesque/sublime lens. Within my own investigation, I am predominantly concerned with south's location and perspective rather than the geo-political associations of south with third world economies.

Writing from my location in Wellington, Aotearoa New Zealand I believe a southern orientation does create subtle differences in outlook, especially living on islands with a predominantly coastal population. This location is reflected strongly in climate, terrain, and wildlife. Notions of south and island are also geographically intertwined.

I gained a distinct locational sense of south when I lived in Dunedin. Traveling down the South Island, I always experienced a particular sensation as I entered Otago. It's hard to define in words exactly what that change was...it just *felt* south. Although this feeling was often accompanied by a drop in temperature, there was also a shift in less tangible atmospheric qualities.

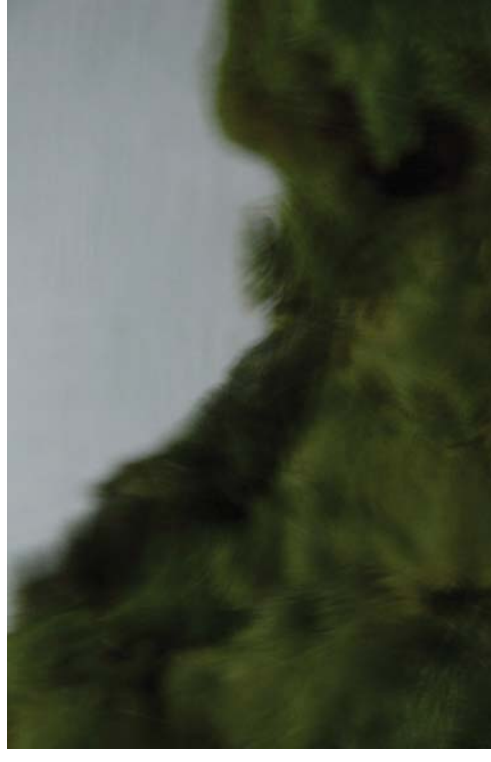
I once lived in a tiny house in Dunedin with a ladder to the bedroom. This attic space had a sharply sloping ceiling located right beneath the roof. Listening to the rain on the roof became a favourite sound/experience. It's more than just a sound though, it's an atmosphere which facilitates creative flow. I also had a memorable experience while reading *Vatnasafn/Library of water* as I observed a storm unfurl through the windows outside. The live atmospheric phenomena intensified my response to Roni Horn's poetic descriptions of Iceland's stark topography and I took this photograph in that moment, as it seemed to convey many of the same atmospheric elements I was previously exploring in *Cascade* (2014).

Weather is a metaphor for the atmosphere of the world, for the atmosphere of one's life: weather is a metaphor for the physical, metaphysical, political, social and moral energy of a person and a place (Horn, 2009, p.19).

When I step outside (on a dry day) my senses are sharpened and I enter a more energetic state. This is due to the presence of fresh salt air and the effects of movement. Growing up in Wellington with a bike as my transport, I was exposed to the full force of the wind. It is a defining characteristic: the southerly gale is both iconic and cliché. Yet it continues to forcefully shape the environment and its inhabitants. It's a physical resistance, which can literally blow you off course. But it also gives you something to push against and this atmospheric turbulence keeps the air clean. Still days create a discernable difference – they seem precious, as I can comfortably linger outside. It also creates a quieting, internally and externally.

Atmosphere is the '...exchange between material/existent properties of place and the immaterial realm of human perception and imagination' (Pallasmaa, 2011, Kenneth Frampton inaugural lecture).

Opposite page: *Storm view* (2015).



There is a direct physiological connection with air. As our life source, it intimately binds us to the environment. When I reach beneath that everyday knowledge, it seems incredible that this transfer of energy is continually taking place between trees, humans and other animals. James Gibson considered the qualities of an environment in relation to specific forms of life (1979). He described an environment as the collective medium, substance and surface that separate it from its inhabitants, where the surface operates as the main interface of perception (Ingold, 2007). Ingold argues this interface actually occurs in the medium since it enables both movement and perception to take place. Ingold identifies air as the primary medium for humans since it allows us to breath and move around, while also transmitting energy and mechanical vibrations that enable us to see, hear and smell (2007).

The following chapter outlines my creative process and experimental works, which investigate this inter-relationship between the lived body and its environment.

THE ATMOSPHERIC, THE SONIC AND THE SCULPTURAL



This current enquiry has stemmed from my sculptural practice, which has an emphasis on materiality and sustainability. The manipulation of a specific material has often been the central focus of my research. The choice of material may be intuitive or it may contain particular qualities, which prompt further creative investigation - such as the transparent quality of glass which featured in early experiments. I have a commitment to minimising consumption and waste in the creation of my artworks. To date this has primarily taken the form of using predominantly recycled or biodegradable materials and minimising energy inputs. This environmental ethos can create limitations or the occasional compromise in my work, as recycled materials usually have a different quality to new materials, which tend to be pristine and are available in a much larger range of sizes, colours and shapes.

Illuminated is a key work as it operates as a bridge between past and present. It continues my investigation into the environment which I began during undergraduate study and is also the work I selected for the initial MFA brief: *Version 2*. Prior to postgraduate study I created two iterations of *Illuminated*, which were exhibited at Enjoy gallery, Wellington (2012) and Lopdell House off-site, New Lynn (2013). In this installation I began to examine the relationship between the interior exhibition space and the exterior surroundings, especially the cyclical shifts between day and night. These exhibition experiences were invaluable but also revealed the labour intensive nature of my practice was unsustainable. *Version 2* extended my enquiry into glass as a sculptural material, while also investigating glass as a transparent architectural surface. Due to the high energy inputs and waste moulds involved in the glass casting process, I worked with recycled glass using low energy processes and attempted to reduce material waste. I identified some new lines of enquiry – especially the use of an elevated ceiling. I also wanted to push the crushed glass further as a material and it became the catalyst for numerous experiments. I constructed abstract clouds and these were placed against the wall to wall windows in the Te Ara Hihiko studios. This incorporated both transparent window glass and the outside elements as additional layers in the work. Tension was utilised to create form and the small glass clouds were intended as a sculptural drawing.

Following pages: Initial tests, Te Ara Hihiko studios (2014).
Crushed recycled glass and fishing line.



Illuminated (2013).
Lopdell House gallery, off-site @ New Lynn, Auckland.
Recycled cast glass, recycled native timbers, LED lights.



