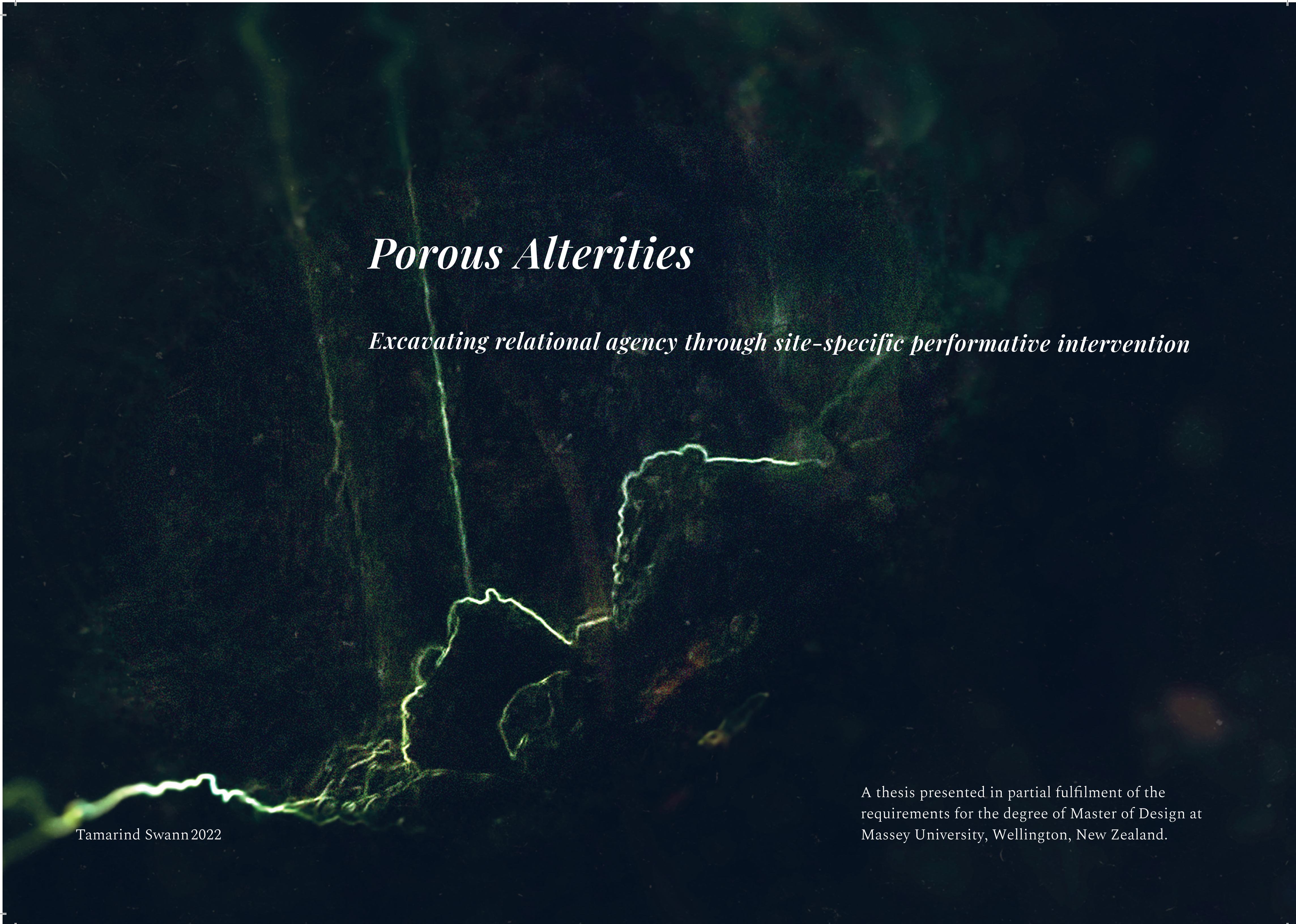


Porous Alterities

Excavating relational agency through site-specific performative intervention

Tamarind Swann 2022

A thesis presented in partial fulfilment of the requirements for the degree of Master of Design at Massey University, Wellington, New Zealand.

Table of Contents

Abstract

Porous Alterities is a temporary performative intervention into Te Whanganui-a-Tara, Wellington waterfront that sets out to generate audience encounters with alternate readings of this public space. The project seeks to reveal the embedded narratives of relational agency within the site, uncovering the micro-political interactions between human and nonhuman forces through performance design practice. The result of this design research is a projection mapped intervention into this area of reclaimed land, a concrete and bitumen wharf that hides the manmade intertidal foreshore.

The project addresses the complexity of spatial power dynamics by conducting a close reading of the site using observation and documentation to uncover site narratives that form the basis of the final design work. Through a critique of the hegemonic powers that shaped the landscape, the hidden ecology of nonhuman actants below the surface, and the transient socio-spatial connections that produce this place, I question how we might attune to our urban environment more inclusively.

This design research makes use of digital technologies to capture and animate audio and visual data from the site. The use of projection mapping enables a non-destructive augmentation of the real environment, building on the site's pre-existing atmospheric conditions to develop an immersive encounter between the audience and the performing agents of the site. *Porous Alterities* represents the development of a critical spatial practice through the generation of a site-specific intervention.

Keywords: performance intervention, site-specific, projection installation, nonhuman agency, socio-spatial relationality

Acknowledgements

In loving memory of my dad, Dr. Anthony Swann, who taught me to observe the mysteries of the universe in the world around me.

Thank you to my supervisors, Dr. Sven Mehzoud and Dr. Jacquie Naismith, and the CoCa community at Massey, for sharing your knowledge and guiding me along this journey.

To my mum, my aunt, my brother, and my partner, I am so grateful for your endless support and the encouragement you give me. I would also like to thank my friends and extended family; your kindness has meant more than you can know.

01

Introduction

Background

This project began in response to the Covid-19 pandemic, that forced event planners like me to rethink how we can connect people together in a time when the air we breathe is a potentially hostile force. These invisible microbes brought our lives and the economic systems that sustain them to an abrupt halt, supporting the claims already laid out by posthuman theorists that in order to design a sustainable future we need to re-evaluate our relationship with the nonhuman others that co-exist with our species (Bennett viii; Braidotti 48; Strauss 15). My practice subscribes to the belief that crises like this may be avoided in future if we move beyond human-centric thinking, expanding our awareness to include the "distribution of agency among both human and nonhuman entities" (Hayles and Pötzsch 97). Following in the footsteps of new materialist inquiry, I argue that broadening our knowledge of the relational capacity of things and matter provides an opportunity to reorient our daily practices towards alternative futures. This design-led research inquiry responds to this ontological proposition by producing a temporary performance intervention into an everyday public space. The work is based on a critical reading of the Taranaki Street Wharf, the waterfront walkway along Te-Whanganui-a-Tara Wellington Harbour. I chose to work with the scenographic potential of projection mapping as a tool to develop an "encounter and exchange founded on spatial and material relations between bodies, objects and environments" (McKinney and Palmer 2). By positioning my work at the conceptual meeting place between Aotearoa's people and its environment, I hope to contribute to the expanding awareness of the network of socio-spatial interrelationships embedded in the landscape. Performance design practice achieves this through spatial intervention, dramatising the encounters between an audience and a found environment to produce new understandings of space.

Research Question

In this design-led research project I ask how site-specific performative intervention can be used to synthesize and reframe the agentic relationships between people, place, and things within my chosen site, the Taranaki Street Wharf. My project questions how scenographic digital strategies can reveal the narratives of human and nonhuman relations through immersive intervention to generate affective audience encounters with the site. At the outset of my project, my aim was to conduct a critical analysis of the political and ecological contexts and histories of the site which I would use to develop the design intervention. I used projection mapping in combination with animation to achieve an integration of the audience with the performance of light, sound, and space found within this pre-existing urban stage (Baugh 9). By analysing a local public site through a posthuman lens, the work offers an application of a global criticality into the everyday urban paradigm of its audience.

Project Overview

The project began with a critical analysis of the site that examined the hegemonic powers that shaped the landscape, the nonhuman actants that dwell beneath the intertidal margin, and the transient socio-spatial connections that produce this public space. Data was gathered from the site using digital technologies and visual observation methods. The data was then re-interpreted into an audio-visual animation that will be projection mapped onto the site. The final design outcome of this research project is the development of the Porous Alterities installation, which is sectioned into three Acts based around the three key narratives uncovered during the site research.

Scope

This study was limited to the research and development of the performative intervention, as the funding and management of a public installation was beyond the scope of the project. Future continuation of this project will involve working to present this work to the public by applying for funding support from *The Performance Arcade*, *Wellington Fringe Festival*, or the Wellington City Council's Public Art Fund. This research project represents the beginning of my journey as a performance designer, re-telling the stories of Aotearoa's urban spaces and their complex interconnected ecologies.

Fig. 1.1. *Taranaki Street Wharf, Wellington.*

Methodology

This Master of Design project takes creative practice research as its foundational methodology. This practice-based mode of research uses artistic methods to produce original investigations that contribute to knowledge for the broader community and within its own field of industry (Candy and Edmonds 66). Rather than working towards the development of a new or improved product or process, my own practice aligns with what Christopher Frayling described as 'research for art', in which the artefact produced embodies the critical reflection of the research (Frayling 5). This form of practice delivers to its audience a visual or experiential communication of the research, through what Julian Klein calls an 'artistic experience' (Klein 4). Throughout this exegesis I refer to this type of research as 'design-led' in order to use a term broad enough to encompass the performative, digital, and spatial practices that have contributed to this study. In the Literature Review (p.9), I will expand on this further as I discuss the specific community of performance design practice that I use to house my own approach to creative research inquiry.

This project set out to develop a performance design practice that offers a critical reflection on the socio-spatial conditions in this area of Wellington city. I chose to pursue this methodology because it would allow me to engage deeply with layered meanings within the site and subsequently develop an intervention that presents these layers as a dynamic and interactive experience within the locality of the research. In working site-specifically, I draw on the long tradition of place-based art practices that respond to the locality and context of particular spaces (Doherty 13). As Vasiliki Christouli states, "in site-specific intervention, the site sets the parameters for the artist's responds and is in part the reason for the intervention" (Christouli 11). A performative approach to place-based practice adds to this framing by disrupting the embodied spatio-temporal actions that construct event-space (Hannah 17).

It also is aimed towards the production of audience experiences through a performance event. As Dorita Hannah and Olaf Harsløf highlight in their introduction to performance design, "In harnessing the dynamic forces inherent to environments and objects, and insisting on a co-creative audience as participatory players, it provides a critical tool to reflect, confront and realign worldviews" (Hannah and Harsløf 19). In *Porous Alterities*, this is realized as a spatial augmentation using projection mapping to layer new interpretations onto the surface of the site. Projection is a non-destructive method which allows the work to enhance the performative atmosphere of the site while respecting the wellbeing of its nonhuman community. By using data gathered directly from the site this project works towards a practice that decentres the human subject, building a platform for a "relational encounter catalyzed by material and spatial forces" (Preston 165). In this way I hope to maintain a level of specificity and honesty to the site. Visual data from the site was gathered with camera footage above and below the water surface. Additionally, 3D scanning using an adapted Xbox Kinect sensor was used to capture spatial data from the site. Field recordings above and below the water surface were generated using a Zoom microphone, and a homemade hydrophone. These assets were then composed into the audio-visual animation using TouchDesigner and Ableton software. Further discussion of my methodology is integrated with the explanation of my research inquiry throughout this exegesis.

Exegesis Outline

In the exegesis that follows, the Literature Review in Chapter Two will outline the theoretical framework that connects my project to a broader field of practice. I will discuss performance design in more depth, clarifying the terminology used and elaborating on the key contributions in the field that have influenced my performance design practice, and the spatial and posthuman theories that have informed this research. Chapter Three examines the first research phase which was focused on a deep engagement with the site to reveal the embedded narratives of relational agency. This research revealed the material transactions behind the development of the Taranaki Street Wharf site, the hidden ecology of nonhumam actants inhabiting the manmade intertidal foreshore, and the plurality of socio-spatial interactions that compose the performance of urban space. Chapter Four reveals the development of these narratives into the audio-visual animation design. The final design outcome of the project is delivered in Chapter Five. Finally, Chapter Six concludes the exegesis with a reflection on the achievements of the project and thoughts on how I intend to take this project forward.

02

Literature Review

This literature and precedent review positions my design-led research as a critical performance design practice. The following discussion examines the literature surrounding notions of performativity and their relationship with spatial theories. This review then links these with a posthuman approach to design production, and the concepts of relational agency that my research engages with. Through an examination of related precedents, I then connect my work with a broader community of practices that engage with similar avenues of inquiry.

Performance Design

Performance design offers a methodology for design intervention that is oriented towards the experience of the audience or viewer. This mode of research draws from its heritage in theatre studies. Scenography was formerly known as the practice of scenic and environment design for theatre productions, however in its contemporary sense, expanded scenography is concerned with the performativity of bodies and materials (McKinney and Iball 113). The term 'performance design' was proposed by Dorita Hannah and Olav Harsløf as a more transdisciplinary name for the growing practice of expanded scenography (Hannah and Harsløf 14). I align my own practice with the more inclusive terminology, but will use the terms interchangeably as I discuss the literature in this chapter. This methodology fits my interests as a design researcher as it critically reframes the conditions of a found environment to enhance the audience's experience within them. Many studies of expanded scenography suggest that its potency lies in its capacity to change the way we perceive and experience space (Lotker and Gough 5). As Marina Hadjilouca states, the performance designer builds place-based artistic outcomes that curate the socio-spatial conditions of the urban environment (Hadjilouca 40). From this I understand that performance designers act to critically unpack the cultural and political relationships within a site, using these to generate dynamic interactions between bodies, environments, and materials (McKinney and Palmer 8).

This contributed to my desire to thoroughly investigate my site before beginning to formulate my design proposition. It was important to me that the narratives within the work were extrapolated directly from my critical analysis of the site's cultural and political position. While performance design offers a methodology for the production of alternate readings of a given space, critical spatial practice provides the didactic purpose behind my work. Performance design examines the performative interactions between materials, bodies, and environments that are inherently political, whereas critical spatial practice leans towards a resistance to the technocratic systems of urban processes (Slager 1). By intervening in public space, my project exists in relation to the dominant ideologies within the site while simultaneously critiquing them (Rendell 16). In the context of my project, this relates to the domination of human-centric modes of living that I hope to disrupt by offering a posthuman reading of the Taranaki Street Wharf. Through an acknowledgement of the theoretical frameworks of spatial practice: performance design and critical spatial practice, I intend to develop a critical methodology that is both performance-based and site-specific.

It is now well established in theatre studies that performances are a co-creative, socio-cultural phenomenon. As Richard Schechner puts it, “a performance studies scholar examines texts, architecture, visual arts, or any other item or artifact or culture not in themselves but as players in ongoing relationships, that is ‘as’ performances” (Schechner 3). Through this lens all bodies, objects, and environments are perceived as relational performing agents; actors working together in the production of experiences. A critical shift in my thinking came from Erika Fischer-Lichte, who elevates the audience’s immediate physical response to performance above a symbolic interpretation of meaning (Fischer-Lichte 17). For me, this was a departure from my former visual arts training which inscribed meaning and knowledge in the designed artefact rather than the audience’s experience of it. I needed a new set of methods that would allow me to put this cognitive shift into practice; methods that would enable me to manipulate the moment of the audience’s encounter with the work. This emphasis on the immediate reaction of the audience holds similarities with the body of literature on architectural atmospheres.

As performance moves beyond the framing of the stage, it gathers the qualities of its environment. In the past decade, architectural theorists have explored how these qualities subliminally influence our reading of a space. As Juhani Pallasmaa claims, “The judgement of environmental character is a complex multi-sensory fusion of countless factors which are immediately and synthetically grasped as an overall atmosphere, ambience, feeling or mood” (Pallasmaa 19). Although often dismissed as irrational, our first impressions are powerfully affective; they inform how we respond to all manner of interpersonal situations (Grant 19). Performance design is able to harness these embodied responses by amplifying or altering the pre-existing qualities of the performance site. In his introduction to urban atmospheres, Gernot Böhme explains how atmospheres “fill spaces; they emanate from things, constellations of things and persons” (Böhme 43). Particularly in the urban environment, this constellation is constantly shifting with the trajectories of people, weather, and time. At Taranaki Street Wharf, this conglomeration of qualities includes the broad open sky, the changing mood of the sea, the distant sounds of traffic, the cries of coastal birds, the expansive concrete, and the strong onshore wind. Considering that the site is at the edge of the brightness of the city, and is surrounded by sound reflective hard materials, it felt natural to build upon its scenography of light and sound. As my design work progressed, I chose to use projection mapping to develop an immersive atmosphere that reflects these qualities of the site.

Fig. 2.1. *Taranaki Street Wharf, Wellington.*

Relational Space

In support of the construction of spatio-temporal experiences, a performance design methodology necessarily includes a relational theory of space. Space is a production of the temporal network of interrelationships between people, place, and things. As Doreen Massey observes, “space…is a product of relations-between, relations which are necessarily embedded material practices which have to be carried out, it is always in the process of being made” (Massey “For Space” 32). In this way, space becomes a fabric of intricately layered fragments of stories, meanings, qualities, and erasures that is constantly being produced (Irwin 50). This mimics Michel de Certeau’s famous statement in *The Practice of Everyday Life* (1984) that, “space is a practiced place” (de Certeau 117). The roots of Western postmodern philosophy in this line of thinking are also exemplified in the writings of Michel Foucault.

Foucault argues that rather than being an empty vessel, space is an active series of irreducible relationships (Foucault 23). Foucault’s concept of heterotopias builds on this by making a case for sites in which real public spaces such as theatres, gardens, or cemeteries, are perceived as both real spaces and a juxtaposition of coded cultural constructs. In the example of theatres, Foucault considers the contradiction of the theatre stage with the myriad of locations we are transported to while watching a performance (Foucault 25). The concept of heterotopias contributed towards my understanding of the layers of cultural meaning embedded within public spaces, however it was Henri Lefebvre and Edward Soja’s theories on the production of space that assisted in the evolution of my design work. For Lefebvre and Soja, social actions and spatial organisation both create our urban environment and are formed by them. Soja calls this the socio-spatial dialectic, building on Lefebvre’s theory that “social and spatial relationships are dialectically inter-reactive, inter-dependent; that social relations of production are both space-forming and space-contingent” (Soja 211).

More recently, feminist cultural geographers such as Doreen Massey (*Space, Place and Gender*), Linda McDowell (*Space, Place and Gender Relations*), and Gillian Rose (*Taking Butler Elsewhere*) have developed a more sophisticated understanding of the role of gendered subjectivity in the experience and production of space. They observed the limitations of Western male spatial theorists and pushed for a more nuanced understanding of the factors that race and gender have in our experience of space. I hope to this expand this further to include the agency of nonhuman others in our urban spaces. In this way I seek to bring posthumanism into a coversation with this history of spatial theory. Together, these dialogues that relate to the urban environment provide a framework for my site-specific intervention practice. Within this project, this foundational understanding of space informs both my critical analysis of the site, and my intention to produce audience encounters with alternate ways of seeing and understanding space.