Other experiments included isolating the clouds in the photographic studio, weaving glass strands and placing crushed glass on a lightbox, which became a short stop motion video. This video was used successfully in my proposal to attend Tropical Lab 08, a postgraduate lab in Singapore hosted by Lasalle University (2014). The lab involved creating an artwork in just one week for a large group exhibition. The resulting installation made from recycled bicycle tubes was intended to look like a piece of floatsam that had washed up on shore. This intensive experience presented me with some useful questions and challenges around my creative process, particularly my response to space and the active role it plays in my research.

The development from straight lines to cloud forms enabled me to explore a more gestural use of line, while still working within the material limitations of crushed glass and fishing line. There was scope to pursue this further but the glass strands were time intensive to make and left me with little time to develop the sculptural aspects further. I also conducted a mixture of experimental field and studio sound recordings. The purchase of a digital audio recorder gave me flexibility to record in a variety of different locations. I identified potential in developing the sonic aspects of my practice further and this became the catalyst for a technical, creative and philosophical exploration into spatialised sound...

Sound has the capacity to form a direct connection with the listener as it enters the body through physical vibrations and this can communicate powerfully on both a visceral and emotional level. Although sound and sculpture have their own medium specific concerns such as rhythm and tone, form and substance, they also share spatial qualities. Sound possesses sculptural qualities such as texture and density: a sound can be described as soft, heavy, thin, damp or dry. We literally hear in the round and sound forms part of our wider perception of space as our ears are linked to both the sense of hearing and balance (Ullrich, 2011). We subconsciously use sound to orient ourselves within our wider surroundings and to perceive the physical dimensions of space (Davis, 2010).

Right: Cloud trio, Te Ara Hihiko studios, Massey University (2014).
Following page: Glass cloud and weaving, studio experiments (2014).





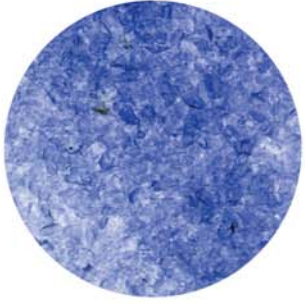
Atmospheric sounds featured in my site-specific installation in the Engine room gallery foyer. A *billow of sapphire spheres* utilised the sculptural material of glass to generate the simulated sounds of rain, while wind was generated by the modulation of my breath. The audio played inside multiple glass strands, suspended from floor to ceiling. While this was driven primarily by a material exploration into glass, I also continued my enquiry into the relationship between internal and external space. Despite some challenges revolving around the site-specific nature of the work, it was an excellent learning curve in determining how I wanted to situate sound within my sculptural practice. The elevated space also gave me the opportunity to approach the monumental.

To experience Cascade please view attached USB or visit
<https://vimeo.com/home/myvideos> (password: Cascade).



Above: Glass coil.
Right: Cascade, 2014.
Recycled glass bottles, fishing line, perspex, audio speakers.





Examples of recycled/biodegradable materials used in previous installation work. From left to right: yellow tree lupin, leafy greens, bicycle inner tubes, turf, crushed recycled glass bottles.

Gathering

Gathering has been present in my practice for several years. It draws some parallels with a scientific investigation, such as the method of gathering samples in the field for later analysis in the laboratory, however as an artist I am gathering materials for later investigation and reconstruction in the studio. It differs in that my creative processes align more closely with a qualitative (rather than quantitative) research methodology, which includes phenomenological and experiential strategies (Gray & Malins, 1993).

In addition to gathering material, I have also started collecting rubbish along the Paremata inlet, a small action prompted by ecological concerns. Last year I also came across *Curiosity* by Isa Barbier. The work caught my eye as it is composed of minimal materials: seagull feathers (gathered by hand) are suspended in space using just a drop of wax and fishing line. I was attracted primarily to the choice of material and this created a point of recognition. I suddenly began to see feathers everywhere... 2015-2016 was a record-breaking summer. I wonder if this contributed to the numerous feathers shed by the colony of pied shags, who dwell in the (now) skeletal macrocarpa tree growing by the shore? Most feathers I've found have been located beneath the shags flight path. The spindly growth catches many feathers before they reach the ground and these feathers have a different quality to those that have been immersed in the salt environment for longer periods of time. The freshly gathered feathers are soft and the fluffiness gives them volume. Unfortunately there is also an increasing amount of rubbish, which is brought in by the tide. I find this disturbing and reflective of the mounting pollution occurring in our oceans. I gather this rubbish too but prefer to use the sensuous material discarded by the shags instead of these traces of human habitation. This time spent gathering material in the coastal environment influenced my early field recordings, which predominantly feature movements of water.

Edward Casey uses the metaphor of weight or lightness in relation to memory (2000). Remembering is considered earthy while forgetting has an airy quality. Using this metaphor, perhaps the heaviness of remembering makes it so much easier for us all to forget our ecological past/present and the collective impact of our everyday habits on the environment? Is the initial effort to change like pushing uphill against gravity – easier not to?

Right: Gathering feathers (2016-17).



Rubbish Inventory

Paremata 23 May 2015

- 1 tennis ball
- 2 small plastic balls (yellow)
- 1 medium plastic paintbrush handle (brown)
- 1 small plastic paintbrush handle (white)
- 1 empty aerosol can
- 3-4 clear plastic bottles (various sizes)
- 1 torn piece wind netting (green)
- plastic coated wires (various sizes and colours)
- several disintegrating plastic bags (white)
- 3 fragments polystyrene
- 1 plastic plate (blue)
- 1 round plastic plant tray (green)
- small piece wood with 2 rusty nails
- numerous lids and collars (colours variable)
- lolly wrapper (purple)
- plastic cat food wrapper (one meal size)
- ½ tampon wrapper (purple)
- 5 cattle bones (size variable)
- numerous bunches tangled fishing line
- 1 bunch tangled string (white)
- 1 strip rubber (black)
- 1 plastic plant pot (black)
- 1 fragment plastic (pink)
- numerous scraps plastic bags (colours variable)

(Listed from memory)



Rubbish Inventory was made as a responsive action, while researching issues relating to water and land use within Aotearoa New Zealand. I received a positive response from the public while undertaking this action. *Rubbish Inventory* was published on upandadmart.blogspot.co.nz as a way of communicating the environmental message to a wider audience.

SITE



Figure 4. Fazal Sheikh, *Desert Bloom* (2011).
This Place, Brooklyn Museum, New York City, 2016. (Gallery photograph by author).

During this research I was privileged to gain a scholarship to attend the *Memory works* symposium in New York City, hosted by Syracuse University in association with Massey University. Being in an unfamiliar environment with a dense urban population was photographically inspiring. Highlights included discovering odd visual (and sonic) juxtapositions at the Rockaways, Coney Island and Harlem. I also dedicated time to visiting major art institutions. During my visit to Brooklyn Museum, I encountered a large exhibition called *This Place*, which featured images of Israel by 12 photographers. The exhibition incorporated artist interviews and this additional element added to my own experience as I gained insights into the artist's creative process. Fazel Sheikh's contribution *Desert Bloom* (2011) consists of forty-eight aerial photographs arranged in grid formation. Many photographs capture traces of earthworks, which appear like scars on a desert skin. Etched lines and repeating symmetrical forms reveal a strong military presence in this contested space. Sheikh assumes a bird's eye view and records the spatial co-ordinates of each image. In this respect, his work aligns strongly with mathematical representation of space, although later I hear Sheikh describing his process as intuitive, choosing to photograph first and research later. *Desert Bloom* adopts a highly spatial view of place. By making explicit references to geo-political sites it draws attention to the negative impacts on both people and environment from the twentieth century colonisation of the Negev desert.

I was also inspired by my visit to Dia Beacon, as I experienced many installations I had previously studied including work by Robert Smithson. Smithson was a major early influence, particularly the dialectic he created between *site* and *non-site*, and his investigation into entropy and geological time. As I often gather material from the environment to then rework in the studio, this can be seen as a material transformation from *site* to *non-site*. I have expanded this approach from the predominant use of found materials to include field recordings. This shift opens up new perspectives, as some of the material is now mediated/filtered through digital technology. The sensory experience of *site* generates meaning for me and through the act of listening different sonic and spatial qualities are revealed. Contemporary writers such as Brandon LaBelle and Alan Licht draw parallels between the developments of land art and acoustic ecology, particularly the influence of Smithson's *site/non-site* in relation to field recording and sound installation. Licht also identifies similarities between earthworks such as Hans Haacke's *Fog Flooding Erosion* (1969) and noise or musical deconstruction (2007).

Like field recording, earthworks draw on material beyond the scope of the gallery and manifests as an environment instead of art object (Licht, 2007). The relationship between sound installation and land art is clearly visible in Bill Fontana's *Earth Tones* (1992) and *Distant Trains* (1984). Both sound installations feature multiple speakers buried in the earth. LaBelle also highlights some of the contradictions inherent in acoustic ecology, when place-based sound becomes dislocated (2006). Within my own field recordings, I am not concerned with conveying an essence or 'truth' about a place, since I am deliberately manipulating sound in the editing process. In this respect my approach differs significantly from acoustic ecology, although there are shared concerns with listening and a focus on environmental awareness.

While this research has focused on specific spatial acoustic levels, several sites have been selected for their ecological, historical and cultural significance including Whanganui River, Kapiti Island and Wai O Tapu, Rotorua. I have attempted to record a myriad of movements, rhythms and flows. A significant challenge has been to move away from literal renderings to evoke more poetic soundscapes. I have also contended with numerous technical issues and as this is a relatively new area of exploration, I acknowledge there is still much to learn. Although these recordings have been predominantly situated within the Aotearoa New Zealand environment, I also generated some relevant recordings in New York City. They connect to my other field recordings due to the consistency of spatial locations I have recorded in: ground level, water and aerial spaces. These recordings reveal the multi-layered textures present in a large urban environment where the presence of large reflective surfaces, underground infrastructures and density of population generate sonic nuances absent in the local environment (Voyce, personal communication, 2016).

Sound and space are intimately connected and Frederico Macedo defines this interrelationship through a sound/space typology, which includes metaphor, acoustic space, sound spatialisation, reference and location (2015). Although I am predominantly concerned with location and sound spatialisation, the audience may also experience space as reference, depending on how they individually respond to particular environmental sounds.

The focus on different spatial acoustic levels was inspired by Bill Fontana's *Distant Trains* (1984) and *Pigeon Soundings* (2007). Both installations were situated in Germany amongst urban ruins from the second world war (WWII) and are characterised by an active dislocation of sound and intentional interplay between site and time. *Distant Trains* featured eight loudspeakers buried in an empty field in Berlin. Once the site of *Anhalter Bahnhof* Germany's busiest train station, the speakers relayed sounds from Cologne Central Station, now a large busy contemporary train station (Fontana, n.d). Although I haven't experienced this in person, I imagine there is a strange juxtaposition between visual emptiness and sonic density. Sounds float in space, severed from their source. The placement of the speakers within the ground also evokes a sinister quality, given the use of trains in transporting the Jewish population to concentration camps in Nazi Germany. In a radio presentation of the work, which featured interviews with visitors to the site, Fontana included an historic recording of Hitler at *Anhalter Bahnhof* during WWII (Stokowy, 2017).

Pigeon soundings took place within St. Kolumba, Cologne, a cathedral heavily bombed during WWII. The ruins are now enclosed within a porous architectural structure, on top of which resides a contemporary museum. Fontana made an eight-channel recording of the pigeons, which once resided in the subterranean space. Passing through the ruins, the audience can now hear the sounds of pigeons mixed with their urban surroundings – a blurring between physical absence and sonic presence (Fontana, n.d).

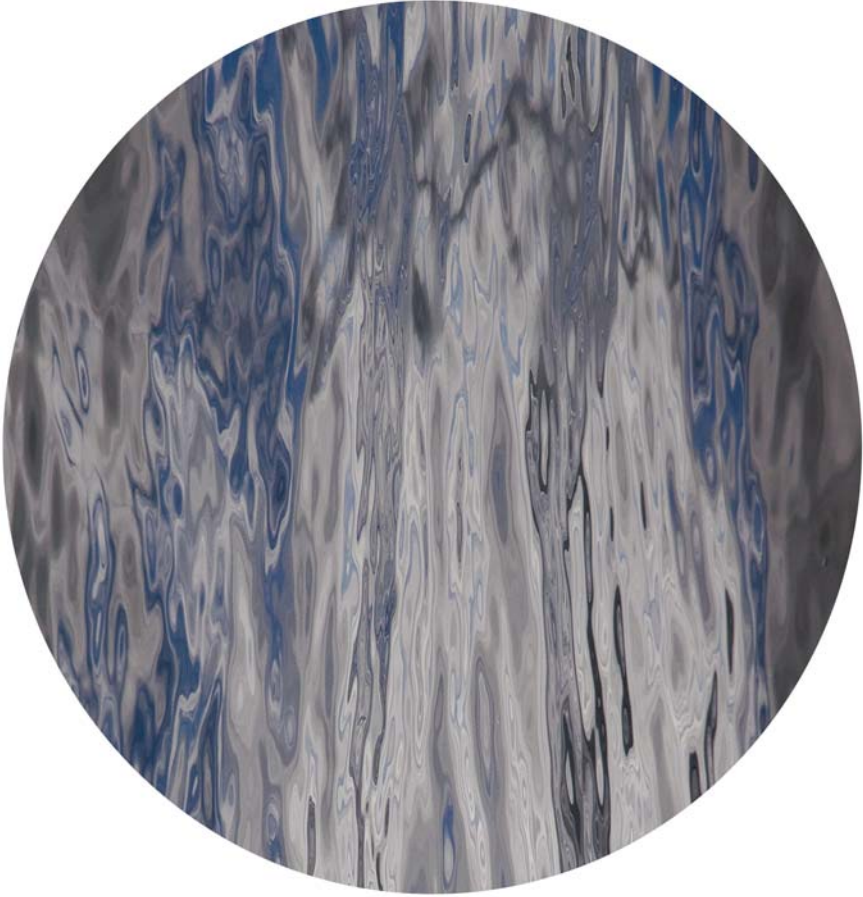
Multi-channel installation offers the potential to manipulate sound spatially to create a dynamic sound environment. This is influenced by the material content of the sound recordings, the placement of speakers within the room or site, the acoustic properties of the architectural space, in addition to the spatial arrangements of the soundtracks. Due to its temporal nature, sound has the ability to occupy multiple time-spaces as the recording process commonly takes place in a different time and location to the experience of listening. Through the act of listening, the audience occupies both their present time-space and also the time-space of the sound recording. They also bring with them their own internal memory space, which may be activated by sound. This unfolding of multiple time-spaces can also occur through the process of walking, as sights and sounds can generate new ideas or trigger memories of past events or emotions. Moving through a landscape provides a kinesthetic experience and a steady rhythm of walking can facilitate a similar passage