Relational Agency

A fundamental principle behind this project is the use of performance design practice as a tool for decentring human agency. This position builds on the new materialist philosophy of Jane Bennett, whose formative book *Vibrant Matter: a Political Ecology of Things* (2010) provides the basis for my understanding of the agency of nonhuman matter. In this exegesis I make use of her definition of actants that she attributes to Bruno Latour, as “a source of action that can be either human or nonhuman; it is that which has efficacy, can do things, has sufficient coherence to make a difference, produce effects, alter the course of events” (Bennett viii). I also use the term ‘more-than-human’ to refer inclusively to both human and nonhuman activity (Whatmore 604). Bennett puts forth an alternate way of thinking of the world around us which recognises the power of things, matter, and entities in their co-productive role within this Anthropocene era. This ‘Thing-Power’ is used to describe the “ability of inanimate things to animate, to act, to produce effects” (Bennett 6), which in the context of performance design practice includes not only the structure of the site, but the space, light, and atmosphere that act as the materials of scenography (McKinney 7). This conceptualisation of the material of the world is also relational; being an interconnectedness of active macro- and micro-actants of human and nonhuman systems that work within and alongside each other. Here, I draw on Jane Rendell’s writing on relationality in critical spatial practice to ground my understanding of agency within larger networks of environmental and cultural systems and processes (Rendell 39). Developing this sense for the interconnectedness of things is important to this project’s aim to generate an experience that resists human-centric readings of the Taranaki Street Wharf. As Rosi Braidotti says, “This practice of relating to others requires and is enhanced by the rejection of self-centred individualism” (Braidotti 48).

My use of the term ‘relational agency’ differs from what Bennett describes as the distributive agency of assemblages (Bennett 24), in that rather than seeking to theorize the cohesive power of assembled actants, I orient my research towards an understanding of the network that connects actants together. Timothy

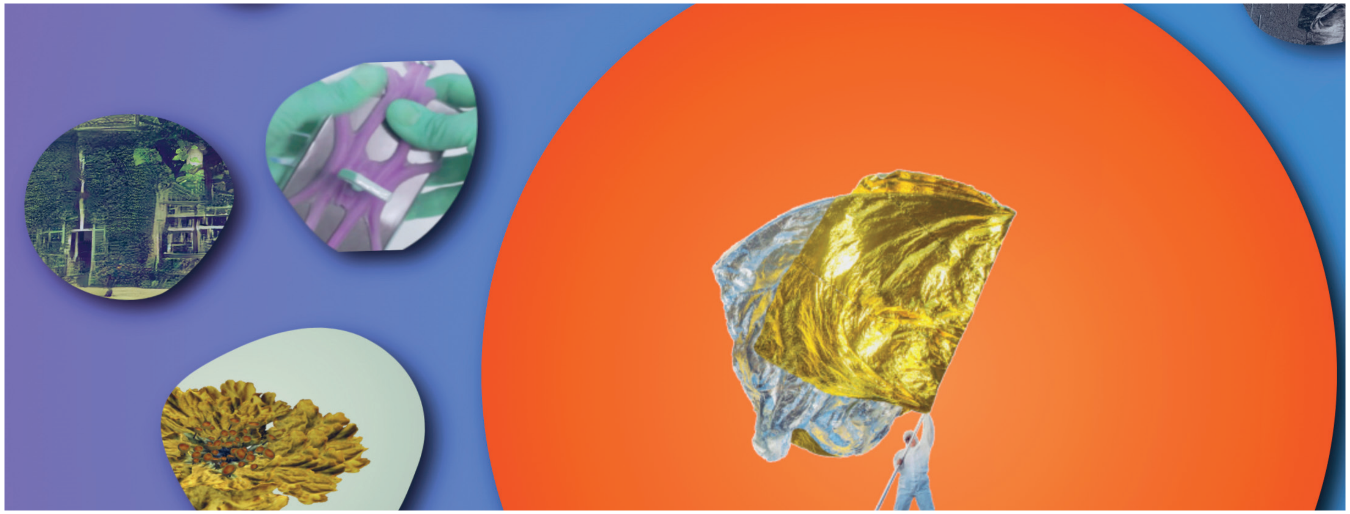


Fig. 2.2. *How to Become a Posthuman, 2022.*

Morton puts forward the term 'mesh' in the book *The Ecological Thought* (2010) to describe this notion of interconnectedness on all scales (Morton 28). This imagery of the entangled ecological mesh as a fabric of connected threads provided me with a tactile starting point for my exploration of the intangible concept of politically active matter. In a similar vein, Julieanna Preston, recalling Mark C Taylor's *Hiding* (1998), likens cultural systems to organisms composed of dermal layers, "a strata of skin in which interiority and exteriority are thoroughly convoluted" (Preston 151). These conceptual-material qualities were crucial influences in my design research as I attempted to reveal the embedded political narratives within the materiality of the site.

In my aim to analyse and reveal the narratives of relational agency within the site, this literature was critical to my understanding of the landscape as a dynamic surface composed of active nonhuman agents. In the decade since *Vibrant Matter* was published, this new materialist ontology has become an established transdisciplinary field of research. It continues to grow in global strength and urgency as exemplified by the Barbican Centre exhibition *Our Time on Earth* (2022) in London, the digital exhibition *How to Become a Posthuman* (2022, fig. 2.2) hosted by The Konrad Wolf Film University in Postdam, and the anthology of essays, the *Slow Spatial Reader: Chronicles of Radical Affection* (2021). Each of these curatorial projects forms a dialogue between contemporary creative practitioners calling for a radical re-imagining of the ways in which we live through a renewed engagement with our environments.

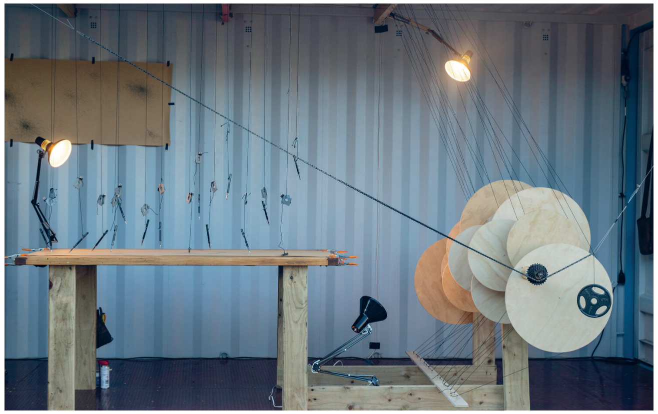


Fig. 2.3. *A Machine Part Three, 2021.*

Fig. 2.4. *waterlogged, 2016.*

Fig. 2.5. *Sal de Sal (Circulation #007), 2015.*

Positioning My Practice

Through my analysis of the existing practitioners working with performative intervention and a relational understanding of place, I discovered that my own practice borders on several regions of design-led research. A thriving community of performance artists from the Asia-Pacific region has been gaining traction over the past decade, including works directly related to Wellington waterfront. A recent example of this is the installation *A Machine Part Three: a Harbour Visualisation* by Nick Zwart with Meg Rollandi and Andrew Simpson, which was included in *The Performance Arcade*, 2021. This container installation engages with the site's nonhuman forces by using the rise and fall of the tide and the nudge of wind to drive a drawing machine constructed of lines and pulleys attached to drawing materials (fig. 2.3). This work draws attention to the power of the tide by harnessing the performance of its movements. It does this without the presence of a human actor, which I wanted to explore in my own practice. However, its exploration of the force of nonhuman actants is generated through the development of a sculptural object rather than an affective experience.

Another example is the 2016 work *waterlogged* by Julieanna Preston; a durational performance of connecting with the wooden piles of the waterfront, the living matter acting on them, and the conditions of the water (fig 2.4). In this sustained co-existence with the site, Preston gains a relationship with its nonhuman actants and delivers this alternate perspective of the site to the audience via a live feed from a camera attached to her body. Similarly, Mick Douglas demonstrates how live art is able to generate encounters between an audience and a more-than-human awareness of the human and nonhuman systems in which we live through the works *Container Walk* in 2013, and *Sal de Sal (Circulation #0007)* in 2015 (fig. 2.5). In these works, Douglas performs a co-creative interaction between his body and sea salt, using this meeting between a human and nonhuman subject to explore macro- and micro-level systems of exchange related to salt including bodily, cultural, and ecological transactions. Another performance that critically engaged with the socio-spatial conditions of the waterfront was *The Monstrous Red Dress: Wellington Waterfront* performance by Lauren Skogstad in 2009, in which she wore a scarlet red dress with a 10-metre long train through the site, disrupting the spatial rhythms of pedestrians as she became entangled by the wind and gendered readings of the female body in space (fig. 2.6). These precedents are of performative engagements with the nonhuman actants of the site, and each achieve this by examining the interaction between human and nonhuman bodies in the context of the cultural and political systems that the work is created within. In my own work this led me to experiment with embodied performances, however I ultimately chose to remove the human figure from my work in order to amplify the connection between the audience and the site's nonhuman inhabitants.

Fig. 2.6. *The Monstrous Red Dress, 2009.*

Fig. 2.7. *Te Wānanga, 2020.*

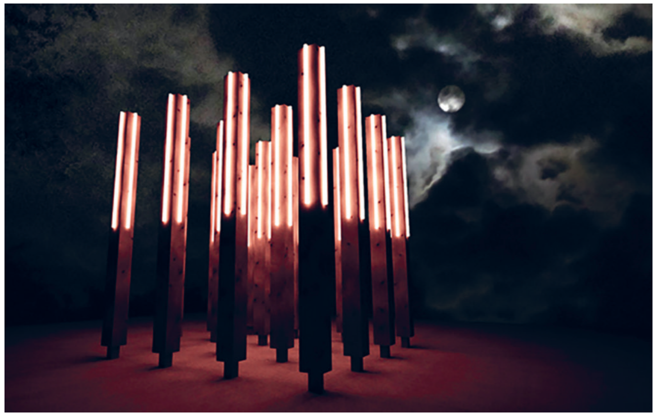


Fig. 2.8. *Tūrama Pou, 2013.*

As well as researching performative encounters with the nonhuman, I also considered site-specific and land-based interventions that are positioned at the meeting place between people and the environment. One of the works I studied was the recent *Te Wānanga* landscape architecture project by Isthmus design studio (fig. 2.7). Although this project is very different in its format as a permanent redevelopment of a public space, it took an inclusive co-design approach towards the site's ecological habitat. The tidal shelf design, based on the geology of the surrounding coastline, including kelp and mussel gardens, creates a space in which both human and nonhuman communities are brought together in reciprocal exchange. This project demonstrates a respectful design practice that has an awareness of its more-than-human responsibilities within an urban coastal setting. While my own research moved on to more performative engagements with the waterfront, this project's attitude towards the site contributed towards my efforts to familiarise myself with the specific ecological habitat of my site.

Another branch of my research explored site-specific performative practices that use collected data from the site as a basis for immersive experiences. An example of this is the work *Tūrama Pou* by Interrupt Collective, a sculptural installation exhibited in the Wellington LUX Light Festival in 2013 (fig.2.8). The timber pou rise up from the waterfront as tall standing columns, illuminated in response to the local 'tai pari' and 'tai timu', the incoming and outgoing tides that mimic human breath on a more-than-human scale. The work establishes an embodied interconnectedness between the site and the audience, as their own breathing begins to mimic the pou. This work exists within a global trend of temporary installations that use site data as audio or visual material.

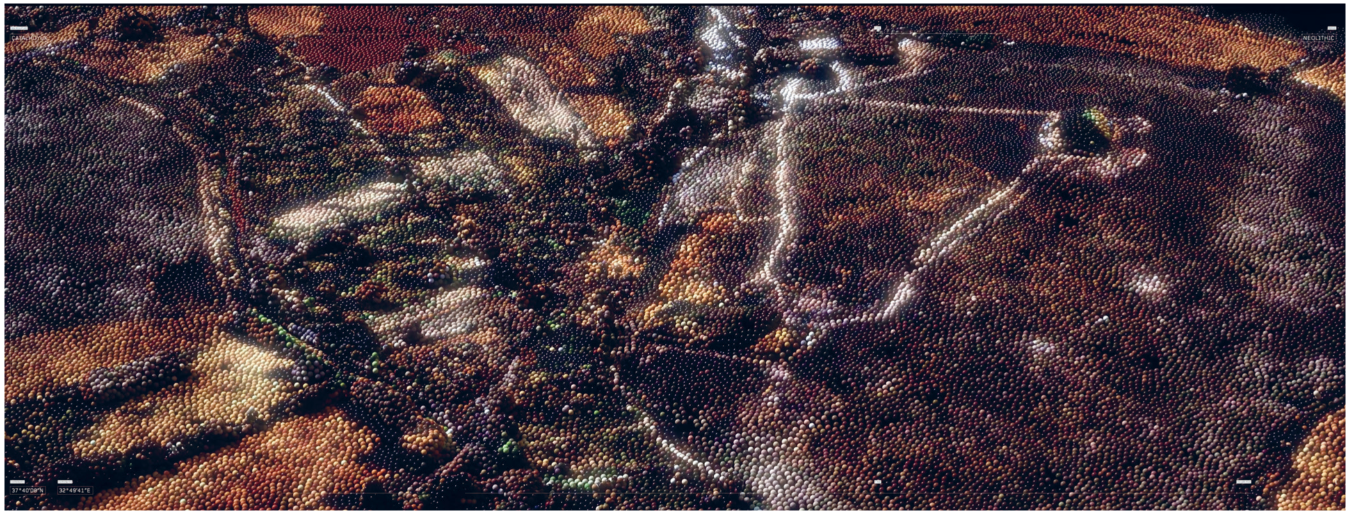


Fig. 2.9. *The Curious Case of Çatalhöyük, 2017.*

Another example of this is *The Curious Case of Çatalhöyük* (2017) by the studio of Refik Anadol in collaboration with ANAMED and others (fig.2.9). The work re-presents the data records of archaeological research into the Neolithic site Çatalhöyük in Turkey, taking 2.8 million records and transforming them into an immersive AI data sculpture that was presented in an exhibition at ANAMED, the Koç University Research Centre for Anatolian Civilisations. These last two works chose to transform information from the site into immersive experiences in order to generate an affective response in the viewer. However, in the case of *Tūrama Pou*, the work was installed within a site where the tidal data was gathered, tying the work and the audience into a co-creative performance with the site. This understanding fed into my work as the design development progressed and ultimately led to my decision to work with projection mapping, as it would enable me to create a shared performative experience between the audience, the site, and the nonhuman actants within it. I will expand on my use of projection mapping in Chapter Three.

Another influence on my practice has been the rise of accessibility to and the functionality of augmented reality and digital production technologies. Spatial augmented reality, including projection mapping, is a sustainable option for spatial intervention as it provides designers with the ability to non-destructively "integrate synthetic information into the real environment" (Bimber and Raskar 2). The use of audio and visual data, including 3D scanned objects and environments is an emerging trend in art and design. In the context of performative intervention, this allows the work to build on the pre-existing atmospheric qualities of the site, and provides a potential source of digital material that is intrinsic to the site. Through immersive, digitally produced experiences, designers are able to produce affective encounters between the audience and things that are beyond the edge of human visibility.

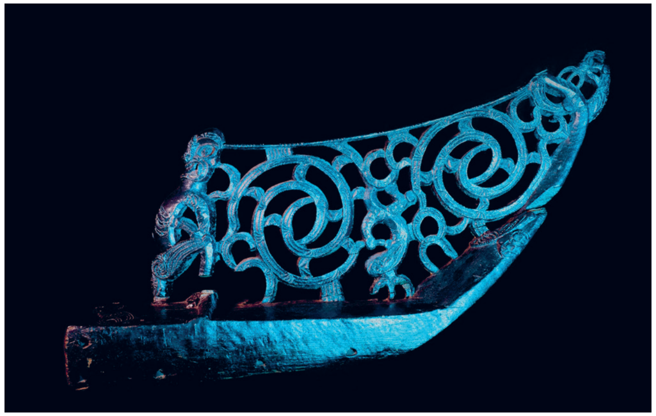


Fig. 2.10 *Te Mauri, 2016*

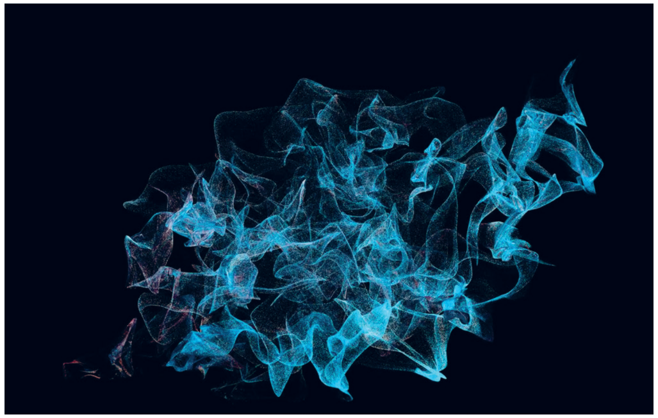


Fig. 2.11. *Te Mauri, 2016*

An example of a work that uses spatial augmented reality to its advantage is *Te Mauri* (fig. 2.10 and 2.11) by Stuart Foster and Kura Puke with Te Matahiapo. This work is a performative digital experience that uses digital media to evoke an emotional connection to the animism of a physical object through spatial augmented reality. The work is a projected hologram in the housing of a museum cabinet which opens with a karakia (chant) that situates the viewer in the interconnected cosmos of the tupuna (ancestors). A hologram emerges from the darkness, depicting a taonga (treasure) of a tauihu, a carved war canoe prow from the Taranaki region in the 19th century that was recovered from a wetland in 1938. As a maioha (call) resounds, the image liquifies into millions of star-like particles (fig. 2.11). The work ends with a reversal as the tauihu reassembles itself and fades into darkness again, leaving the viewer transformed by presence of the taonga. This work calls to mind Cassandra Barnett's writing on taonga in *Te Tuna-Whiri: The Knot of Eels* (2017) in which she states that "taonga can be considered animate and alive because they instantiate ancestral hau (life breath), mauri (life force) and mana (spiritual power) in the present" (Barnett 24). *Te Mauri* explores a way that presence can be revealed through digital performance, using digital technology to produce evocative experiences. While my own work is not founded in the principles of Kaupapa Māori like *Te Mauri*, this work has been influential in my belief that digital performance, specifically those that use 3D scanning to preserve and animate physical artifacts, can be an effective tool in the production of emotive, embodied experiences.

Another precedent that explores the use of digital media to produce immersive, more-than-human encounters is *Sanctuary of the Unseen Forest* (fig. 2.12) by Mashmallow Laser Feast and Andres Roberts, from the exhibition *Our Time on Earth* at the Barbican Centre, London. This immersive installation demonstrates how digital animation is being used to reconnect audiences with the nonhuman world. The work is a digital animation of a 3D scanned Kapok (ceiba pentandra) tree from the Columbian rainforest, in which flowing particles map the hidden ecology of layered nutrient cycles. This precedent of posthumanist digital installation connects the audience with a deeper awareness of the environment "that situates our experiences within larger webs of relations, spaces, and times" (Strauss 15). The work asks the viewer to closely attune to these unseen processes that sustain both human and nonhuman life, building a relationship between the London exhibition audience and the ecology of the Columbian rainforest. Marshmallow Laser Feast is an experiential art collective which uses LiDAR and photogrammetry to capture scans of real environments. Their work bridges the real and the virtual, allowing viewers to take on the perspective of nonhuman subjects and re-framing the world through a digital lens. The potential of animation to re-imagine real materials became a key component of my work, influenced by creators including Marshmallow Laser Feast, Refik Anadol, Jonathan Knox and Ouchhh collective.

In summary, this literature review introduced the key concepts of performance design and spatial theory that support my research project. Through this research I developed a methodology that links critical spatial practice's synthesis of the dominant systems embedded within urban space, with performance design's mode of production which seeks to generate audience encounters with alternate ways of perceiving and experiencing the chosen site. As I explored the methods of performative research inquiry, I made the pivotal shift towards experiential events rather than design objects. To realise this transition, I explored theories of atmosphere that support a scenographic use of light and sound in the development of an immersive intervention. The review also laid out the theoretical framework of my relational understanding of space and nonhuman agency which were critical to my analysis of the embedded contexts, histories, and forces within the Taranaki Street Wharf. Finally, this chapter considered the existing practices that relate to this field of inquiry and how my work attempted to differ from the approaches taken in these case studies. In the following chapter I discuss my close examination of the site and the embedded narratives of relational agency that I discovered there.