through time (Solnit, cited by Ryan, 2012). The fluid environment of a coastal location lends itself to this shift between multiple time spaces... the movement of the tide creates its own time and space... concealing and revealing.

Musicality of water

Oceans, mist, clouds, rain, rivers, lakes, ice and snow – water is a shape shifter. Water also spans the dimensions of time and space, as global circulation has existed for about three billion years and water circulates through us daily (Herwig & Thallemer, 2008). Splashing, trickling, pouring, cascading, dripping and flowing are just a handful of the many different movements of water. I have captured the sounds of rivers, streams, waterfalls, man-made outlets, an estuary, harbour and ocean. Other structures such as bridges, wharves and jetties provide interesting sites to record from, especially without access to a boat and these can form part of the actual sonic material. Listening with a hydrophone revealed creaks generated by the movement of Petone wharf which isn't audible from the surface. (The wharf has since been closed due to safety risks from the Kaikoura earthquake). The volume and speed of the water also contributes significantly to the pitch and intensity of an audio recording. Further variations are created by the quality of the surrounding surfaces - absorbent, reflective, contained, expansive etc. The particular placement and type of microphone used can also shape the content of the recording so many different nuances can be created. Most recordings of water tend to be quite high pitched, however I wanted to evoke a sense of being very deep underwater - with this depth conveyed in the tonal quality of the recording. By slowing down a hydrophonic recording, I was able to reveal the musicality of water, generated by the gentle movements of the sea.

Following image: *Boundaries dissolve as seas circulate* (2015).



SOUND AND PERCEPTION: EMBODIED PRACTICES

Sound has become an increasingly dominant strand within my practice. Listening to and recording sound generates new meanings and deepens my understanding of place. By deliberately focusing on the sonic environment instead of the visual, different spatial qualities are revealed and my attention is drawn to sounds, which may normally exist unnoticed in the background. This initiates a shift between centre and periphery. This active state of listening shares affinities with Pauline Oliveros' philosophy of Deep Listening, '...going below the surface of what is heard, expanding to the whole field of sound while finding focus' (2002, p. 30). Active Listening is transformative, as it requires me to be very present. It opens up new ways of perceiving sound because as I focus on the sounds unfolding around me, space takes on a palpable physical presence.

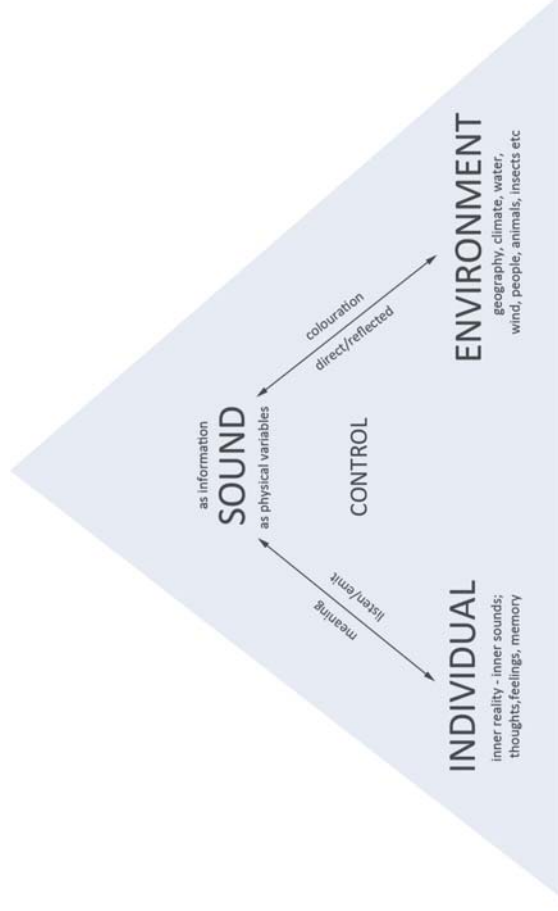


Figure 5. The mediating relationship of an individual to the environment through sound. From 'An Introduction to Acoustic Ecology', by K. Wrightson, 2000. (Diagram modified by Wrightson from B. Truax, 1984). *Soundscape. The Journal of Acoustic Ecology*, 1(1), p. 12. Used by permission.

The shaded triangle is my own modification to indicate a structurally sound formation.

Listening also enables us to hear different perspectives. Listening is not an isolated experience, it takes place in response to someone or something and locates us within our wider surroundings. Wrightson and Truax describe the flow of internal and external sounds in the preceding diagram, illustrating the reciprocal relationship between sound source and listener. This suggests the control of our overall sonic experience is distributed between both individual and environmental elements, and implies our perception of sound is contingent on both environment and subjective context. Sound is influenced by surfaces and contours of the surrounding topography in addition to natural elements such as rain, wind and birds. The constructed environment is highly audible in an urban location. Yet how much of this we tune in or out of depends on our own hearing ability, listening skills and mood. So how we perceive a sonic environment may vary considerably from individual to individual and culture to culture. Listening can be thought of as the cultural work that transforms auditory perception (hearing) into auditory meaning (Lacey, 2016, p. 215).