Fig. 2.12. *Sanctuary of the Unseen Forest, 2022.*

Fig. 3.1. *Taranaki Street Wharf*

03

Taranaki Street Wharf

The research subject of *Porous Alterities* is the public site on the corner of Taranaki Street Wharf, also known as Te Papa Promenade, and Chaffers Marina (fig. 3.1 and fig. 3.2). On the seaward side of the Museum of New Zealand Te Papa Tongarewa is a 330-metre-long bitumen and concrete promenade that makes up a section of the waterfront walkway and acts as a pedestrian bypass from Lambton Quay to Oriental Parade. At the corner of the Museum, between the concrete promenade and the sea, is a bordering jetty that runs along the right angle by the marina. This jetty rests just above the rocky foreshore, where the reclaimed land meets the subtidal zone. In this chapter I will trace the journey of my research into this public space, beginning with the selection criteria and moving into its historical and contemporary contexts. The guiding questions that focused my research were: who are the performing agents of the site, and what narratives are embedded within this public space? Behind this inquiry was an intention to develop a performative understanding of urban public spaces, informed by the spatial theories that were unpacked in the previous chapter. This section describes the exploratory methods used in each thread of inquiry and how these evolved towards the development of the final design work.

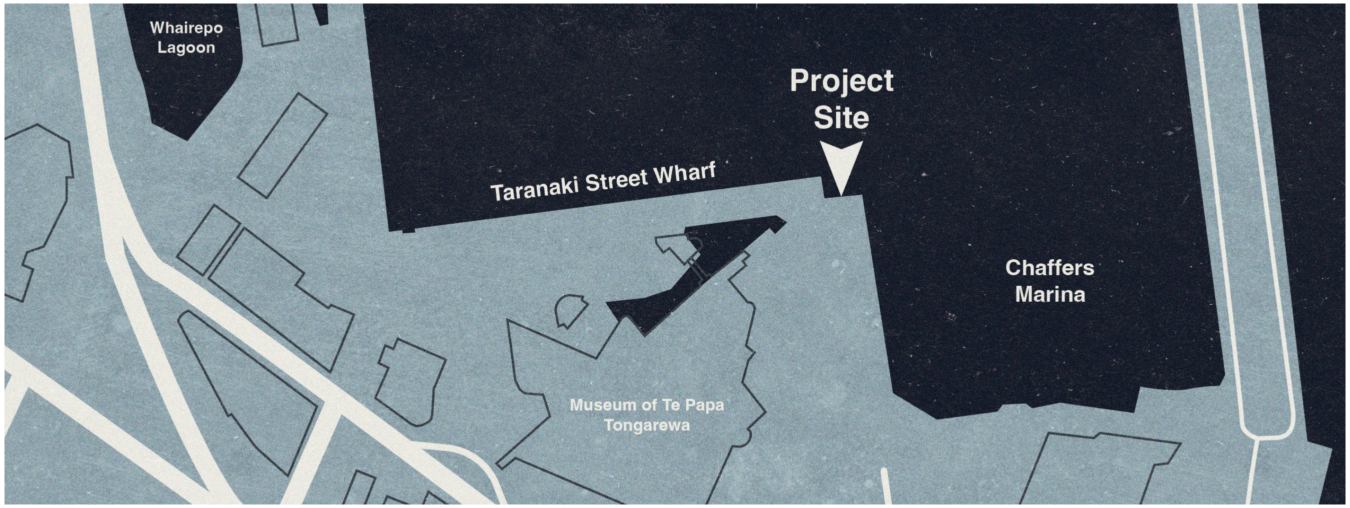


Fig. 3.2. *Site map*

Site Selection

The Taranaki Street Wharf is an area of reclaimed waterfront that extends out from Cable Street between Taranaki Street and Barnett Street in Wellington's downtown suburb of Te Aro. The pedestrian footpath is composed of 1 ½" bitumen paving, above 8" reinforced concrete deck slabs (*Reclamation Wellington Harbour* 257). The wooden piles are made from Turpentine (Syncarpia glomufolia) and Jarrah (Eucalyptus marginata), Australian timbers that are often used for marine piles because of their durability against marine boring organisms (Page and Singh 30). The wooden piles and further reinforcing raker piles of precast concrete have been driven down into the original seabed beyond the reclamation. From the footpath above it is impossible to see where the perimeter breastwork extends beyond the area of reclamation. If you explore the meeting point between the land and sea from the jetty that borders the Eastern edge of the site, you will find a layer of protective riprap and graded rock; human-placed material that protects the soil infill from the eroding force of the tide. In this hidden enclosure beneath the concrete slabs there is an ever-changing assemblage of molluscs, crustaceans, detritus, organic matter, rocks, sandstone, soil, graffiti, and broken glass. This is the focal point of my research, where the human structure and interactions bond with the nonhuman ecology of the foreshore.

The ambition of this project is to develop an experiential intervention that uncovers a nuanced understanding of this public space for local audiences, to inspire new ways of connecting with the urban environment. As a temporary performance, the interaction between the work and the audience is the basis of a reciprocal exchange of ideas and meanings. This meant that choosing a centrally located site with high foot traffic comprising a wide demographic was an important criterion for the site selection. The atmosphere of hurry and movement in the waterfront site helps develop this understanding of space as an ephemeral plurality.

Another reason for choosing public space as the starting point of this project was to examine the relationship between the public and the local government bodies that represent them. As a Wellington City Council-owned public space on the doorstep of Te Papa Museum and nestled against the Chaffers Marina private docks and apartments, this site exists in close proximity to several influential bodies. As a starting point for this project, the Taranaki Street Wharf promised an intricate woven narrative of agency between the nonhuman ecological habitat, the public, and the local government, which would provide my design work with opportunities for generating audience encounters.

City as a Theatre

The selection of this site was also influenced by a desire to position my practice outside conventional performance institutions. As Hans-Thies Lehmann notes in *Postdramatic Theatre* (2006), taking performance into the quotidian space of the everyday blurs the boundaries between the fictive space of performance and the real space of daily life (Lehmann and Jürs-Munby 151). By selecting a public space as both my research subject and the stage of my performance, I intended to offer a critique of the cultural systems at play within the location of the work, housing my practice firmly within the field of performance design in which the designer acts as a provocateur to examine and disrupt the "manifold performances in our daily lives and on the global stages of culture and politics" (McKinney and Palmer 44). In the search for a found environment for this site-specific production, it was important to be aware of the scenographic opportunities of atmospheric conditions, performing characters, and potential audiences. It was especially important that the site held potential through these performative conditions as this work was intended to generate new meaning and new experiences within a familiar space, rather

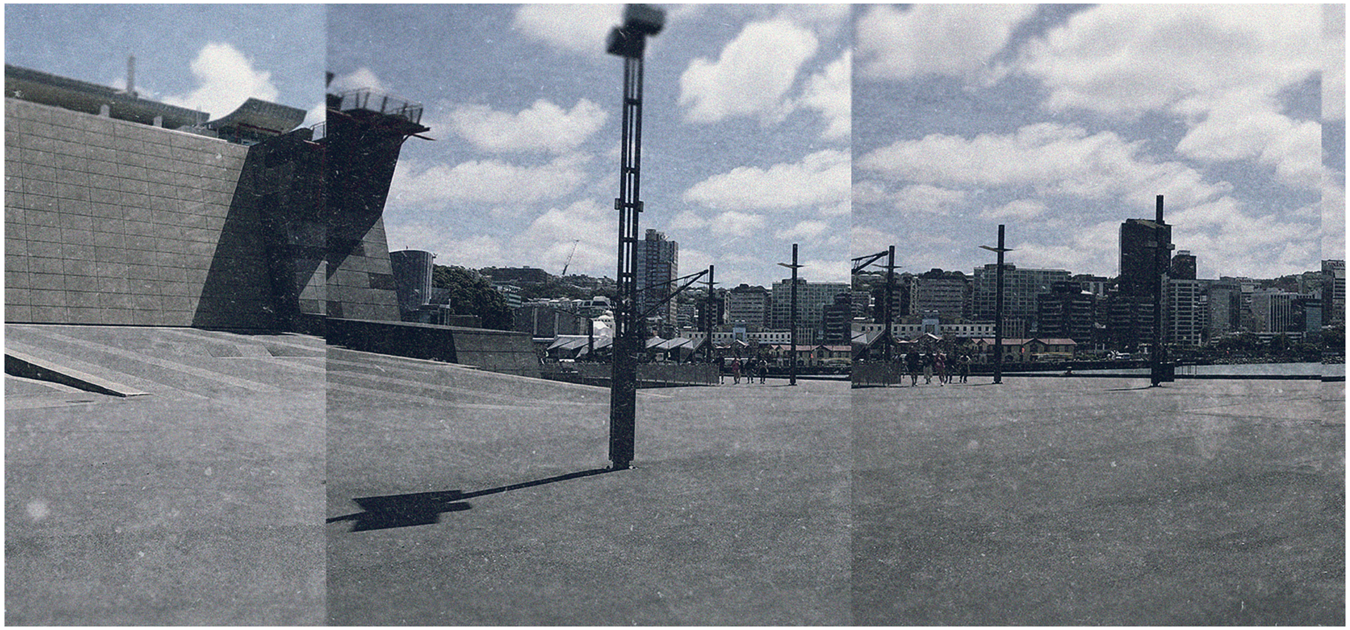


Fig. 3.3. *Digital collage*

than to locate itself within the narrative of a culturally or historically significant site. This site was chosen because any cultural and historical significance it had was not immediately apparent in the experience of the site, and its high foot traffic meant the work would be assured a ready audience. The long promenade and jetty act as a found stage on which performances of everyday life play out (fig. 3.3). The location of the site by the sea and its exposure to the weather meant a wide range of atmospheric conditions; from calm skies, glassy water, and sun-soaked pavement to bitter wind, surging waves, and pouring rain. With the promontories of the Chaffers Marina and Te Papa Museum buildings reflecting sound, the audio landscape of the site is thick with the refractions of tinkling rigging, slapping waves, and sirens from the city. The waterfront is also Wellington's largest promenade, a place to watch or be seen. It is a space that is on the one hand concretely static, and simultaneously alive with entangled stories.

Fig. 3.4. *Illustration of original shoreline.*

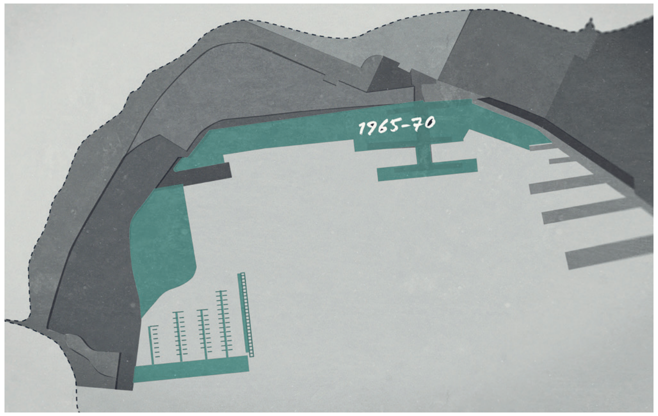


Fig. 3.5. *Illustration of reclamation works.*

Changes to the Shoreline

Wellington Harbour's Māori name is Te Whanganui-a-Tara, meaning the Great Harbour of Tara. The story of this port city begins for us with the brothers Tara and Tautoki who migrated down the East Coast from Hawke's Bay. After settling for a time on Matiu (Somes) Island, Tautoki moved on to the Wairarapa, and Tara settled in Wellington. Tara's descendants became known as Ngāi Tara iwi (Pyle 5). Along the shore that would have sat as far back as Wakefield Street today, were Pipitea Pā, Kumutoto Kāinga, and Te Aro Pā (fig. 3.4). Where Waitangi Park is today there was a flourishing wetland fed by the Waimapihi, Moturoa and Waitangi streams. The area was fished and foraged for tuna (eels), kokopu, and shellfish.

Figure 3.5. traces the reclamations of Wellington Harbour from the initial developments in 1857 which soon led to the first construction of Queens Wharf on the Northern side of the Harbour. By the 1880s reclamations stretched from the Port to Oriental Bay. By 1907 the majority of the Waitangi Park and Chaffers Marina area had been reclaimed after which there was a halt in all developments until the construction of the Taranaki Street Wharf and the site of my project went ahead in 1967 and 1970 in parallel with the major motorway construction project. Figure 3.6 illustrates the locations across the city where major earthworks were occurring, linking the infill material from the Wellington urban motorway construction with the waterfront reclamation. Mapping the changes and present day context of the site generated a large number of drawings, I have included a selection of these in appendix A.

Material Journeys

In the Wellington City Council Archives file for the Wellington Harbour developments between 1967 and 1972, there is a copy of a typewritten letter dated 19 July 1968 from the then City Engineer which confirms the agreement between the Harbour Board and the Wellington City Council to proceed with the development of the Taranaki Street Wharf (*Reclamation, Wellington Harbour* 255). In this letter the City Engineer states that there was "1,000,000 cubic yards of spoil excavated from the motorway to be disposed of" as well as further material from Ngauranga Gorge and that this could be used for the proposed reclamation works in order to reduce the costs of the projects for both parties (*Reclamation, Wellington Harbour* 255). The year before, on 24 October 1967 a public group called the Bolton Street Cemetery Preservation Society objected to the proposed motorway development, attempting to prevent the destruction of the cemetery and the disinterment of approximately 3,700 graves. The objection was unsuccessful, and the soil, clay and silt loam that now rests beneath the Taranaki Street Wharf was once below the Wellington urban motorway through Kelburn (fig. 3.6). A quiet mass grave now rests in the small section of the cemetery that clung to the bottom of Bolton Street by Mowbray Street with fragments of the headstones that were broken during the move and could not be identified.

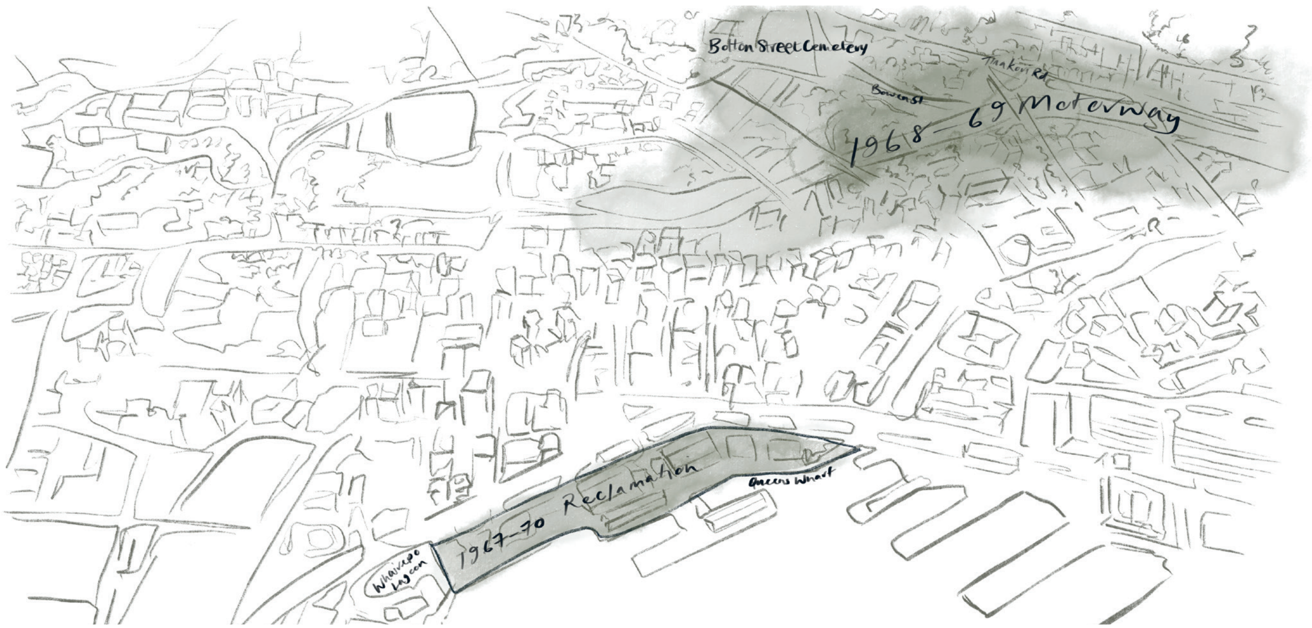


Fig. 3.6. *Map of earthworks 1967-1970*

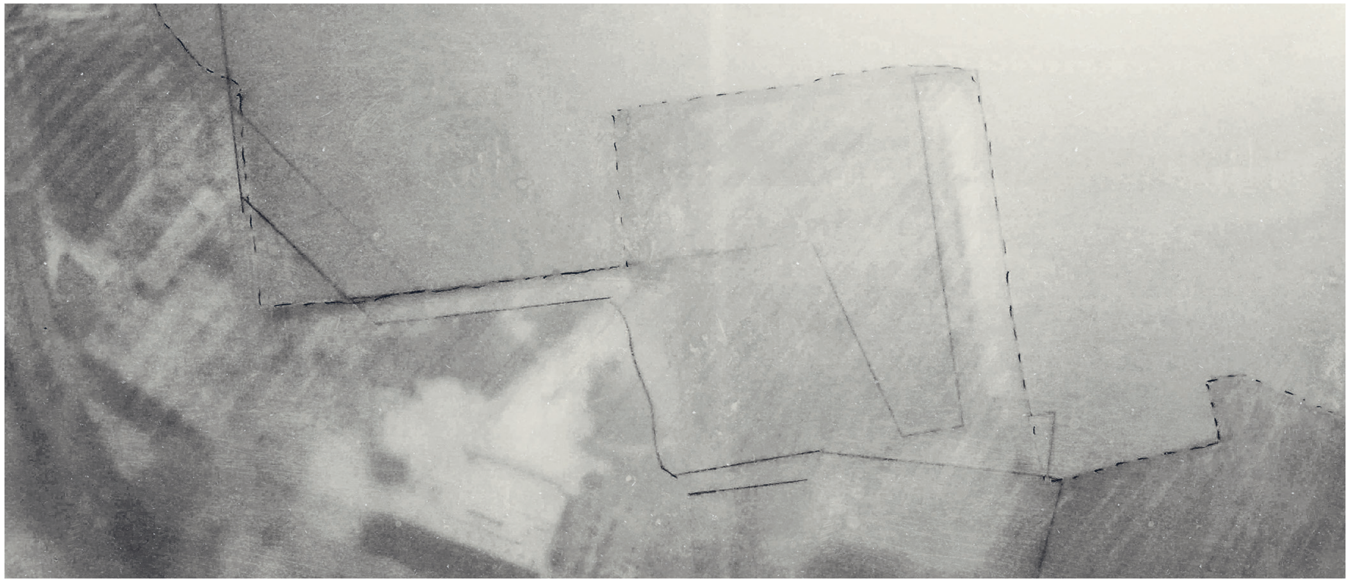


Fig. 3.7. *Map of land parcels.*

Land Boundaries

My next thread of research explored the current segmentation of the landscape around the site. To understand the narratives of agency around this space I wanted to map its boundaries of ownership and governance. Here I was searching for the human agents that control the space, and how this hidden agentic relationship affects the experience of the public and nonhuman inhabitants within the space. Through this research I discovered that the site is owned by Wellington City Council and monitored by the police. Interestingly, I discovered that the boundary of the Council's ownership extends into the sea, heading seaward from the corner of my site to the edge of the breakwater of Chaffers Marina. The dashed lined mapped in Figure 3.7 follows this boundary. This means that under the current Marine and Coastal Area Act (2011), the area of the foreshore and seabed that is not owned privately or by the Crown is 100 metres out to sea. While the site is publicly accessible, it is still owned and regulated by the Council. Another interesting aspect of the boundary of public access to the sea is the common law of the 'Queen's chain', a marginal strip above the foreshore that protected public access to coasts, rivers, and streams. The original 'Queen's chain' is now buried under the pavements of the city since the privately owned reclaimed land superseded the marginal strip reserve. In the end I chose not to pursue this narrative within my work for several reasons. Firstly, my site's focal point was the borderline between the land and sea, whereas pursuing this inquiry would take my project inland to the former shoreline in the business district. Secondly, this narrative was decidedly anthropocentric, and I was interested in the agency of the nonhuman actants of the site. Nevertheless, this branch of research uncovered the unseen impact that the government and Council has had in shaping public spaces.