Listening as meditation, a practice/perspective developed by Pauline Oliveros aligns closely with my own investigation of Active Listening. Her writing particularly resonates with me as her philosophy is influenced by Eastern practices such as meditation and Tai Chi, while my own enquiry is shaped by an ongoing practice of yoga for the past fifteen years. During yoga my attention is drawn inwards - listening, connecting, feeling and moving the body. Listening to the external sonic environment comes as a natural extension of my yoga practice and requires both awareness and a state of focused attention. When I listen, my inner dialogue fades and a sense of spaciousness emerges. Pauline Oliveros illustrates the difference between awareness and attention. Attention is 'narrow, pointed and selective' while awareness is 'broad, diffuse and inclusive' (Oliveros, 1980, p.139). The outer circle represents global attention while the inner dot depicts focal attention. Oliveros described global attention as '...an awareness of the environment: imaginary, memorized or external, without the focus of detail. In meditation, global attention is receptivity, non-intention, or the empty mind' (1980, p. 216). It is important to note that global and focal attention are not mutually exclusive, and it is possible to experience both states simultaneously, resulting in heightened awareness of self, others and the environment. Oliveros puts theory into practice in a very direct way. In *The Poetics of Environmental Sound* she instructs people to listen to the environment for a set amount of time and to then describe what was heard and felt, internally and externally (Oliveros, 1970). My time at Pauatahanui inlet highlights the dissonance, which can occur between the sonic and visual environment.

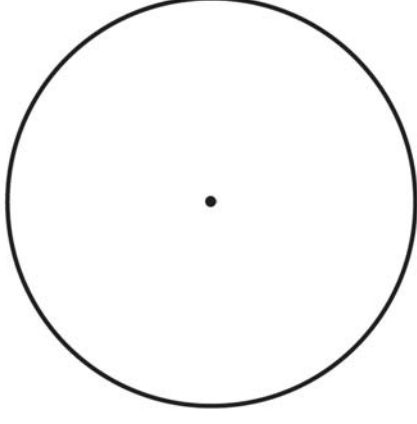


Figure 6. *Meditation*. From 'Software for People' (p. 216), by P. Oliveros, 1980. Vermont, USA: Smith Publications. Used by permission.

Neighbourhood Noise

As I write in the late autumn afternoon sun, a pair of grey herons amble around searching for food. A few swifts and oyster catchers also inhabit the shallows. The sky is a continuous cerulean blue and shadows line the crevices of the surrounding hills, highlighting the undulating contours. A shag flies by, returning to its nest. A dog barks. These occasional sounds are underpinned by a constant low frequency rumble; tyres meeting asphalt; motors growling, gears shifting. A cacophony of automotive noise. I want to turn down the volume, yet it has become a significant sonic feature of my surroundings. If far away, traffic can actually start to resemble the sound of a distant ocean – the noise starts to lose its edge and begins to fade into a background sonic wash. However the presence of the inlet carries sound so that the traffic has increased sonic proximity.

RELEVANT RELATIONS

Much of my current sound exploration was conducted before I came across these practices, however my field recordings can also be interpreted as sonic meditations. As my attention sharpens I enter a different state of awareness, transforming my experience of place/space. Focal attention is often used in meditation techniques – such as the instruction to focus on the inward and outward flow of breath. However I propose there is also a natural oscillation, which occurs between global and focal attention. This movement induces a sense of connection – a feeling of being embedded in the environment rather than located on the surface of things.

Noise

Historically there is a strong link between sound and industry. During the industrial revolution, rhythmic sounds were associated with order and efficiency while noise symbolised chaos. Industrial noise later gained positive connotations relating to economic growth and prosperity, progress and strength (Bijsterveld, 2012). Within the field of acoustic ecology, noise is considered damaging. While Hi-fi sounds provide clarity and facilitate positive states of listening, Lo-fi sounds are considered to lack information and disrupt the underlying acoustic environment (LaBelle, 2006). Instead of facilitating a deeper inward journey into sound, noise forces the ear to the surface. However LaBelle also perceives noise similarly to the Italian Futurist Luigi Russolo - while acknowledging the negative qualities of noise, he also identifies its productive potential.

Noise comes into play because it is unavoidable: tracking sound into such global and ancient territories necessarily delivers up the strange, the grotesque, the horrific along with the magnificent (LaBelle, 2006, p. 215).

As I have personally experienced damaging effects from very loud sound, I tend to perceive noise negatively. Industrial noise aggravates my nervous system causing me to feel on edge, in addition to causing incremental hearing damage. However I acknowledge noise could be perceived differently, if I move beneath my initial reaction and listen to what is there, instead of trying to block it out (provided it is within the range of safe listening levels).

While developing the sculptural aspects of this project I was prompted to look at *Intonarumori*. This was an unusual direction given my own preference for environmental sounds. Luigi Russolo celebrated industrial noise with the manifesto *The Art of Noise* (1913) and created numerous noise machines (collectively called *Intonarumori*) to emulate industrial sound. More recently, replicas of *Intonarumori* featured in the exhibition *MashUp: The Birth of Modern Culture* at Vancouver Art gallery, 2016. These replicas were played by an ensemble to create an orchestra of noise (Rahi, 2016).

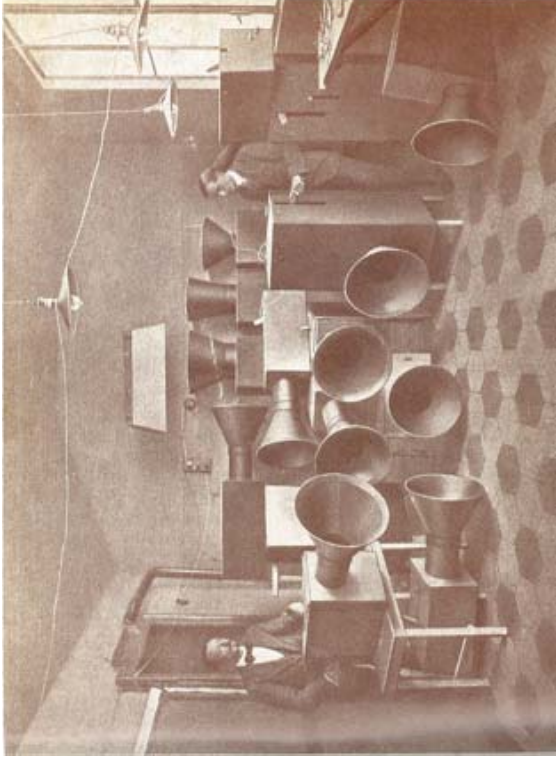


Figure 7. Luigi Russolo and Ugo Piatti with *Intonarumori*, 1913. Retrieved from https://commons.wikimedia.org/wiki/File:Intonarumori,_1913.jpg

As I had spent considerable time constructing speakers for multi-channel sound installation, there was an unlikely connection between the speaker like forms and cones of *Intonarumori*, and my kinetic sculpture. Instead of creating noise my sculpture produces turbulence, propelling the gathered feathers. This has the potential to create an affective quality, transforming motion into emotion.

Post Phenomenology

Material phenomenology takes multi-dimensionality, multi-stability and multiple voices into account (Idhe, 2003). Post phenomenological theorists such as Don Idhe are indebted to classical phenomenology but differ by acknowledging the varied ways in which technology and science alter the way we perceive the world. (For a brief overview of classical phenomenology, please refer to Appendix 1). This is a significant shift from the previous view of technology as fundamentally alienating to human experience: 'Everywhere we remain unfree and chained to technology, whether we passionately affirm or deny it' (Heidegger, 1953, p. 4). There is also acknowledgement that situated embodiment infers socio-cultural meanings. Idhe's investigations signaled a pragmatic shift from the idealism of classical phenomenology to *doing phenomenology* (2016). He developed the term *inter-relational ontology* which combines Husserl's intentionality with Heidegger's being-in-the-world and places material technologies in a mediating role, as signified by the following relation:

Humans – technology – world (cited by Rosenberger & Verbeek, 2015).

This relationship has relevance to my own use of digital audio equipment during field recording. Relational ontology has much in common with Actor Network Theory (ANT), however post phenomenology does not entirely dissolve the distinctions between the human and nonhuman. Instead it highlights 'the interaction and mutual constitution' between subjects and objects (Rosenberger & Verbeek, 2015, p.19). Importantly, Idhe also identifies the non-neutral transformation of human experience through technology (Rosenberger & Verbeek, 2015). Robert Rosenberger and Peter Paul Verbeek chart the developments in post phenomenology and outline the four variations of technological mediation as developed by Idhe: *Embodied relations, hermeneutic relations, alterity relations, background relations* - with the addition of *cyborg relations* (2015).

Embodied relations are most relevant to my creative practice. It refers to the way technology transforms a person's actions and perceptions with the world. Associated with this is the notion of transparency - there is a human desire for technology to enhance experience while simultaneously remaining in the background of our experience (Rosenberger & Verbeek, 2015). While field recording, I rely on microphones to listen and recording devices to store sounds and this can be a very selective process. In my recording of pied shags, I used a small shotgun microphone.

This was necessary to isolate the high pitched squawks from the background rumble of traffic, which is amplified by the presence of the Pauatahanui inlet. The microphone both extended my range of hearing while also maintaining a selective focus. The resulting recordings were significantly different from my experience of listening with naked ears. The audio technology enabled me to transport these sounds from their original location and process them through editing software, presenting a mediated sound experience. Simultaneously the recording process actually changed my perception of the chosen site, heightening my awareness of sounds, smell, atmosphere and terrain. The use of a hydrophone when recording underwater enabled me to hear sounds that would otherwise be beyond the natural limits of my own hearing. This extension of sensory experience through the use of technology can be linked to the concept of *interanimation* – an integration of place with body and body with place (Basso, cited by Casey, 1996). As my perception shifts between global and focal states of attention, nuanced interpretations of spatial acoustic location are formed. New atmospheres are shaped through a hybrid medley of relationships:

space – time – perception – technological mediation – perception

A doubling of perception can occur as people form individual responses to the installation space and generate meaning through their own senses, memories and values.

Conclusion

The intertwining of spatial and sonic experience forms an integral part of this enquiry, coloured by my own sensory perceptions. Situated within an installation context, this research also intersects with geography through a shared concern with space and place. Varied encounters in diverse locations have significantly shaped this artwork, by contributing sonic material and by drawing my attention to the complex web of spatial and cultural meanings inherent in landscape. There are nodes of connection between sound, geography and embodied practice, linking my personal practice of yoga with phenomenological understandings of the environment. Active listening invites a bodily response by drawing attention to the present, delving beneath surface noise to generate an internal quieting and expansive sense of space. While many of the audio recordings have been situated in natural environments, my intention has been to reveal the myriad inter-relationships between people, place and space. By mapping aerial, ground and liquid spaces, a shifting field of flows, voices and movements is revealed. There is a correlation between these field recordings and photography due to technological mediation and the shifts in meaning, which occur when selected source material is dislocated from its original site. Moving from maps to mapping has uncovered historical and cultural currents - acknowledging these diverse values can deepen understanding and potentially alter future relationships. The concept of reciprocity (or reversibility) opens up alternative forms of perceiving and relating to ourselves, others and the environment. As we collectively face myriad challenges, I believe we need to expand beyond our own individual viewpoints and locate ourselves as part of the mutable processes and dynamic systems that shape our world.

Notes

Sound/Space Typology

Spatial Metaphors

These are commonly used to describe sound and listening, as perceptual experiences can be difficult to describe literally. Examples of spatial metaphors in music include high, low, structure and form.

Acoustic space

Relates to the environmental effect on sound, including sound reflection, diffraction and resonance.

Sound spatialisation

Refers to the dispersion of an acoustic field and how the distance, direction and movement of sound is perceived within an auditory space.

Space as reference

Refers to the affective quality of sound, which can recall the memory and experience of different places through the use of the referential properties of sound.

Space as location

Refers to the sense of space, which occurs when the listener is present in a specific space.

(Macedo, 2015)

Post phenomenological relations

Embodied relations

Technology can transform a person/user's actions and perceptions with the world. Associated with this is the notion of transparency - there is a human desire for technology to enhance experience while remaining unnoticed in the background.

Hermeneutic relations

There is an act of interpretation through the 'reading' of technological information, the degree of fluency is also a factor in interpretation.

Alterity relations

This term is used to discuss the particular experience of engaging with another human being – otherness. With relation to technology, alterity refers to interactive technology such as computer prompts.

Background relations

Technologies which help to shape a person's experience of their environment but are not directly used.

Cyborg relation

Technology becomes enmeshed with bodily perception (medical implants) or actively adds another layer of experience (augmented reality). This relation is characterised by bi-directional intentionality.