Fig. 3.8. *Photo of site.*

Wellington Waterfront Framework

Next, I examined the design framework behind the redevelopments since the late 1990s that formed the site as we see it today. The site's most recent redevelopment occurred between 1997 and 2015 when Athfield Architects, Graeme McIndoe, and Megan Wraight worked alongside the Wellington City Council and the Wellington Harbour Board to develop the Waterfront Framework plan and the cohesive, modern design that we are familiar with today. During this activity a number of lobby groups and committees were involved in the decision making process, including the Community Consultative Committee, the Waterfront Leadership Group, the Waterfront Monitoring Group, the Waterfront Watch, and Chaffers Park Make It Happen. The key requirements from the Waterfront Framework included access to the water for anyone, use of 'natural surveillance' strategies, and the development of "public spaces [that] should support uses that can contribute to the vitality, safety, recreational potential, shelter, comfort and social inclusiveness of the waterfront" (*Waterfront Framework* 16). This framework was used in the redevelopment of Waitangi Park and Whairepo Lagoon. However, my area of interest is on the periphery of these sites. While these public spaces overall contribute to the city's reputation and the Council's pursuit of liveability, the site in question is a neglected corner of this concrete urban space. Very little seating and no shelter is afforded to the area, it is not covered by CCTV surveillance and the modern-looking streetlamps cast a harsh white glare at night (fig. 3.8). This area is not designed for access to the water, and it does not encourage loitering.

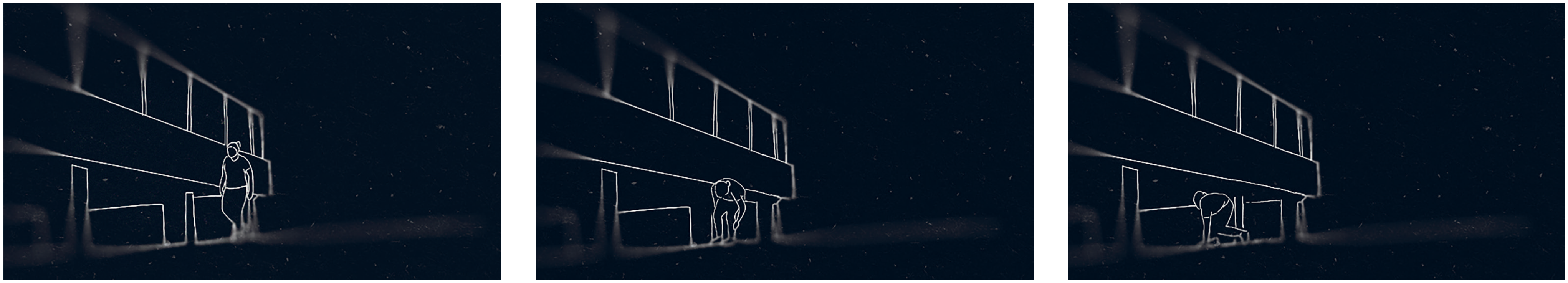


Fig. 3.9. *Site access animation.*

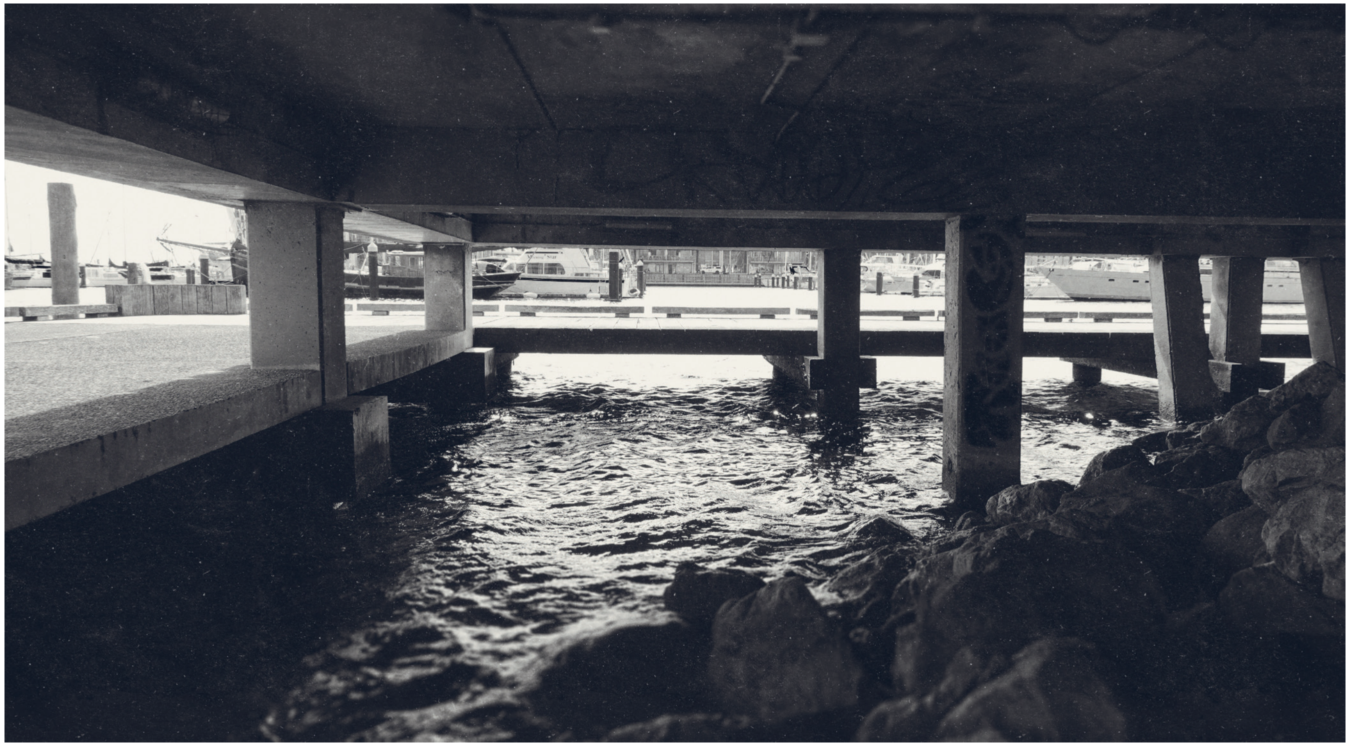


Fig. 3.10. *Photo of site.*

The Intertidal Margin

After focusing my research into the formation and geopolitical structures of the site, I turned my attention to the border between the land and sea to examine the relational agency between the human and nonhuman actants of the site. My aim was to become familiar with these hidden agents and to use drawing and observation methods to build a foundation for my design work to come. At the start of this chapter, I described the wooden jetty that runs along the corner of the site between Te Papa Museum and Chaffers Marina. From this vantage there is a hip-height concrete wall blocking the view of the rocky selvedge between the land and sea just a few metres inland from the jetty (fig. 3.9). If you duck underneath the concrete edge, the space opens out to a wide view of this manmade foreshore (fig. 3.10).

Performing Beings

In this space the highest tide laps almost to the base of the jetty itself, but at low tide a subterranean cave of black oysters and starfish is revealed beneath the footpath. Figure 3.11 shows the rocks and oysters below the jetty that are totally submerged by high tide. Below, a concrete wall covered in graffiti, and a bulging black canvas sack of infill soil show where the new reclaimed 'shoreline' sits (fig. 3.12).

Fig. 3.11. *Photo of site.*

Fig. 3.12. *Photo of site.*

Fig. 3.13. *Photo from site.*

Fig. 3.14. *Photos from site.*

Throughout this project I visited this site numerous times, observing the site on weekdays, late nights, weekend afternoons, and more. I was privileged enough to observe the site as the seasons changed. I saw the arrival of the whairepo eagle stingrays in spring, and the growing kina families in autumn. I saw the repulsive side of the site too, the vomit remnants of a Friday night, the dead seagull on a Sunday morning, the constant evolving tableau of broken glass and trash. I saw the danger in the jagged trap of the waves beneath the jetty, and the lack of pedestrian protection at night. Above all, I noticed the surprise of unexpected life entwined among the human debris (fig. 3.13 - 3.15). As I conducted this research, I regarded the nonhuman inhabitants as the pre-existing community of the site. It was important to me that I considered the complexities of their situation and engaged respectfully with their space.

A Close Reading

Photographic documentation was a key tool for this project to quickly capture the scene and record snapshots of the atmosphere at that time and the temporary assemblage of human and nonhuman elements. This process of documenting the site revealed its unpredictability and its constant evolution. I built up a reference library of the performing agents of the site (appendix B); all the different living and nonliving bodies and assemblages I observed there across the year. These photographs were taken on 28 February 2022 at 9:57am during an unusually low tide of 0.5 meters (fig. 3.14 and fig. 3.15). Due to this low tide, I was able to crawl below the concrete jetty and enter an area of the site that is normally below the water level. In this intertidal space I discovered a more diverse entangled ecology, where manmade objects have been transformed by nonhuman actants. Throughout my project I collected hundreds of snapshots of the site, slowly developing an awareness of its complex surface and the myriad performing agents housed within it. Another form of documentation that was helpful to this project was audio. I captured field recordings from the site over the year of my research project. The audio and visual data I gathered became a key resource in my design development.

Fig. 3.15. *Photos from site.*

Fig. 3.16. *Go Pro footage from site.*

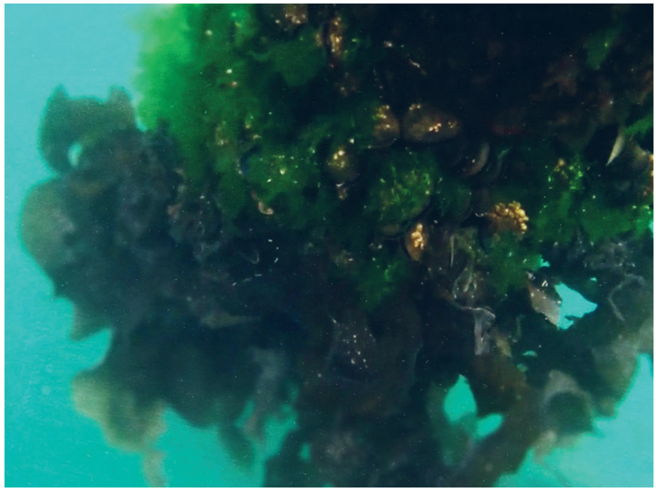


Fig. 3.17. *Go Pro footage from site.*

Fig. 3.18. *Pen and ink drawing.*

Video footage was another key tool for gathering documentation of the site. By using a waterproof Go Pro I was able to explore beneath the water surface, and see the site from the perspective of the living organisms there (fig. 3.16 and 3.17). This allowed me to get closer to the marine organisms I had previously observed from above the water, but it also revealed many more that I had not been able to see. Through the footage I could see fish and mudskippers that were too well camouflaged to notice otherwise. I was also able to observe the haunting green atmosphere and experience the reduced visibility below the surface; several times while filming, a whairepo stingray suddenly appeared out of nowhere. The Go Pro also allowed me to observe the interaction between the manmade structures and the living marine organisms, seeing up close the necklaces of kelp, sea lettuce and black oysters that surround the wooden piles (fig. 3.17). In Figure 3.16 the Go Pro captured the shape of the seabed below the surface, which steeply drops to a depth of more than 15 meters on the Eastern end. From this perspective the wooden piles become enormous columns and your field of view becomes obscured by the cloudy green waters. A surreal submerged hush accompanies this footage.

During this site reading I also explored the use of drawing as another tool for engaging more deeply with the site and observing more accurately. I tested drawing on site, drawing from photos of the site, and drawing material samples from the site in the studio. Due to the site's exposed position, I found that drawing at the site was unsuccessful. The wind and foot traffic were too distracting for me to get to a place of attention and focus. Drawing from photos however was a great way to slow down and observe details in the textures, conditions, light, and composition of the assembled tableau of the site at the time (fig. 3.18). It is important to note that in these studies, I used drawing as a strategy for close observation rather than as a method to produce documentary artefacts. I chose to capture detail through photography, using drawing as an analytical tool that forced me to pay more attention and challenge my assumptions about the site. Figure 3.18 is a watercolour and ink drawing that I made from one of my site photographs. In this drawing I was paying particular attention to the relationship between the rocks and the black felt material that they sit on. This material is a curious feature of the site.

Fig. 3.19. *Pen and ink drawing*

Fig. 3.20. *Sample from site.*

Fig. 3.21. *Sample from site.*

The black fabric is torn and decayed in places, it is pulled by the rocks and folds into the water; it is a part of the intertidal surface that ebbs and flows with the waves. Figure 3.19 is a watercolour and ink drawing from life of some extracts from the material samples that I took from the site. On the left are some fragments of oyster shell that are a familiar feature of the jetty surface. To the right are two argillite rocks that are common among the infill materials. I found it strange to see rocks that have so obviously been formed inland having found a home at the water's edge. I was struck by the absence of volcanic rock and the inclusion of argillite among the sandstone. In completing these drawings, I noticed how concrete and paint have pervaded the organic materials and joined them in their erosion to the extent that it is now unclear what is natural and what is not. The purpose of these drawings was not to capture this level of detail, but to force myself to slow down in my observation and examine the reality of the environment more accurately. This careful attention to detail allowed me to build a respect for and understanding of the nonhuman community within the site.

These site drawings were a more tangible method of research through making, and the next set of explorations continued further down that path. First I extracted some small samples of the aggregate rocks and infill soil from the site in order to observe how atmospheric conditions had affected the materials (fig. 3.20 and fig. 3.21). Unlike normal soil and gravel mixes, these samples showed how manmade materials like plastic, glass and polystyrene have become entangled with the organic particles of sand, soil and shell. The sandy soil from the infill material has been weathered and holds a salty residue from its exposure to the waves. Next I sought to generate an embodied knowledge of the matter of the site. To do this I created clay moulds of the rocks below the waterline, gathering tactile memories of the textural qualities of the surface of the site and the marks of the living and nonliving agents there. The clay moulds here were taken below the jetty, and capture the intermingled surface of oyster shells, plastic, starfish, chitons, barnacles and rocks (fig. 3.22 and fig. 3.23).

Fig. 3.22. *Clay moulds from site.*

Fig. 3.23. *Clay moulds from site.*

These sculptural imprints were a pivotal point in my research into the site despite being a method I did not develop further. In creating these objects, I found that I was treating the site as a surface, an entangled mesh of the human and nonhuman actants that I wanted to uncover. From this I began thinking how I could permeate the surface in non-destructive ways to uncover and reveal this entangled ecology below the water line. Seeing the site as a surface, or a membrane, generated a new set of prompts related to permeating the surface; to extract, resurface, dissect. However, my careful and slow process of observation had shown me the value I placed in respecting the site and its inhabitants. Where possible I wanted to work collaboratively with the site, to maintain the agency of nonhuman actants within my own design work. Considering the value I had placed on respectful engagement with the site, it was clear to me that I needed to select a non-destructive method of intervention. This is what led me to use projection mapping as a scenographic strategy, allowing me to build on the pre-existing conditions of the site while minimising my impact on the environment.

In this close reading section, I have described the methods I used to answer my question 'who are the performing agents of the site', and through this process discovered an engaging narrative within the site of the hidden more-than-human ecology living just out of sight. This entwined, ever-changing entangled mesh of living, non-living, organic, and inorganic actants revealed to me a layer of agentic relationships to the site that was much more complex than I had originally supposed. By exploring its material surface, I was able to consider how intangible concepts like agency are present within matter, and how performative intervention can make these visible. It also clarified some of my own biases and values as a designer, pushing me to question how I can work in collaboration with the environment. Most importantly the decision to work non-destructively encouraged me towards methods of intervention that are in keeping with my values as a designer.

Design Framework

During my site research, I uncovered layers of complexity within the site as I attempted to excavate the narratives that lie behind the concrete façade. To give the project definition, I selected three of the site's stories and created a stratified visual framework that placed these stories into interstitial layers within the site (fig. 3.24). The layers of this framework (*Below, Between*, and *Above*) signify both physical and conceptual spaces. *Below* explores the entwined assemblage of nonhuman actants at the margin between the land and sea, *Between* focuses on the co-creative social landscape of human interaction with the site, and *Above* explores the hegemonic forces that reshaped the landscape. With these clarified sites within the site, I developed a further series of questions that could prompt my design inquiry. How does the waterline hide the entangled web of more-than-human actants? How can the constantly changing social landscape of the site be made visible? How can power dynamics be revealed through material narratives? These questions focused my design explorations on the specific encounters that I wanted to produce between the audience and the site. The tangibility of the site of the more-than-human intertidal foreshore made this the obvious first encounter to tease out through the design development. The layers *Above, Between*, and *Below* became the three acts of the final design work.

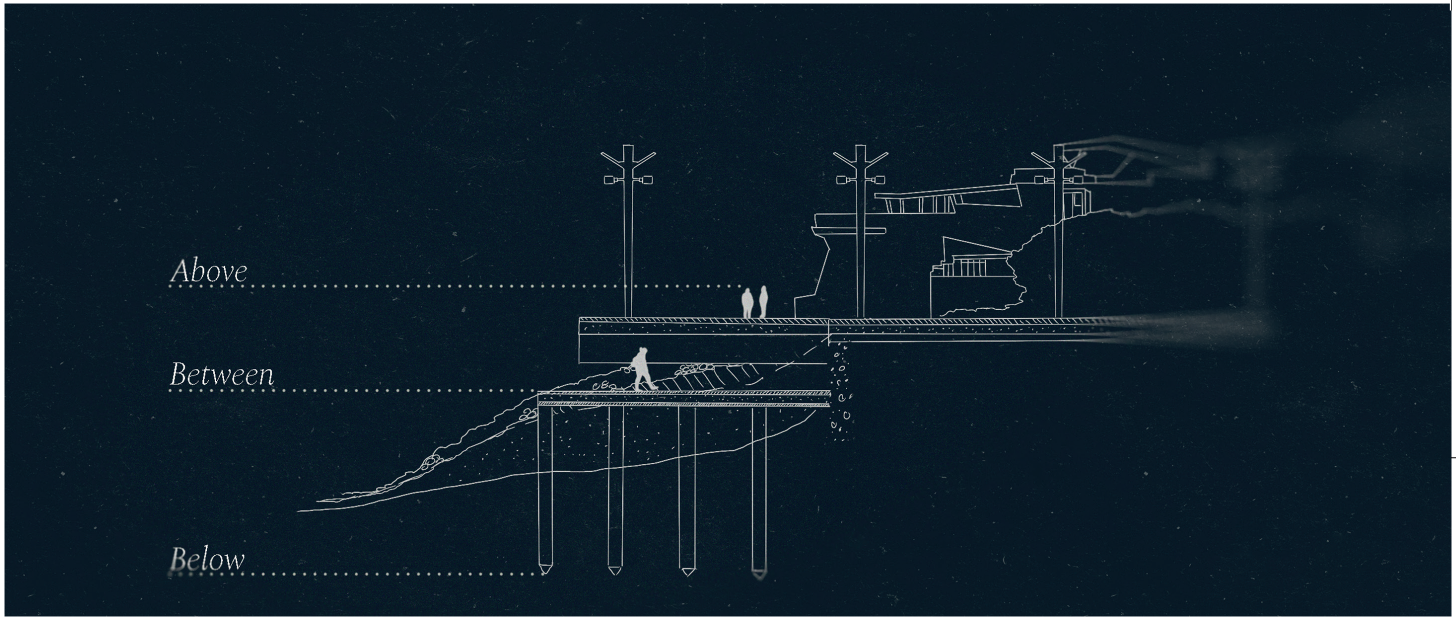


Fig. 3.24. *Design framework diagram.*

Site Research Summary

The purpose of this initial research phase was two-fold; to select the site narratives that would be developed into audience encounters through performative intervention, and to explore a variety of methods to develop a unique site-specific performance design practice that would be the basis of future work to come. In this chapter I discussed my archival research which uncovered the forces of power behind the development of the land reclamation, through which I discovered that the infill used to create the new waterfront originated from the construction of the Wellington urban motorway, specifically the cut through of the Bolton Street cemetery. The second section of the chapter describes my observational studies, documentation and making methods that revealed to me the entangled more-than-human ecological mesh hidden beneath the waterfront's concrete surface. Lastly, I discussed the development of my understanding of the site as a socially constructed performance that is constantly evolving, and the performance explorations that clarified the performative methods that would be best suited to the final design intervention piece.