(Rosenberger & Verbeek, 2015)

Appendix 1

Phenomenology

As this exploration takes place looking through a phenomenological lens, I would like to acknowledge the influential thinkers who established the phenomenological ground on which more contemporary interpretations have been made. Edmund Husserl founded phenomenology by developing a transcendental philosophy, which emphasised the intentionality of consciousness (it is always directed towards something) (Smith, 2017). He developed specific methodologies for viewing the world such as the phenomenological reduction. This involves a suspension of everyday attitudes and habitual modes of thinking - in order to 'uncover the structures involved in the constitution of the world' (Ryan, 2012, p. 44). This reduction is also known as *epoché*, a 'bracketing of the world' (Smith, 2017). Despite Husserl's efforts to shift to an embodied consciousness, the conscious subject remains at the centre of enquiry and critics assert this retains the Cartesian duality between subject and object (Smith, 2017). Husserl's assistant, Martin Heidegger later made the ontological shift to *dasein* or 'being in the world'. This emphasised practical rather than cognitive relations and has been drawn on to develop the dwelling perspective (Ryan, 2012). Maurice Merleau-Ponty also drew heavily on Husserl's work but developed a more explicit account of the body in relation to intentionality (Smith, 2017). *Phenomenology of Perception* is a detailed account of embodied perception which is still influential today, in fields ranging from anthropology, art and geography (Ingold, Voegelin, Ryan, Wylie).

Landscape may be defined, phenomenologically, as the creative tension of self and world (Wylie, 2013).

Merleau-Ponty transformed Husserl's body-in-the-world to a body-of-the-world by asserting we perceive the world through our bodies (Wylie, 2006). He constructed a non-dualistic explanation of body-world experience and challenged the classical 'spectator view' where the visible world is perceived as a construction of the subject's consciousness (Reynolds, 2017). Instead he emphasised sensory perception is received through the *movements and expressions within the body* (Boetzkes, 2009). Visible depth is described as a 'thickness' or 'flesh of the world' and conjures a process of intertwining between people and surroundings (Wylie, 2006).

Using the analogy of a hand touching itself, Merleau-Ponty also illustrates the concept of reversibility:

There is a circle of the touched and touching, the touched takes hold of the touching... (1968, p.143).

Post phenomenology places greater emphasis on objects and materiality. John Wylie merges Merleau-Ponty's Depth with the Deleuzian interpretation of the Fold, where '... the world comprises an incessant process of foldings' (2006, p. 530). Wylie takes the concept of reversibility as the point of connection with the Deleuzian philosophy of immanence - 'pure flows of life and perception' (2006, p. 530). Space/Depth ceases to be homogenous and the term *percept* is introduced to describe the emergence of subject and object - the medium through which crystallisation becomes possible (Wylie, 2006). By merging Depth with the Fold, Wylie (re)defines landscape as the materialities and sensibilities with which we see and the body-of-the-world becomes body-for-the-world (2006).

Anna Ryan also offers an insightful overview of phenomenology and identifies the more recent developments of non-representational theory within geographical circles. A major development in post phenomenological thinking is the shift from a body to situated embodiment. This is also explored in non-representational theory, 'a way of thinking about the world that is focussed on embodiment and contextualisation, on situated, bodily knowledges' (Ryan, 2012, p. 47). Critics of non-representational theory question the emphasis of individual subjectivity at the expense of social and cultural influences.

Appendix 2

Construction

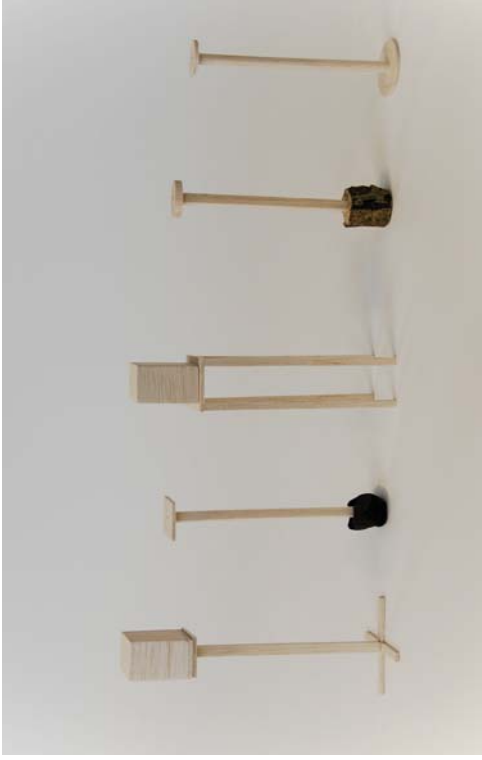
Shifting into digital modes of making has been challenging at times, as my sculptural practice has previously been materially driven. Significant resources have been invested into sound editing and sourcing necessary equipment for creating multi-channel sound. Much consideration was put into gaining high fidelity sound while working on a small budget. Technical issues were balanced with aesthetic and material considerations, which led to the decision to both build new and purchase second hand speakers. I initially envisioned using recycled native timber, however test speakers were made from recycled pine shelves and ply. As ply provided a superior finish, I finally opted to source special grade ply. This is sustainably grown in the upper South Island and milled on the West coast - in the same mill which used to process native timber before stricter logging regulations came into place. Ethical choice of materials is important to me as well as the relationship materials have to my work. This pine has a direct relationship with the Aotearoa New Zealand environment and the ply speakers are placed on stands and shelves made from recycled native timber. This is a literal layering, which echoes the displacement of native bush. Off-cuts of wool insulation were used in the final speakers, while natural oils and tree resin provide surface protection. The speakers have good treble and mid tones, when placed at optimum distance they perform with clarity and crispness.

Airflow

My sculptural vision was to create something magical... however due to the kinetic element, technical considerations have dominated much of the development of this work. To make the feathers airborne again, extensive testing of fans was undertaken including recycled computer fans and centrifugal fans. Early tests failed to generate enough upwards movement and the computer fans also produced a very unpleasant high pitched whirr. Further research revealed a centrifugal fan would give me the upward flow of air necessary to make the feathers airborne - as an axial fan is designed to push air across the room. Centrifugal fans are found in devices such as hair dryers and bathroom ventilation.

Fortunately I have good relations with my neighbours, as my outside steps are shared by several households. Because of this proximity, I was able to borrow a centrifugal bathroom fan from my neighbour, who used to work for a fan manufacturer. This proved to be pivotal in the development of my work. The small fan I borrowed had sufficient air flow and while the noise level was audible (42 db at 1 m) it wasn't unpleasant. I conducted extensive testing to establish the optimum angle needed to facilitate upwards movement, as the centrifugal fan also has a sucking action, which can cause the feathers to stick to the edges of the cone. However the plastic body was designed to be inserted into a ceiling and had a strong bathroom aesthetic. The choice of materials greatly influences my decisions and I am reluctant to use plastic in my work, for both environmental and aesthetic reasons. After purchasing a metal fan which proved to be excessively noisy, I reconsidered my initial design: a metal cone sitting on top of an exposed metal fan with a minimal industrial aesthetic. After further (unsatisfactory) tests using a mixed flow fan, I returned to the small test fan. My subsequent decision to mount the fan inside a support structure reduced some technical issues such as unwanted noise, but it was challenging to integrate the form with function. Extensive testing was also conducted to establish the dimensions of the cone as it was critical to the overall design. The final cardboard prototype functioned well however the design did not translate into metal fabrication. The metal cone functioned erratically and there was a visible loss of pressure. I discovered the irregularities of the handmade cone were essential to the overall performance of the design.