The research inquiry of this chapter indicated three key layers of analysis that form the basis of the design. In the next chapter I will show how these layers were developed towards the production of a performance intervention that reveals these alternate readings of the site to the audience, asking them to look more closely and see beyond the ordinary.

04

Design Process

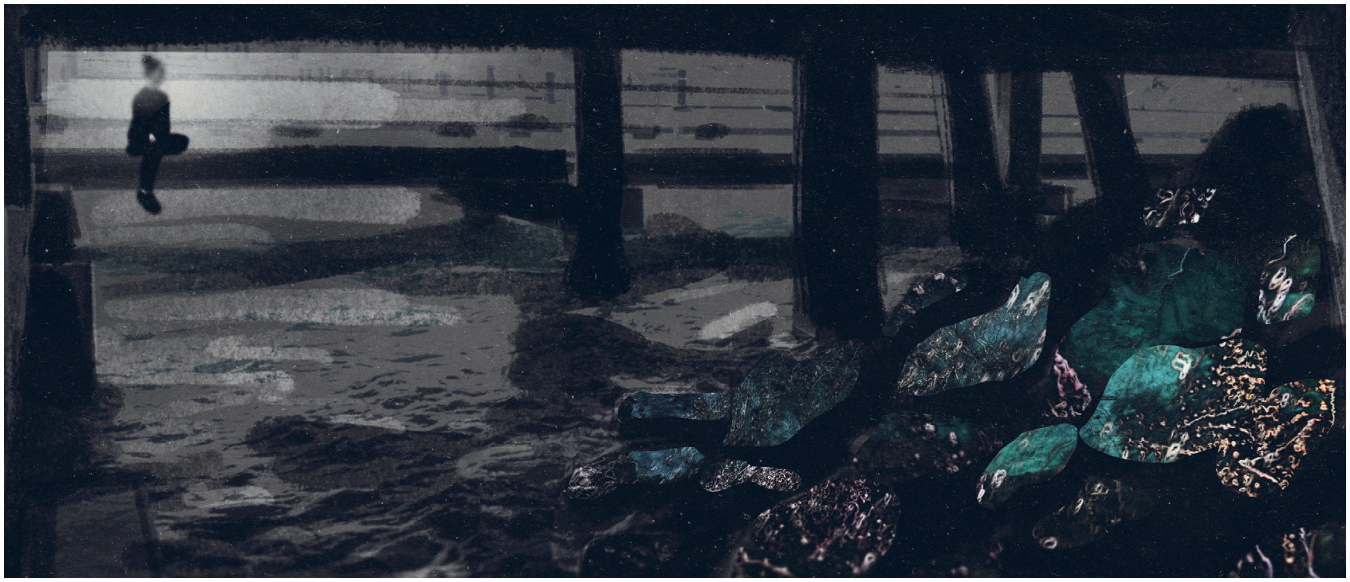


Fig. 4.1. *Projection sketch.*

This chapter details the development of my design-led research into the production of a performative intervention into Taranaki Street Wharf. To summarise the project so far, this research set out to develop a site-specific experiential event that would create an opportunity for encounters between the audience and a more-than-human reading of the site. The work sought to reveal the agentic relationships between people, place, and the nonhuman actants embedded within the interstitial layers of the site. In the following design inquiry, I began by exploring ways of revealing the entangled web of more-than-human actants hidden below the waterline. Next, my design work investigated the powerful human forces that shaped the waterfront, and how this intangible presence in the landscape can be made visible through projection mapped intervention. Lastly, I turned my attention to the ephemeral plurality of connections between people and place that contribute to the production of this urban place. These layered narratives of agentic relationships came together as three acts in the final work: *Porous Alterities*.

Projection Mapping

Projection mapping was my chosen method of intervention as it would allow the work to enhance the pre-existing sensory conditions of the site. The use of digital media would enable me to use the large amount of audio and visual material that I had gathered in my initial research, and reinterpret it into an affective experiential intervention. This would provide an opportunity for me to work co-creatively with the nonhuman agents within the site, as I attempted to decentre human subjectivity through my work. These methods would also allow me to work respectfully with the site and its inhabitants, ensuring the work would not cause any damage to the environment.

Digital production also had the benefit of being free to move beyond the edge of the audience's normal range of vision, allowing me to alter their perspective on the site. My intention was that this work would be presented in the context of a festival event for the local community. In this context, the work would be presented as a time-based experience; a temporary moment in which the audience is invited to reconsider the site as an interrelated balance of human and nonhuman forces.

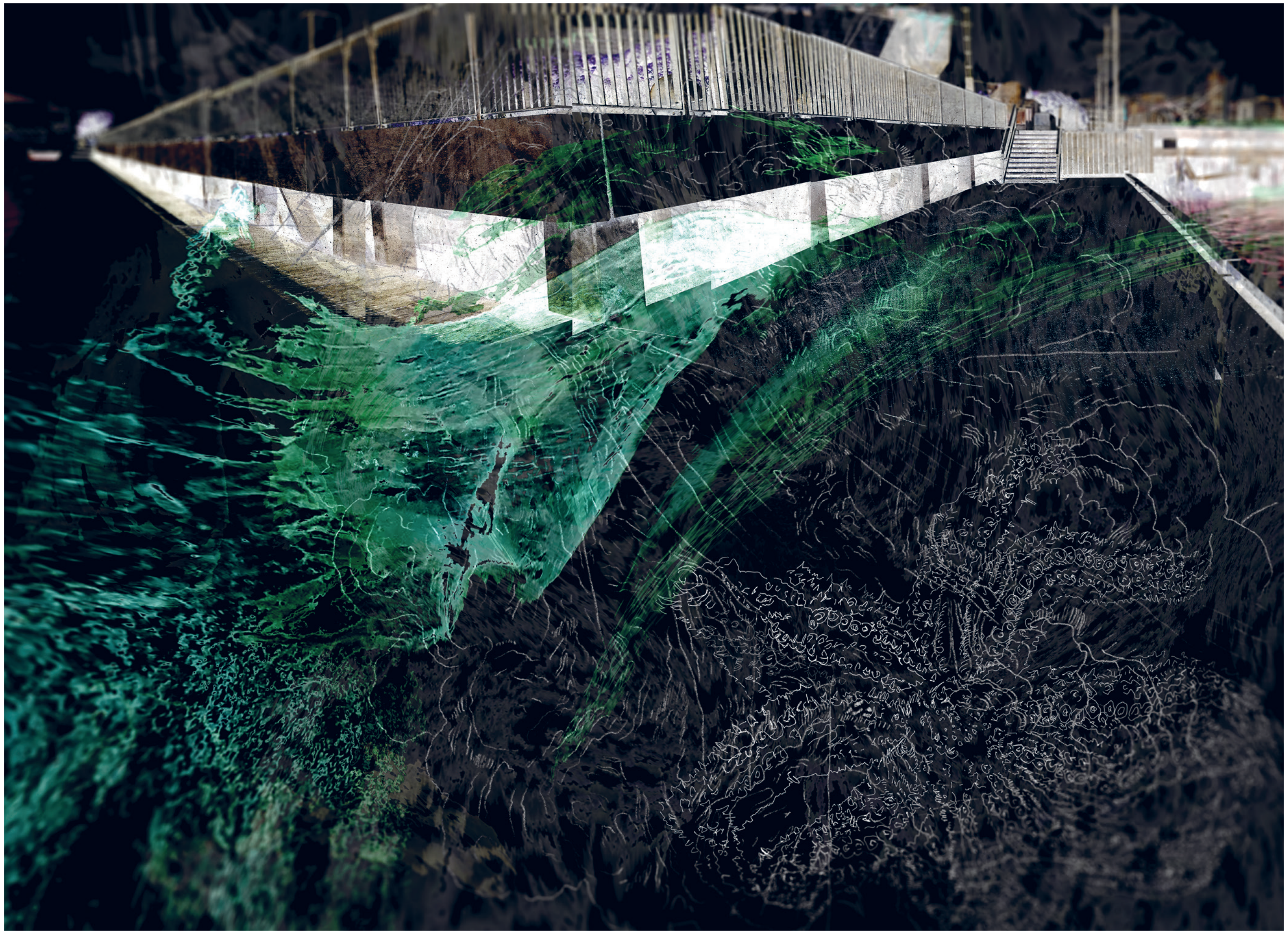


Fig. 4.2. *Digital collage.*

Assemblage of Actants

The vibrant assemblage of rocks, shellfish, and tidal forces of Taranaki Street Wharf is hidden from pedestrians by a manmade concrete and wooden jetty. Unlike *Te Wānanga* (fig. 2.7), the Isthmus waterfront redevelopment project that was discussed in the literature review, this site is designed to dominate rather than make room for the nonhuman actants living within it. For this initial piece, my intention was to investigate how projection mapping could temporarily reassert the nonhuman into the physical space of the pedestrian audience. My aim was to permeate the surface of the site, entangling the imagery of the nonhuman assemblage with the architecture of the space. Like Foucault's heterotopia, this would enable the site to become a place that is both here and there; both above the water surface and below it.

Using the photo and video documentation material gathered in my site research, I began working with this concept by generating digital collages that sought to visualize the interrelationships between the site and the nonhuman matter and entities I had found during my site visits (fig. 4.2). Collage was a useful method to begin with as it allowed me to explore hierarchy of scale as a means of redistributing focus, reducing the significance of the human structure in relation to the nonhuman actants living within it. Through digitally weaving photos and videos together, I observed how digital abstraction could permeate the surface of the image and create a porous exchange between the human, nonhuman, living, nonliving, organic, and inorganic actants.

I used simple animation techniques to begin to explore various modes of visualisation of the entangled layers of actants. Initially I extracted and traced specific actants, layering them one by one over the site (fig. 4.3). This approach was controlled and led to predictable assemblages. From there, I began to use generative animation methods that would

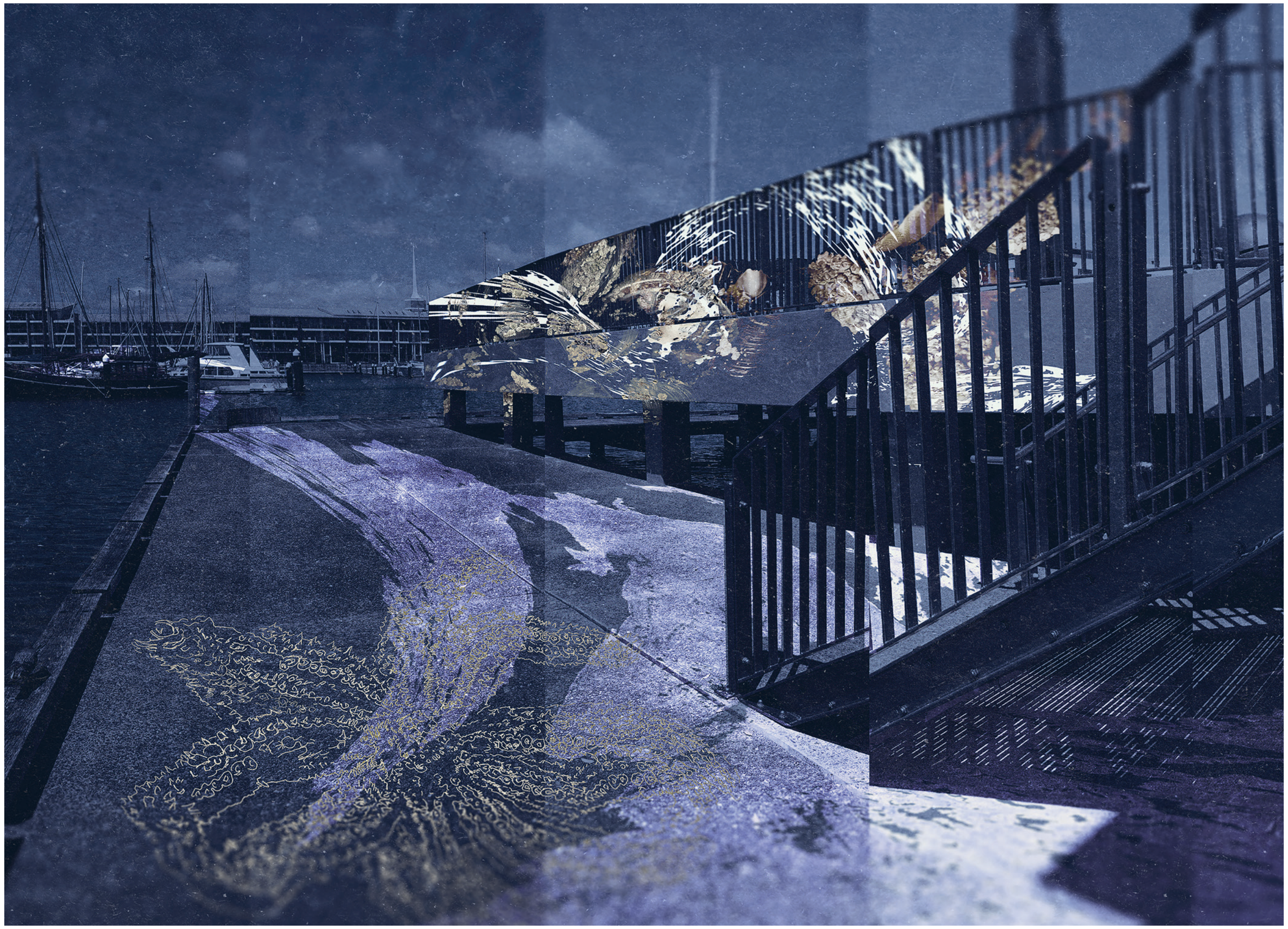


Fig. 4.3. *Digital collage GIF.*

allow the imagery to act on itself as a living, growing visualisation of the site. This became a key aspect of the final design later on. In my early iterations of this concept involved a series of digital manipulation techniques (fig. 4.4).

I was conscious of the danger of letting the digital techniques outweigh the actants themselves, so I opted for a simplified method of abstraction that would allow the layered imagery to be seen more clearly. Using visual programming tools, I was able to emphasise the details of the surface, highlighting the vibrant interactions between the living and nonliving matter as the viewpoint explores the space below the waterline (fig. 4.5). In the resulting piece, the surface that the viewer stands on becomes a portal to the unseen habitat below. Over the duration of the work, recognisable imagery of shellfish, concrete, and barnacle-covered rocks comes into and out of visibility as the layered images compete. Figure 4.6. overleaf is a still shot of the resulting animation in which the recognisable spines of several kina are tangled within a textural surface of shells, rocks, and barnacles. This image appears for a brief moment before the view moves on to the surrounding concrete structure.

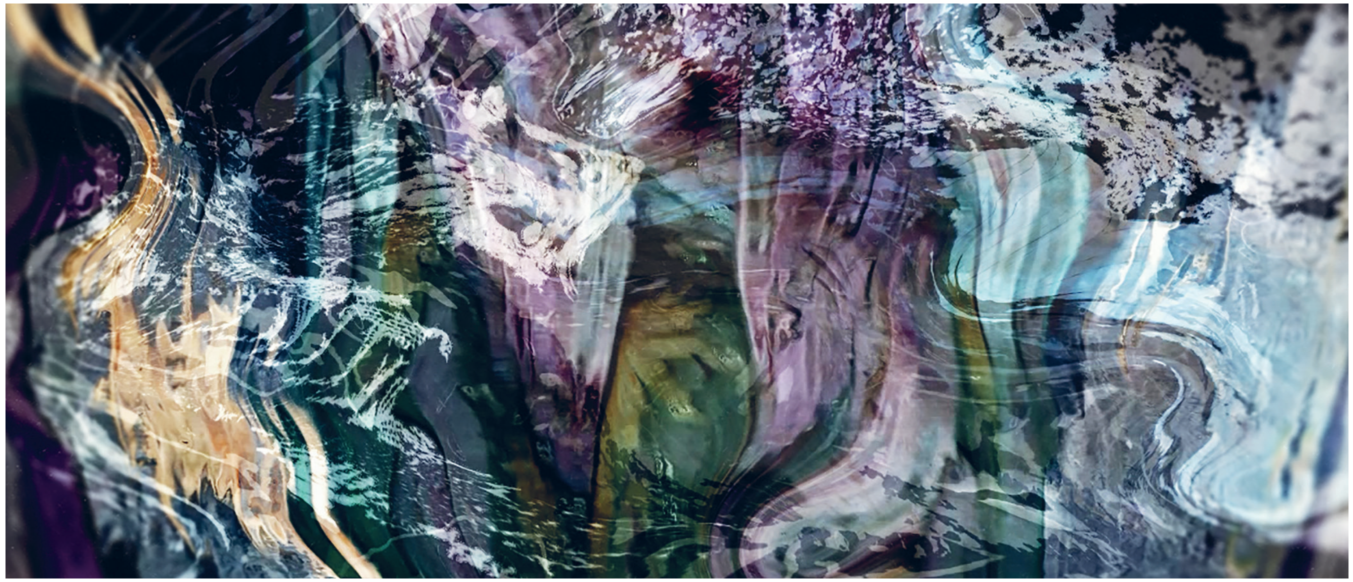


Fig. 4.4. *Animation development.*

Fig. 4.5. *Animation development.*

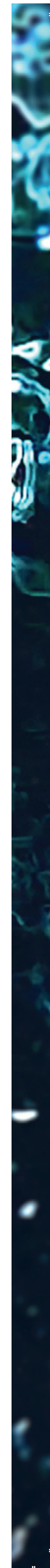


Fig. 4.6. *Animation still.*

Fig. 4.7. *Projection simulation.*

Surface Simulations

Another aspect of this design development was the selection of the projection surface. Initially I explored the theatre-like cavity below the uppermost concrete boardwalk. Figure 4.7 is a still shot from a GIF animation which I used to simulate a projection into the site. This allowed me to consider the composition of the available surfaces. Through this I was able to consider the limitations of the projection surface's physical arrangement. Firstly, I was conscious that using the jetty edge as a seating area would be challenging for audience members with mobility issues. Secondly, while the assemblage of rocks presented an intriguing way of reinserting the site *Below* into the space, it would be less successful as a surface for the other pieces: *Above*, and *Between*. After considering the option of presenting the projections at three satellite locations, I chose to present all three pieces consecutively in a single projection area. I decided to use the surface of the jetty as the projection area as it would transform the horizontal plane of the landscape into a viewing window. This would mean that the viewer's shadow obscuring the work would become a spatial gesture, encouraging interaction either by the viewer deciding to move aside to view the site's nonhuman actants, or to shut them out by standing over them. Three truss-mounted projectors would enable the projection to run approximately 10 metres along the corner of the site while ensuring the projectors and speakers are able to be attached securely to the handrail (fig. 4.8 and fig. 4.9). Placing the projection along the edge closest to the water surface allows the viewer to experience the work while situated among the reflections and sounds of the waves.