Originally I intended the feathers to circulate as long as the fan was operational. This sounds simple but involves multiple fans, significant engineering expertise and a large budget. Initially I was disappointed my budget and time frame prevented me from fulfilling my vision. However the limited duration actually links in with my environmental ethics – the idea of transience and needing to refill instead of an endless cycle of consumption. While there is a performative and temporal aspect to the work, the feathers also add a strong material presence to the installation space.



Top image: Test speaker stands - the middle model was chosen for stability.

Above: Selection of recycled timber including rimu, cedar, jarra and matai. Jarra was selected for its density to create the supports for the stands. Rimu and matai were laminated for the top of the stands and shelves.

Appendix 3

Memory works symposium

Post graduate presentation, Syracuse University, NYC, May 2016

LOCATION

Geographically, New Zealand's remote location in the South Pacific defines it as a distinctly coastal nation, a cluster of islands in a vast fluid realm dominated by temporal elements. Time is an inherent aspect of this coastal environment with the cyclical movements of the tide erasing and exposing ground. Each day brings flotsam and jetsam, like memories you never know quite what's going to wash up on shore. It's well trodden territory but I think it's worth remembering that landscape derives from 'landscap', the Dutch term for landscape paintings, with historical connotations of ownership and visual control. Lucy Lippard provides a more contemporary definition: 'Space defines landscape, where space combined with memory creates place' (1997, p. 9). From a historical perspective, I find it interesting that the NZ population hasn't drifted very far from early colonial settlements such as Auckland, Wellington, Christchurch and Dunedin. These coastal locations were advertised to potential European settlers by the NZ company (Wakefield brothers) as modified landscapes, the rugged NZ terrain softened and domesticated by the painter's brush to be more representative of the pastoral landscapes 'back home'. These visual echoes of England were pivotal in shaping the NZ environment. Settlers arrived, not looking so much as what was actually there, but perhaps what they had imagined it to be.



Figure 8. 'Birdseye view of Port Nicholson, in New Zealand, shewing the site of the town of Wellington, the river and valley of the Hutt and adjacent country, taken from the charts and drawings made during Col[one]l Wakefield's survey' by C. Heaphy, 1820 - 81.

Hand coloured Lithograph, 360 x 697 mm. Reference Number: C-029-006-b. Alexander Turnbull Library, National Library of New Zealand. Used by permission. Retrieved from <http://mp.natlib.govt.nz/detail/?id=8204>

PICTURESQUE

These islands have undergone one of the fastest environmental transformations of any colonised country in the world, due to rapid settlement in the nineteenth century and the simultaneous transplantation of pastoral and picturesque aesthetics. As ancient forest was cleared to make way for productive farming land there was also an emerging drive towards preservation of remaining wilderness areas for the purpose of tourism, especially scenic views. Due to the influence of the poet Wordsworth and other romantic artists on European landscape aesthetics, there was a strong emphasis to preserve picturesque lakes, rivers and waterfalls.

It is a visitor's beauty, not an inhabitant's. To experience it you had to be seeking solace, escaping from ordinary life into the else-where of scenery for a few aesthetic moments (Park, 2006, p. 9).

As priority was given to these scenic views, instead of sites of ecological significance (wetlands) or areas considered important to Maori as traditional food sources, isolated areas of wilderness were preserved amongst an ever growing sea of pastoral green. Because of this emphasis placed on the pastoral and the picturesque, other understandings of the environment such as the indigenous concept of *whenua* (which has a dual meaning of land or placenta), or the scientific concept of ecosystem simply weren't recognised.

I believe landscape myths still exist within the New Zealand psyche, (clean and green, 100 % pure) which creates a gap between national identity and ecological reality.



Figure 9. 'Mitre Peak - Milford Sound' by A. Burton, circa 1889. Albumen, 154 x 203 mm. Museum of New Zealand Te Papa Tongarewa. Retrieved from <https://collections.tepapa.govt.nz/object/192979>

LOST LANDSCAPES

Lost landscapes cannot be recreated but visiting significant sites can enable remembering to take place. Tongariro was NZ's first National Park, (1894) gifted by the Ngati Tuwharetoa tribe to the crown, to ensure these ancestral mountains could never be divided or sold. In the nineteenth century, tourists were attracted to its pink and white terraces, described as a 'wonderland of the world' (Ministry for Culture & Heritage, 2016). When Mt. Tarawera erupted nearby in 1886 and the extreme violence of boiling mud and spewing ash had subsided, the pink and white terraces had vanished, along with several surrounding villages, (Te Tapahoro, Moura, Te Arika, Totarariki and Waingongo) ... literally reduced to dust (Ministry for Culture & Heritage, 2016). I recently traversed the Mt. Tongariro alpine crossing. It's a twenty-three kilometer trail rated by Lonely Planet as the world's finest day walk. In peak summer season this was not a solitary activity, as I joined hundreds of others on the track. There is a direct relationship between walking and thinking, as inner thoughts fuse with external sensory stimuli, generating a heightened awareness of our surroundings. At the top of the summit, I came face to face with the conical peak of Mt. Ngauruhoe. It's still an active volcano, slate grey with a smudge of red and sheer shingle slopes. Its imposing presence is a forceful reminder of human fragility. Perched on the very highest rock at two thousand metres, I commanded a lofty birds eye view and from this precarious position I photographed a 360 degree panorama. However, I decided to descend to ground level and capture the natural kinetic energy of this terrain through the sound of pulsating earth at Wai-O-Tapu or sacred waters. Here the visual has been replaced with sonic substance and as the primeval qualities of mud are revealed, landscape as static object becomes landscape in process. (Accompanied by an audio recording of boiling mud).



Figure 10. Coffee Cups, White Terraces by G. D. Valentine, 1885.

Albumen print, 18.9 x 29 cm. Reference Number: PA1-q-212-20. Alexander Turnbull Library, National Library of New Zealand. Used by permission. Retrieved from <http://mp.natlib.govt.nz/detail/?id=46296>



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