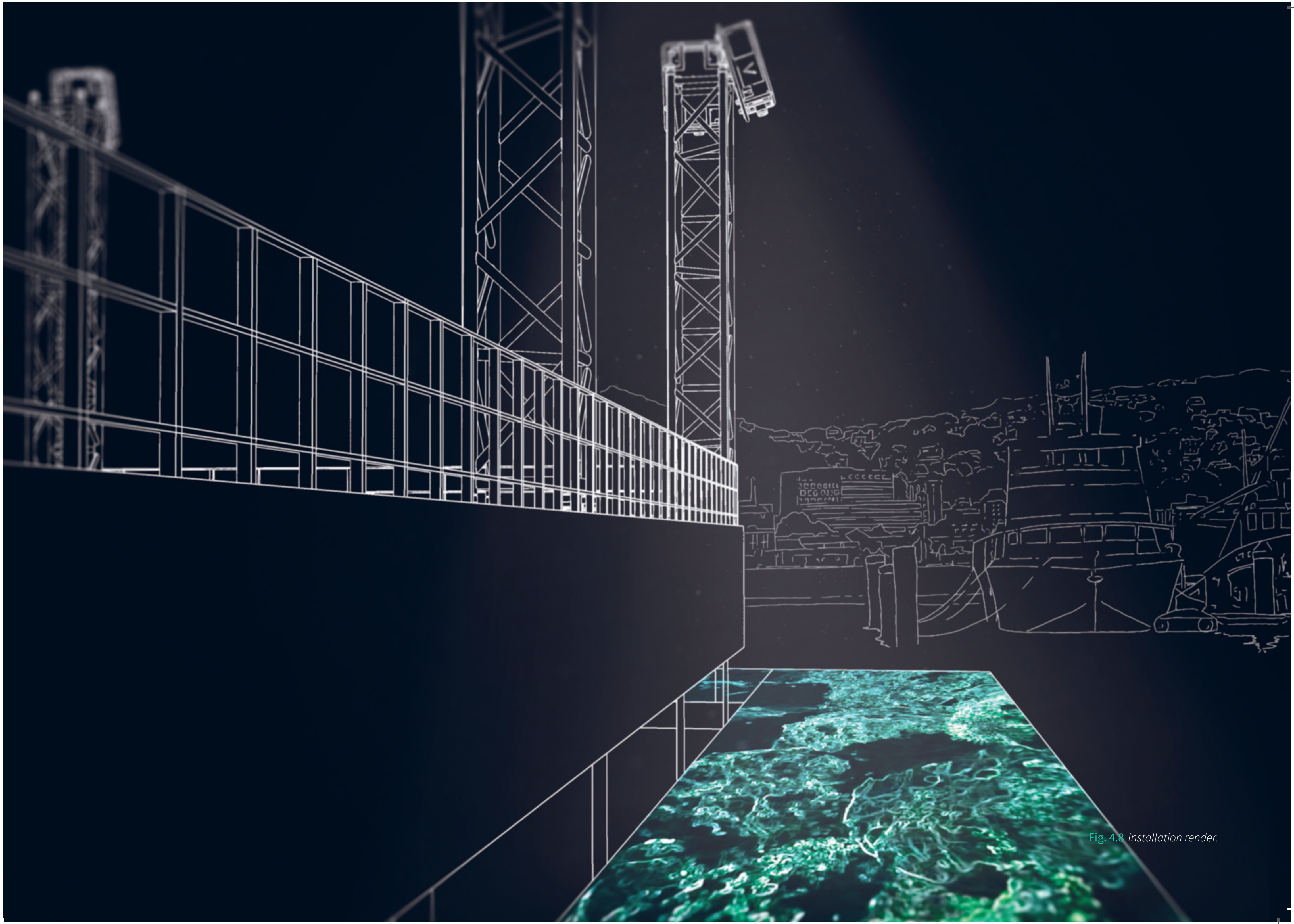


Fig. 4.8 *Installation render.*

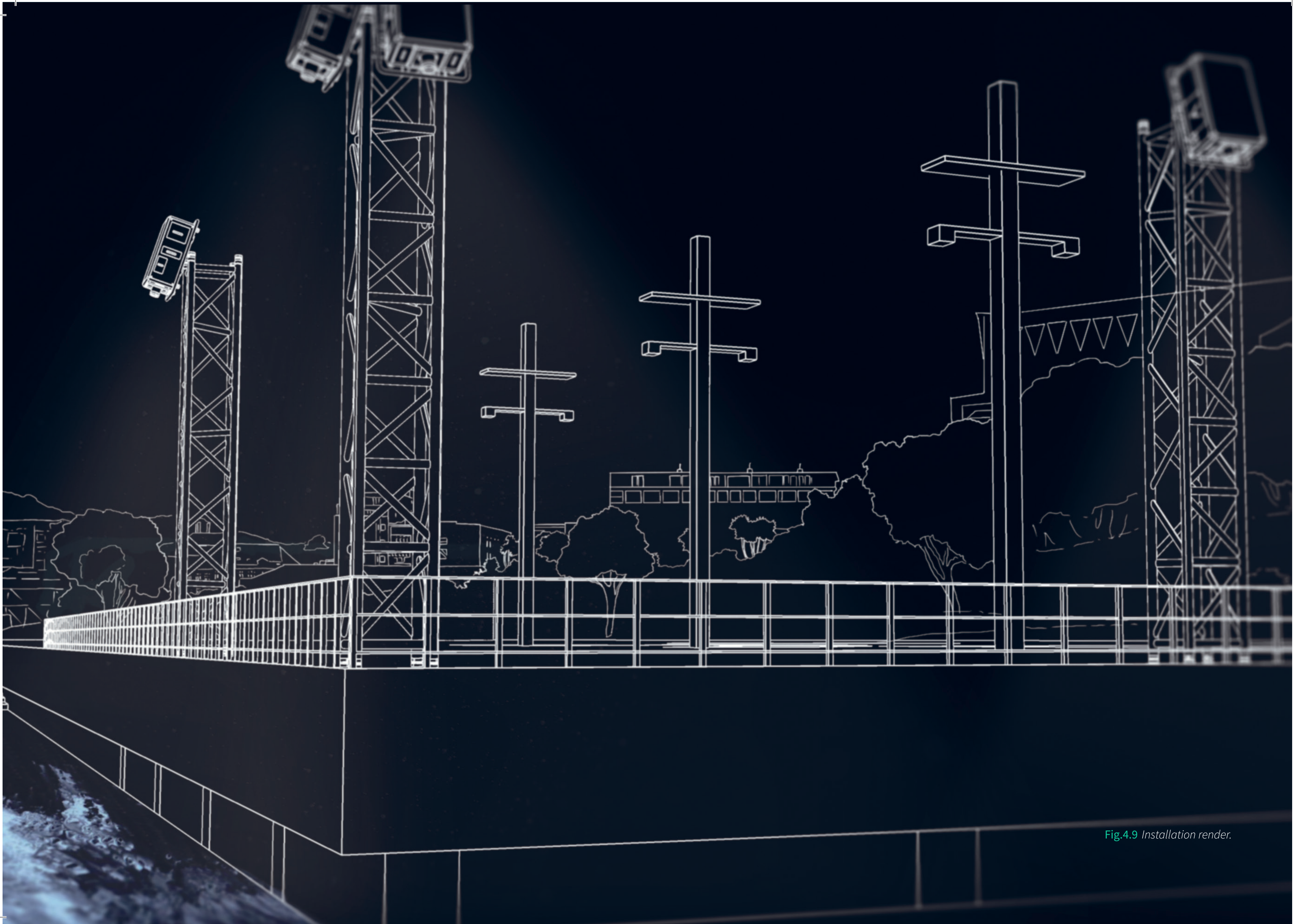


Fig.4.9 *Installation render.*

Fig. 4.10. *Audio development.*

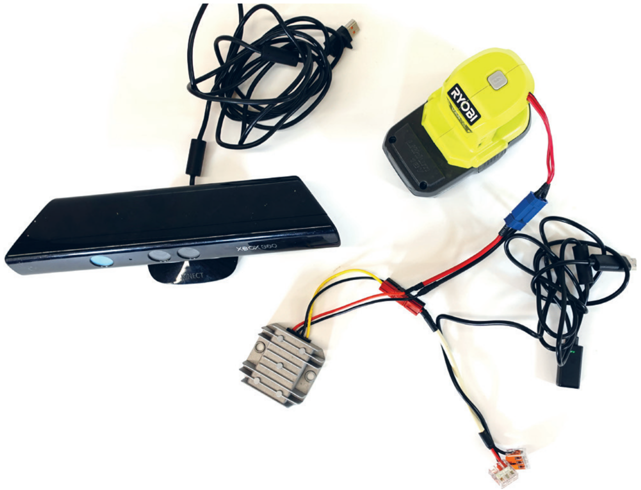


Fig. 4.11. *Scanning device.*

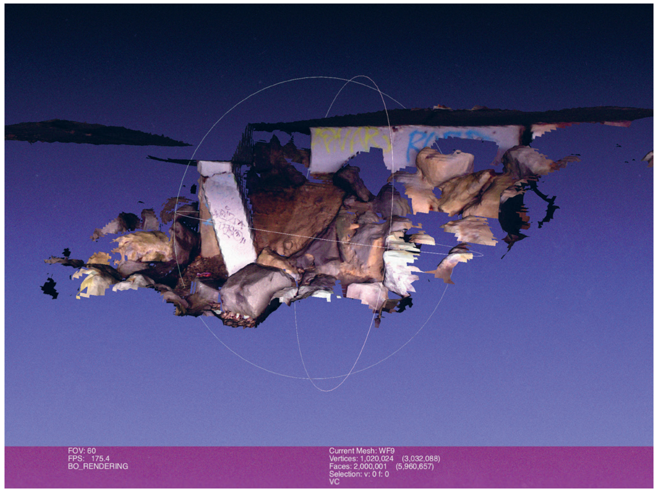


Fig. 4.12. *Scan processing.*

Sound Design

To generate the audio component of the work, I used Ableton audio production software to create a layered, textured soundscape. In addition to the field recordings I had taken with the zoom microphone, I made a simple hydrophone to enable me to take recordings from under the water (fig. 4.10). My intention was to develop an ambient cinematic soundscape that would enhance the imagination of the viewer as they experience the work. I made a simple hydrophone to enable me to take recordings from below the water surface in addition to the field recordings that captured the chime of the marina rigging, the distant sounds of the city, and the ever-present rhythm of the waves. The dramatic sensory elements of the brisk wind, choppy waves, and refracted city lights became scenographic materials that the intervention would build upon. From this I saw the potential of borrowing cinematic strategies to guide the audience's experience.

Virtual Environments

The manmade landform on which the Taranaki Street Wharf rests is a politically charged conglomeration of soil, clay, and rock. Wellington's steeply ascending natural landscape led to the Council's decision to expand the city by building into the harbour. As discussed in Chapter Three, this involved the transfer of materials from one part of the city to another, disrupting the cultural and ecological systems of both sites. These material trajectories belie the enormous political power of local government to affect both human and nonhuman lives. The force of human governance within the landscape is an overarching presence that shapes our interactions with the land, however this pervasiveness made it a challenging subject to draw an audience's attention to. To address this, I returned to the framework of posthumanism. Rather than addressing this human agency directly, I chose to work with it indirectly by reconnecting the waterfront with its place of origin.

In this piece I wanted to explore how environmental data could be used as a digital material through which agentic narratives can be virtually re-enacted for an audience. Building on the technological groundwork of *Te Mauri* (fig 2.11) by Stuart Foster and Kura Puke, I aimed to relocate the viewer to the Bolton Street Cemetery where the infill was brought from, retracing the journey of its matter as the landscape is disassembled and reassembled into the familiar waterfront site. To do this, I sought assistance to create a mobile 3D scanning device that would enable me to take scans of environments in any location (fig. 4.11). The mobile scanner was made from an Xbox Kinect which I used with Skanect mapping software. The software was able to capture up to 12 square meters of environmental data, depending on the light conditions (fig. 4.12). The scan was rendered as a three-dimensional point cloud that holds the position and colour of each voxel individually, allowing their

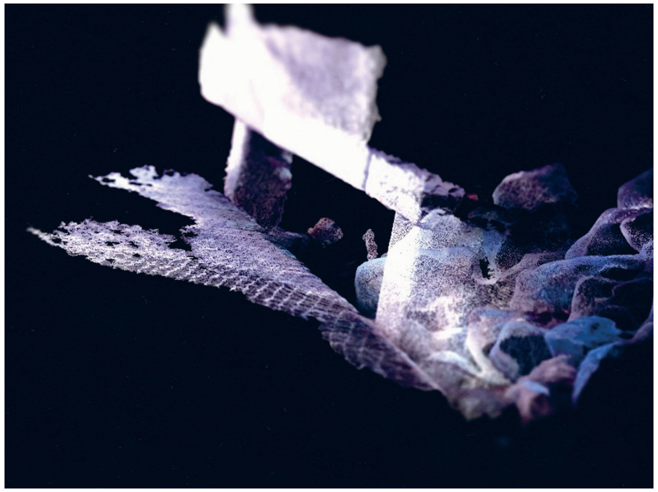


Fig. 4.13. *Point cloud animation.*

Fig. 4.15. *Point cloud animation.*

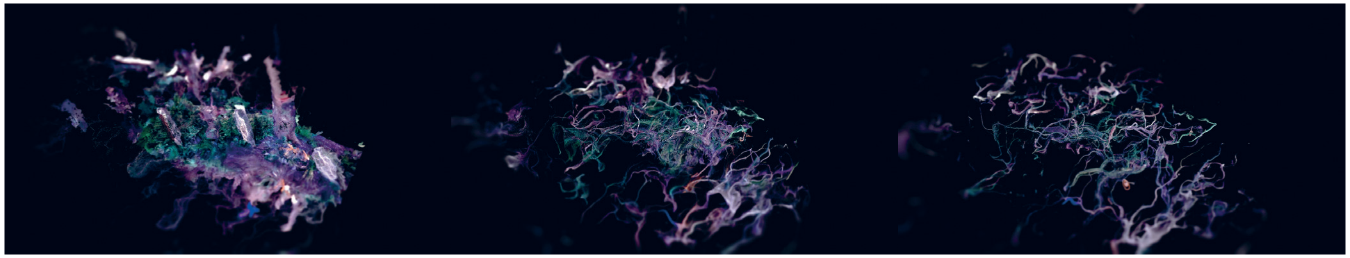


Fig. 4.14. *Point dissolve.*

movements to be animated like a particle system (fig. 4.13, fig. 4.14, and fig. 4.15). Neither the software nor the device was originally adapted for this purpose, and I experienced many challenges as I tested the limits of my own and the technology's capabilities. My exploration of these new skills was important to this research as I believe the blending of the real world with the virtual gives performance design methodologies an opportunity to reinterpret the world we live in.

Through this process I discovered challenges around the limitations of the technology; I had a short window of optimal daylight conditions for the device to work, and in many cases the scans did not translate into animation software as expected. Nevertheless, I was able to build a library of site scan animations. I edited the final animation in video editing software in order to develop a slowly transitioning story. Using the same techniques as I had for the sound design in Below, I created a soundscape from field recordings of the motorway whose construction instigated the demolition of the Bolton Street Cemetery.

In the development of this experience for a local audience, I hoped to connect with the viewer's spatial knowledge of the Bolton Street Cemetery and the waterfront, to question how those places came to be. By reinserting the manmade into the landscape, the work attempts to unveil the cultural context in which it was formed.

The Socio-Spatial Landscape

Understanding the land as fixed, inert matter has a homogenising effect. It reduces our capacity to register the diverse interrelationships that make up the city. *Between* serves to introduce the audience to an understanding of the site as a live multiplicity of relations between place and people. As such, it became the first Act in the final design work. I felt that it was important to guide the audience into the work by developing their sense of the fleeting, ephemeral network of fragments, erasures, and traces that builds a socio-spatial dialogue within the landscape. While this aspect of the work relates to the social interactions with the space, I wanted to focus on the site itself as a living performing agent rather than on the cultural readings of the human figure in the landscape. This decision arose from my experimentation with choreographic performance in my early concept work. In these performances I climbed off the pathway of the jetty and inserted my body into the rocks of the manmade foreshore. Drawing on my research into the performance practices of Julieanna Preston and Lauren Skogstad, I inhabited the site in stillness, becoming familiar with it as I acted in opposition to the constant movement of people throughout the space (fig. 4.16). Through these performances, I saw that the human figure is a powerfully connotative subject. This led to my decision to choose audio from the site as a scenographic material, with which I could reframe the interactions between place and people as performative encounters without reference to the body.

Fig. 4.16. *Still from performance*

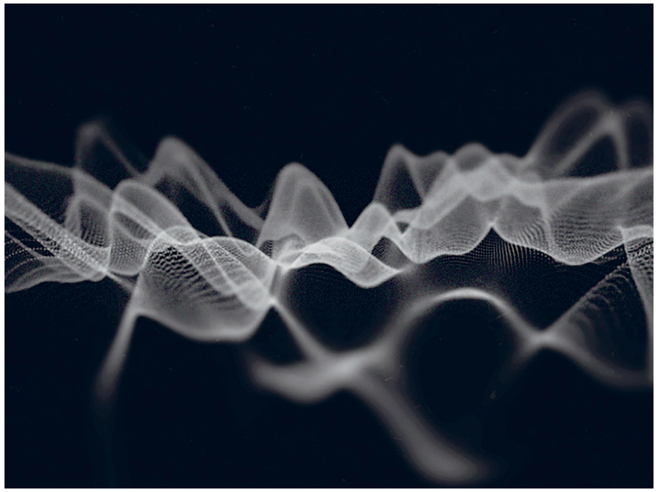


Fig. 4.17. *Audio landscape animation.*

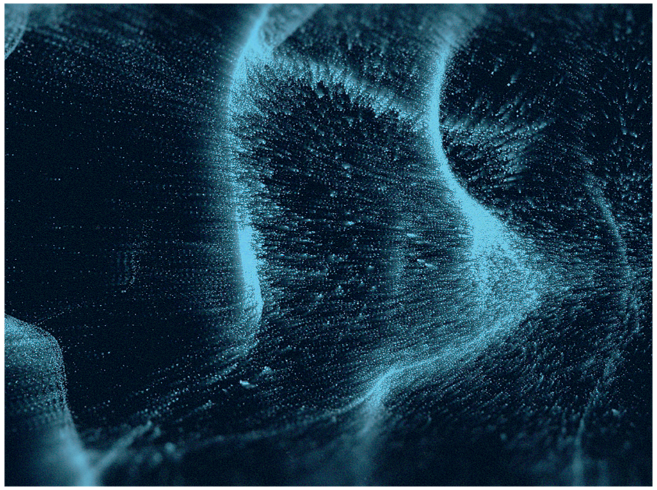


Fig. 4.18. *Particle animation.*

Fig. 4.19. *Particle animation.*

Due to the conceptual complexity of this reading of the site, I decided to keep the design output simple. I began by gathering approximately 10 hours of field recordings from a hidden mic within the site over a period of weeks. These long duration recordings captured the changing characteristics of the socio-spatial interactions within the site, at times filled with playful children, or the sounds of people walking dogs, or commuting cyclists. The ambient sounds of the harbour and the acoustic properties of the site are ever-present in these recordings, a subtle detail that reasserts the locality of the work. The audio material was developed into a layered composition by processing and compressing the recordings, keeping the verbal dialogue at the edge of understanding in order to get a sense of the accumulation of chatter without being drawn too closely to individual voices. While the immersive audio piece includes snatches of sound that are recognisable as voices, the method of capture and processing ensured that individual words and voices were anonymous. I then developed an audio reactive animation which would deliver an omnipresent visualisation of the social soundscape I had created. In the initial iterations I experimented with several ways of visualising the audio, attempting to use the sounds to generate a landscape which would create peaks and valleys according to the changes in the audio frequency spectrum (fig. 4.17). However, as work on the other Acts progressed, I found that this visualisation did not harmonize with the rest of the piece. Instead, I created a particle system (fig. 4.18), using digital feedback and displacement that coalesces and dissipates to the soundscape I had developed (fig. 4.19). As the viewer experiences the work, the immersive audio echoes with resonances of past encounters, feeding into the ongoing spatial play of sounds, movements, and qualities of the performativity of the site.

Reflection

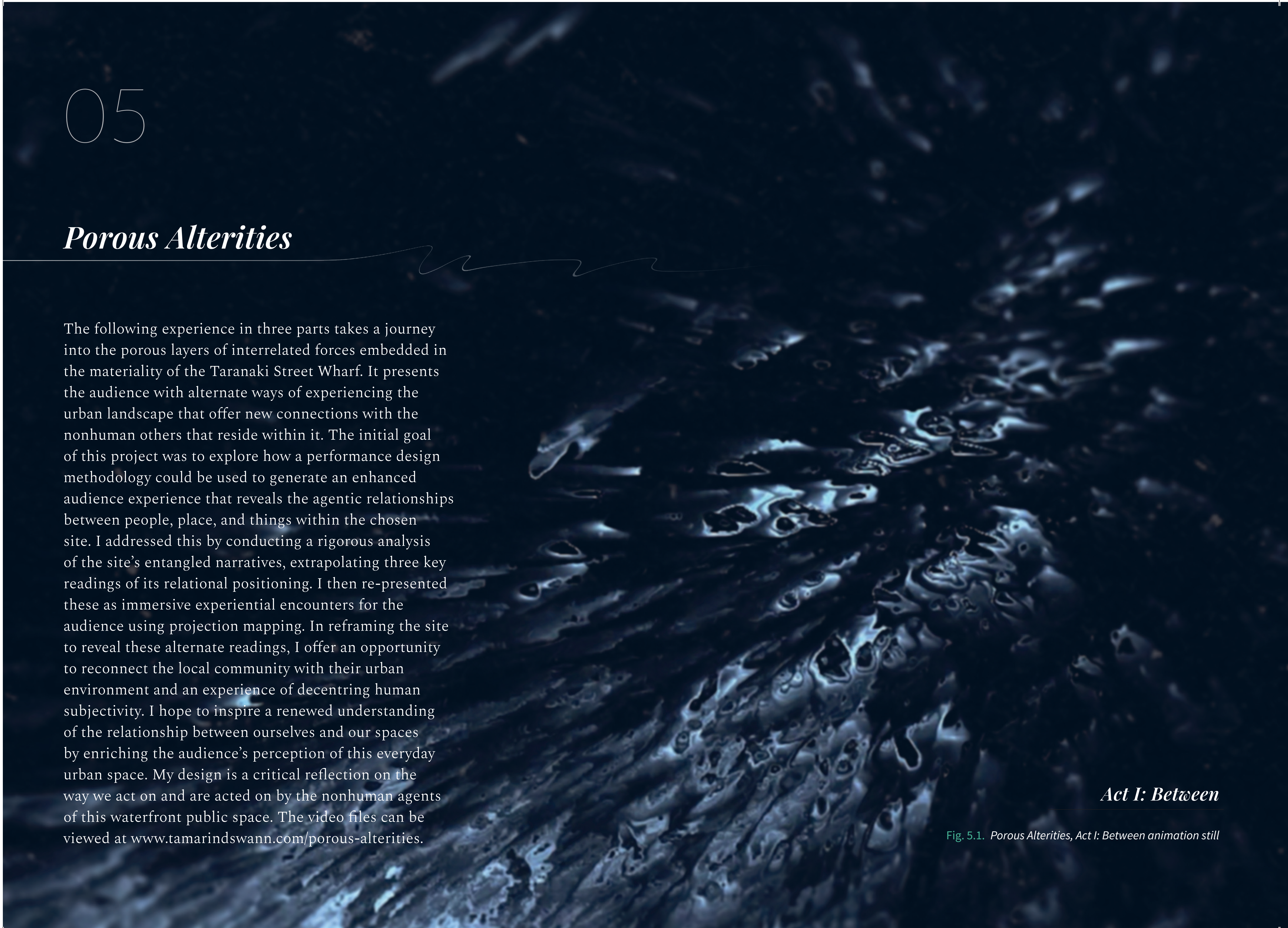
Through this design-led research, I developed a performance design methodology that priviledges the nonhuman through a non-invasive reassertion of their role in the urban landscape. To frame this thought exercise I have generated an audio-visual language that embraces plurality and nurtures a performative reading of space. The work challenged the limitations of technology to capture spatial data from the site, repurposing available tools to explore the possibilities of environment scanning in design intervention. As I discussed in the literature review, the moment of encounter in which the audience experiences the work is the point when the work takes on meaning. My task as a performance designer is to reframe the site, to highlight specific aspects of the space which are intended to make connections with the audience's own knowledge and memory. Therefore, a limitation of the work was that I was unable to test the effectiveness of the work by presenting it to an audience. Prototyping the work within the waterfront was impossible due to the work's technical requirements. Prototyping the work outside of the context of the waterfront removes the pre-existing conditions of the site which are an important aspect of the work.

This relates to another challenge that I discovered through the design-led research around the production of material-based performative experiences. One of the learnings from my context review was the difference between object-oriented practices in which meaning is embedded into artefacts, and performative practice in which meaning is tied to the experience of the viewer. Given that my work was based on site narratives, I found the work lent itself to an allegorical layering of symbolic meaning within the design work. While this was appropriate in this piece, in future work I would like to continue to explore how performative practices can co-produce experiences with the nonhuman without the subjectivity of the designer or the audience taking precedence. In this project I chose to address the symbolism within the work by retaining a level of ambiguity. Using the site narratives as a starting point, I attempted to achieve a level of poeticism through the sensory play of audio and visuals that would enhance the viewer's experience of the site without predetermining their interpretation.

05

Porous Alterities

The following experience in three parts takes a journey into the porous layers of interrelated forces embedded in the materiality of the Taranaki Street Wharf. It presents the audience with alternate ways of experiencing the urban landscape that offer new connections with the nonhuman others that reside within it. The initial goal of this project was to explore how a performance design methodology could be used to generate an enhanced audience experience that reveals the agentic relationships between people, place, and things within the chosen site. I addressed this by conducting a rigorous analysis of the site's entangled narratives, extrapolating three key readings of its relational positioning. I then re-presented these as immersive experiential encounters for the audience using projection mapping. In reframing the site to reveal these alternate readings, I offer an opportunity to reconnect the local community with their urban environment and an experience of decentring human subjectivity. I hope to inspire a renewed understanding of the relationship between ourselves and our spaces by enriching the audience's perception of this everyday urban space. My design is a critical reflection on the way we act on and are acted on by the nonhuman agents of this waterfront public space. The video files can be viewed at www.tamarindswann.com/porous-alterities.

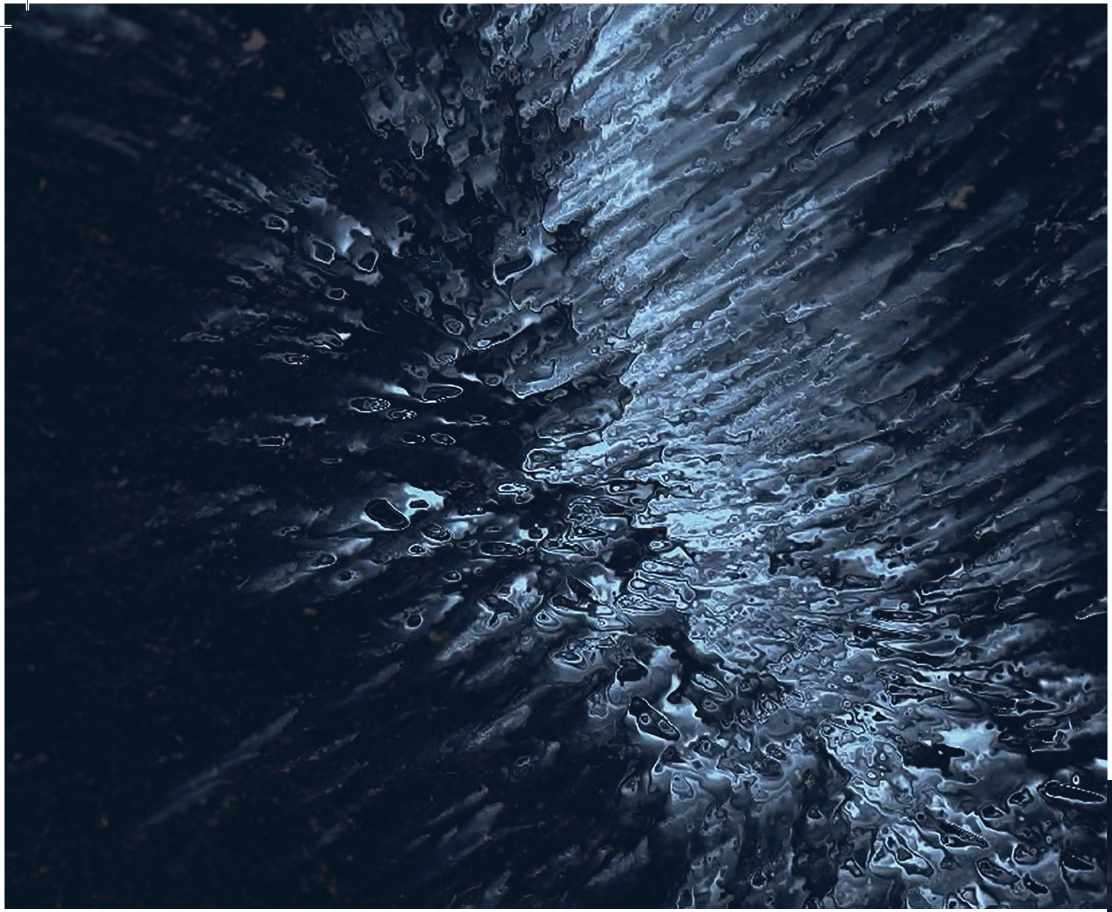


Act I: Between

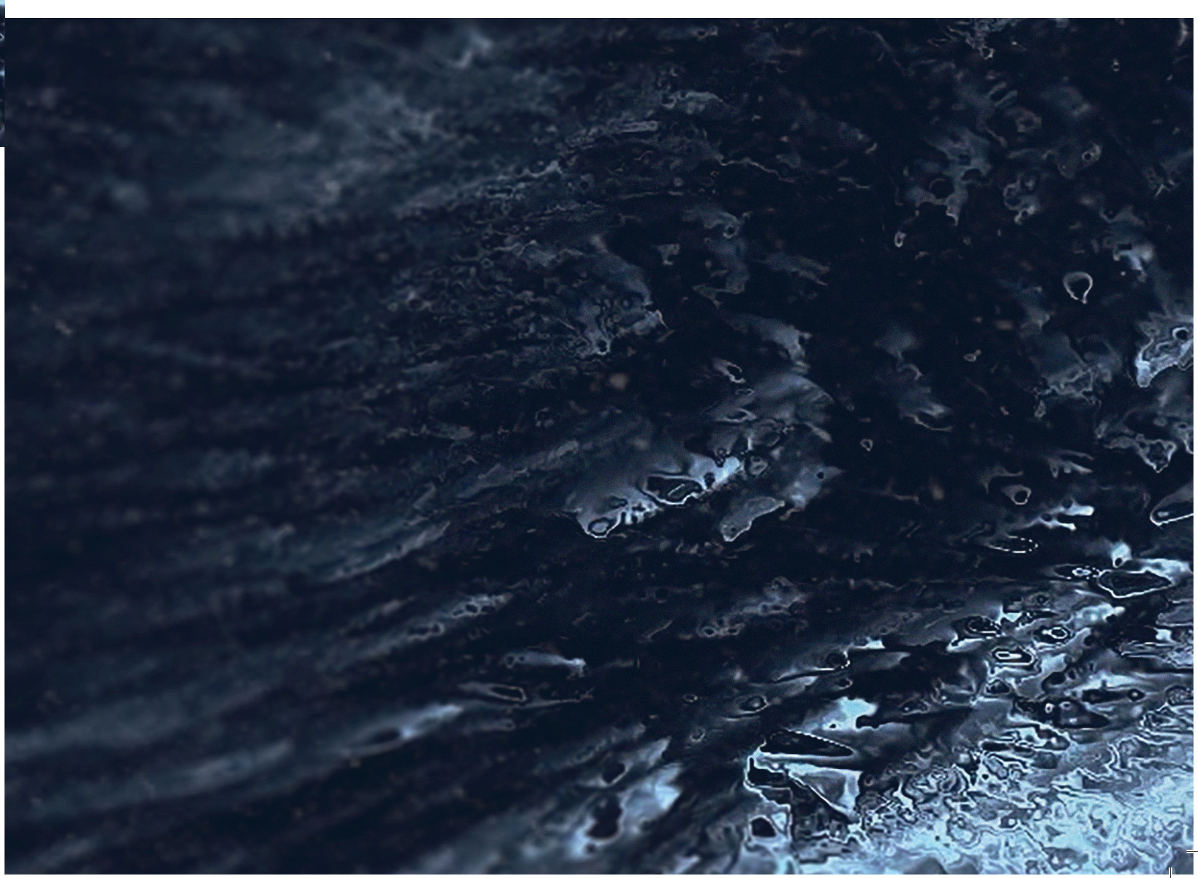
Fig. 5.1. *Porous Alterities, Act I: Between animation still*

Fig. 5.2. *Act I: Between animation still.*

Fig. 5.3. *Digital composite still.*

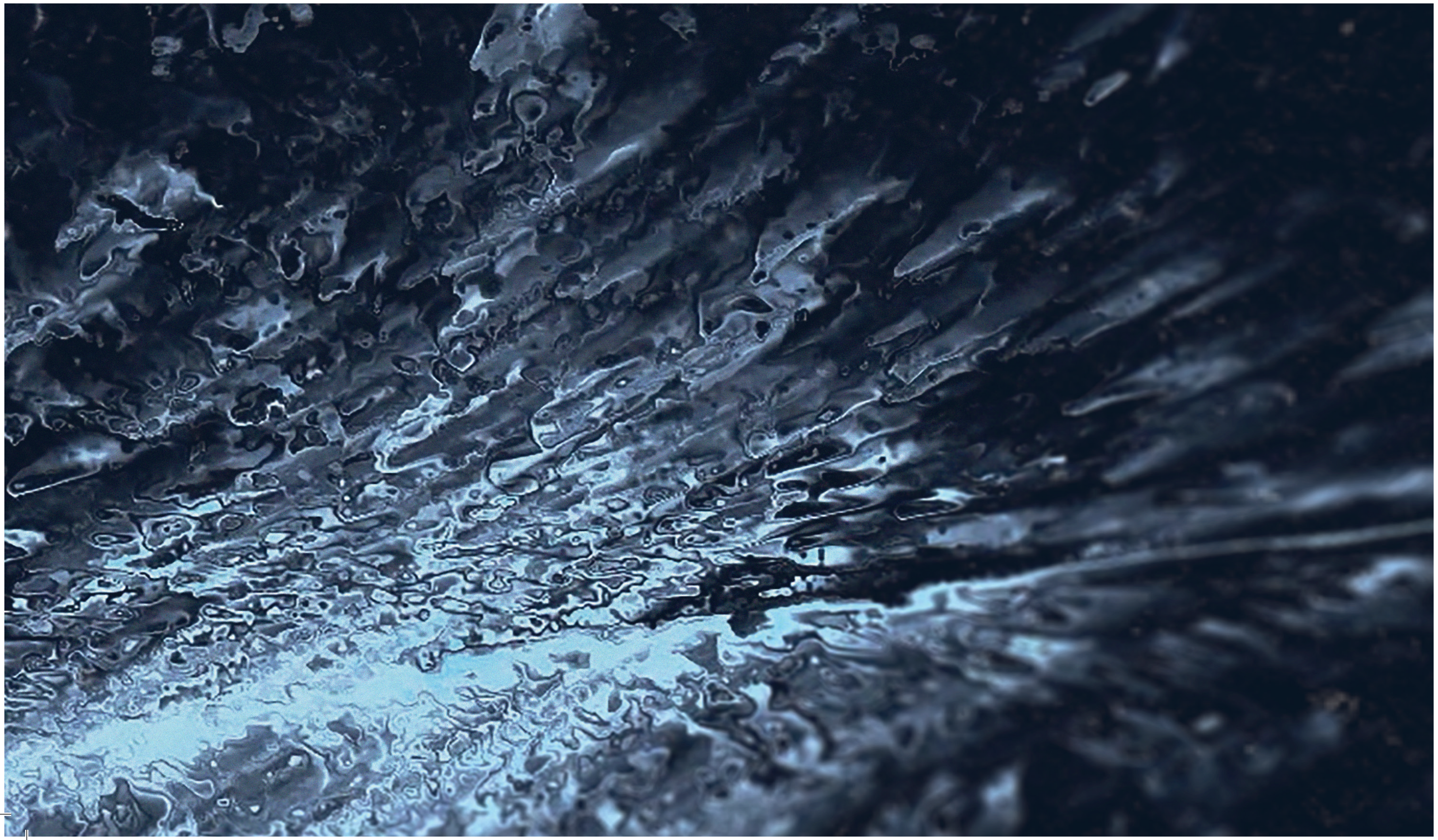


As dusk falls across the waves washing into Chaffers marina, the haunting sounds of laughter and cries call from the eastern corner of the Taranaki Street Wharf.



The ghostly echoes of past meetings emanate from below the concrete, drawing an audience of onlookers to the edge of their path. Along the jetty, dancing lights converge and disperse in a choreography formed by the sounds of the site; the fleeting moments when our experience is shaped by the space around us, and our space is shaped by our experience within it.

Fig. 5.4. *Act I: Between animation stills.*



Act I: Between illustrates a responsive relationship between the audience and the site by reframing audio data gathered from the site as a socio-spatial network of fleeting interactions. The work processes 10 hours of sound recordings taken from the site into a haunting landscape of constantly unfolding relations. The projection articulates the concept of the complex plurality of interrelationships between people and place through an audio reactive particle animation which gathers and recedes in accordance with the gathering of voices in the landscape. This initial introduction to a relational perception of the site lays the foundation for an understanding of the distribution of agency among both human and nonhuman actants.

Fig. 5.5. *Digital perspective render.*

Fig. 5.6. *Digital composite still.*

All three Acts of *Porous Alterities* use the same projection mapped area using three projectors mounted on truss stands along the handrail on the Eastern edge of Taranaki Street Wharf (fig.5.5). Figure 5.5 is a computer generated render of the installation made using Sketchup, Twinmotion, and After Effects. This still image comes from the Installation Preview video that I developed in order to communicate the design to others before the work is presented within the site. In the Installation Preview video I also used digital compositing techniques to render the animated projection onto footage from the site (fig.5.6 and fig. 5.7). This additional design output will be used to apply for funding support to present the work to the public.

Fig. 5.7. *Digital composite still.*

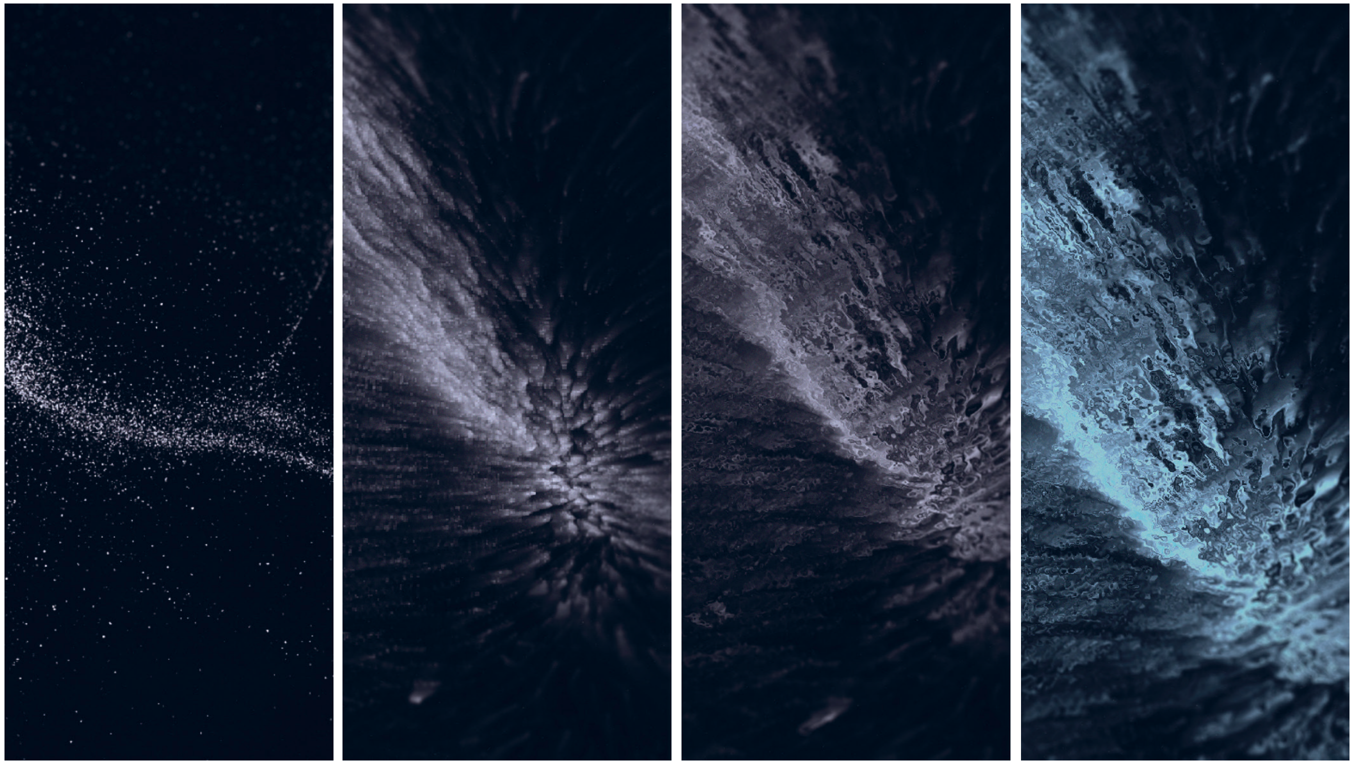


Fig. 5.8. *Act I: Between construction breakdown.*

Figure 5.8 demonstrates the construction of the final design for this first Act. On the left is the basic particle system in which the birth rate, speed, and resistance are driven by the soundscape developed from the sampled audio from the site. Moving to the right, the particle system is developed into a wave form by increasing the length of time that each particle is visible and atlering the colour. A more detailed description of the technical construction of this piece is included in Appendix C.

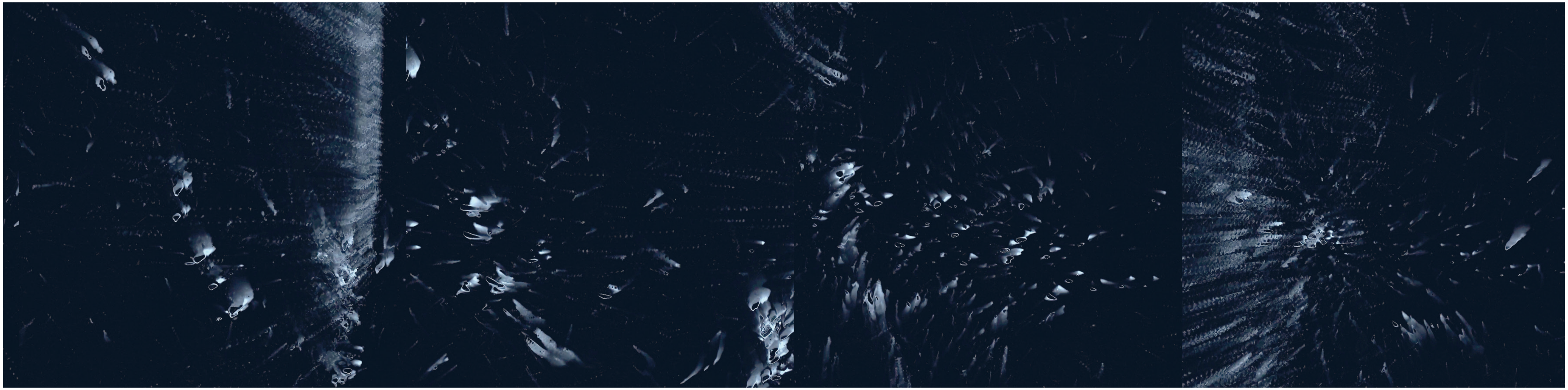


Fig. 5.9. *Act I: Between animation sequence.*

Act II: Below

Fig. 5.10. *Porous Alterities, Act II: Below.*

Fig. 5.11. *Digital composite still.*

Twilight settles into darkness, and the call to observe the interplay between humans and the landscape recedes. In its place, the turbid cadence of the tide rises to encase the audience in the current of the sea beneath them.

From the murky depths, the tangled landscape of the rocky foreshore emerges to take over the jetty. Fragments of the manmade structure are obscured by gleaming starfish and kina that slip in and out of sight momentarily, to be replaced by other assemblages of scenes from below. In this luminous complexity, the human traces of cigarette butts and beer cans are interwoven with marine matter, becoming a unified fabric of co-existing parts.

In this enhanced spatial experience, the immersive intervention reveals the entangled mesh of nonhuman actants hidden below the waterline. Through the production of a close encounter with this alternate perspective of the site, the work reconnects the audience with the assemblage of rubbish, rocks, concrete, and living organisms below the jetty. By reasserting the presence of this more-than-human relationality, *Act II: Below* establishes a renewed dialogue between the human and nonhuman and calls attention to the interconnectedness between ourselves and our environment. In keeping with the visual language of *Act I*, the work uses generative animation techniques to layer and illuminate textural imagery taken from below the water's surface.

Act II: Below places the audience in the position of the posthuman subject who "is constituted in relationship with a world in flux; this subject is relational, observing, and building intra-actions with nonhumans, and environments" (MacDonald and Wiens 370). As such, it represents an experimental use of digital media as a tool for the production of place-based experiences which decentre the human subject.

Fig. 5.12. *Act II: Below animation stills.*

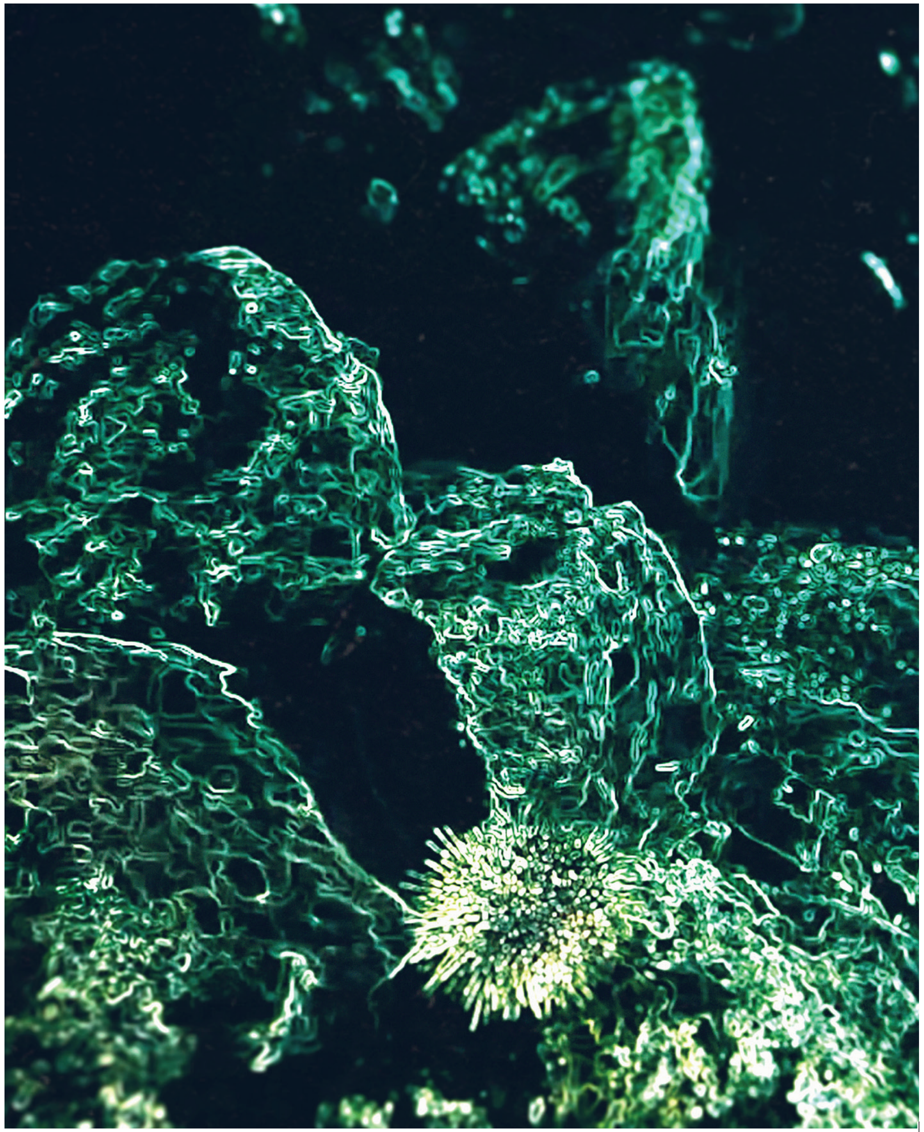


Fig. 5.13. *Digital perspective render.*

Fig. 5.14. *Digital composite still.*

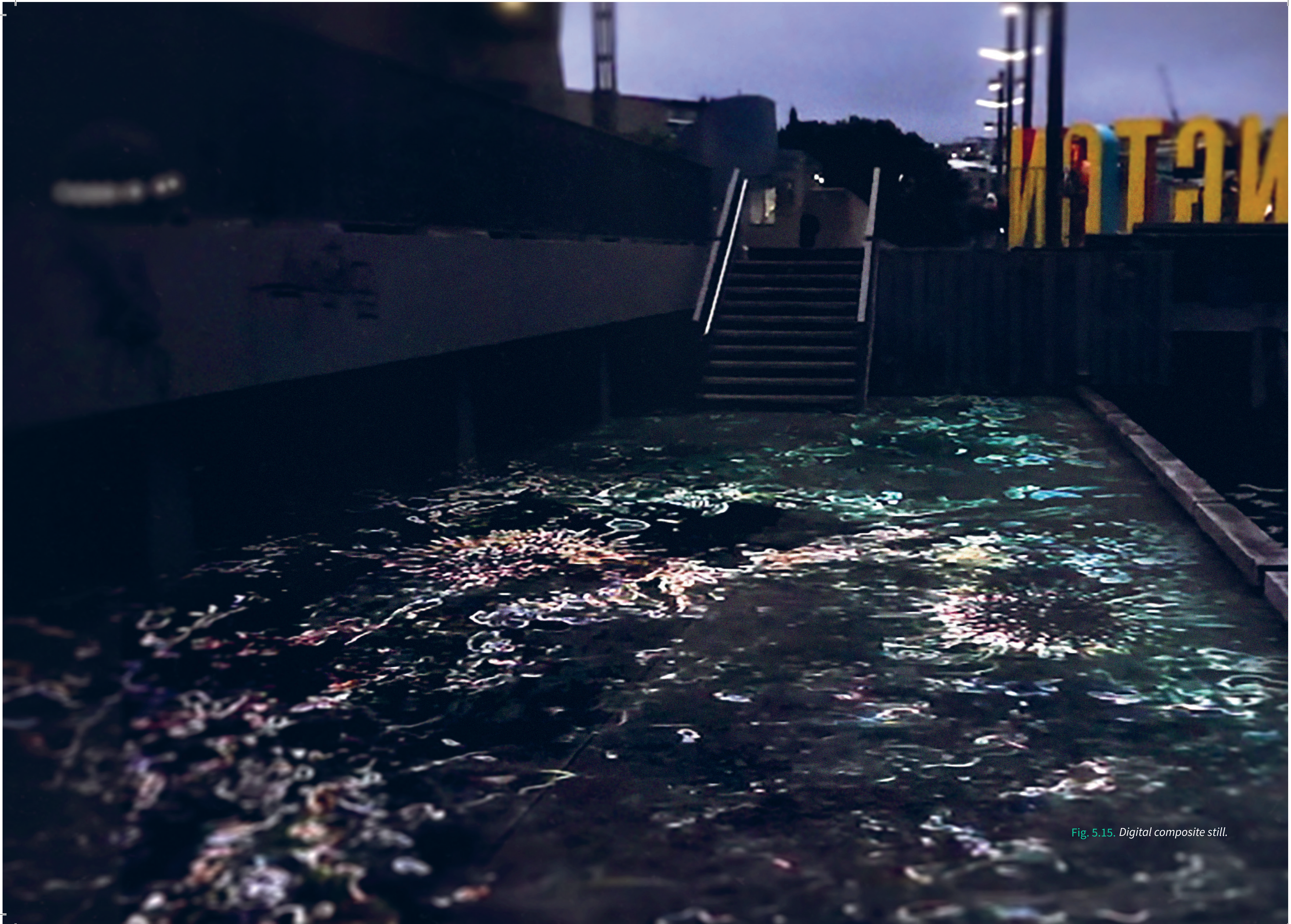


Fig. 5.15. *Digital composite still.*

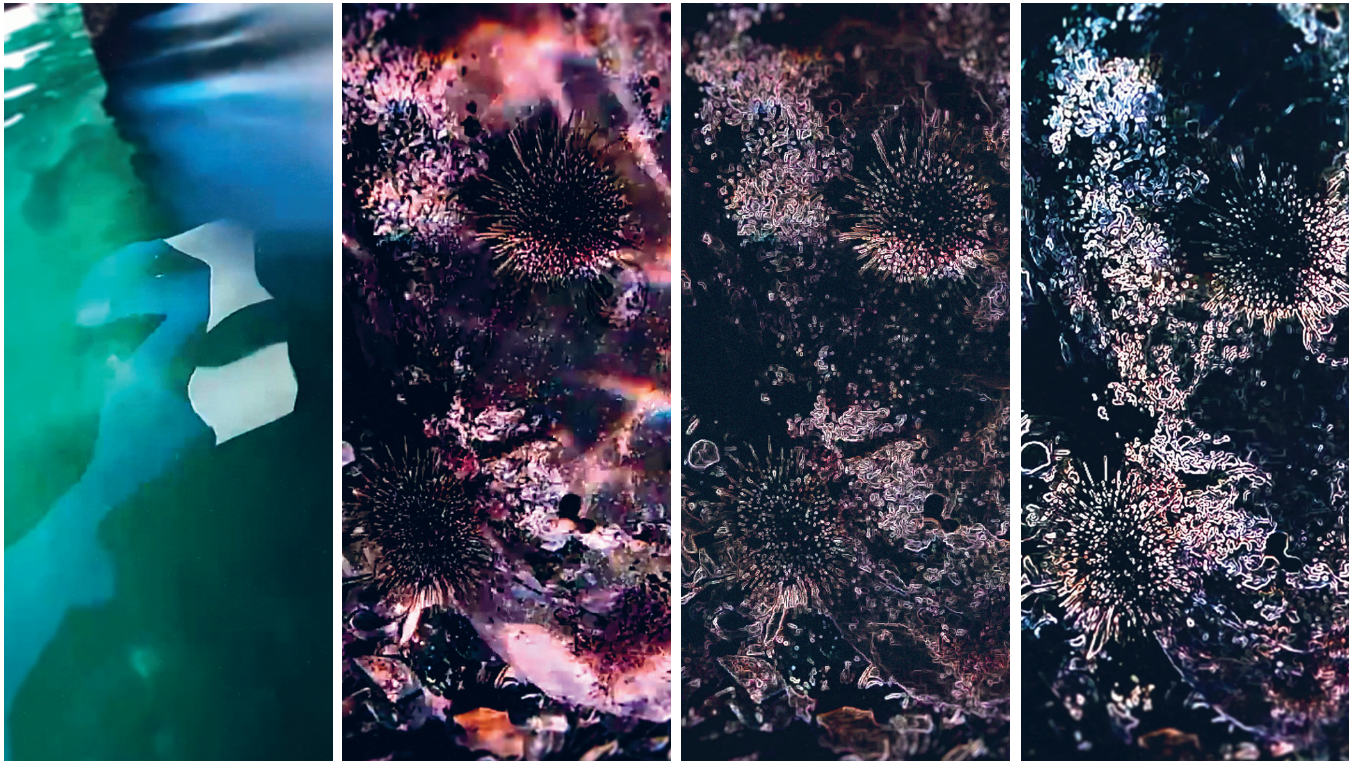


Fig. 5.16. *Act II: Below construction breakdown.*

Figures 5.13-5.15 are digital site renders of *Act II: Below*, showing that the second phase of the intervention uses the same projection area. The final animation design for this piece is constructed from two layers of footage from the site (fig. 5.16). The leftmost image is an unedited view of the camera moving below the water's surface. Next, the second layer of footage is processed to highlight the textural details of the assemblage. As the footage moves, this reveals recognisable things such as the kina, while also entangling them into a single surface. I used generative techniques to allow the imagery to grow and evolve organically. Technical details are included in Appendix C.

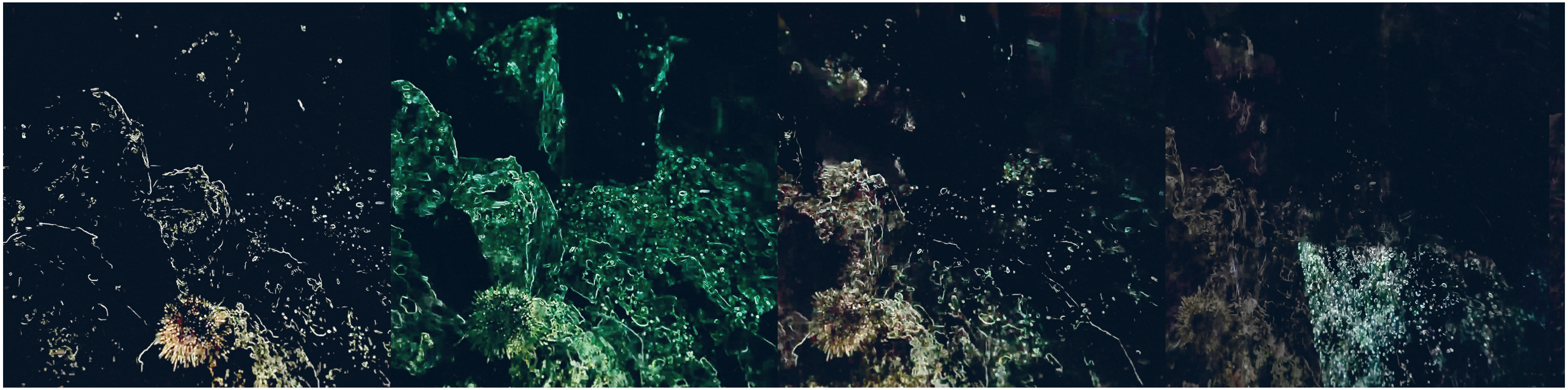
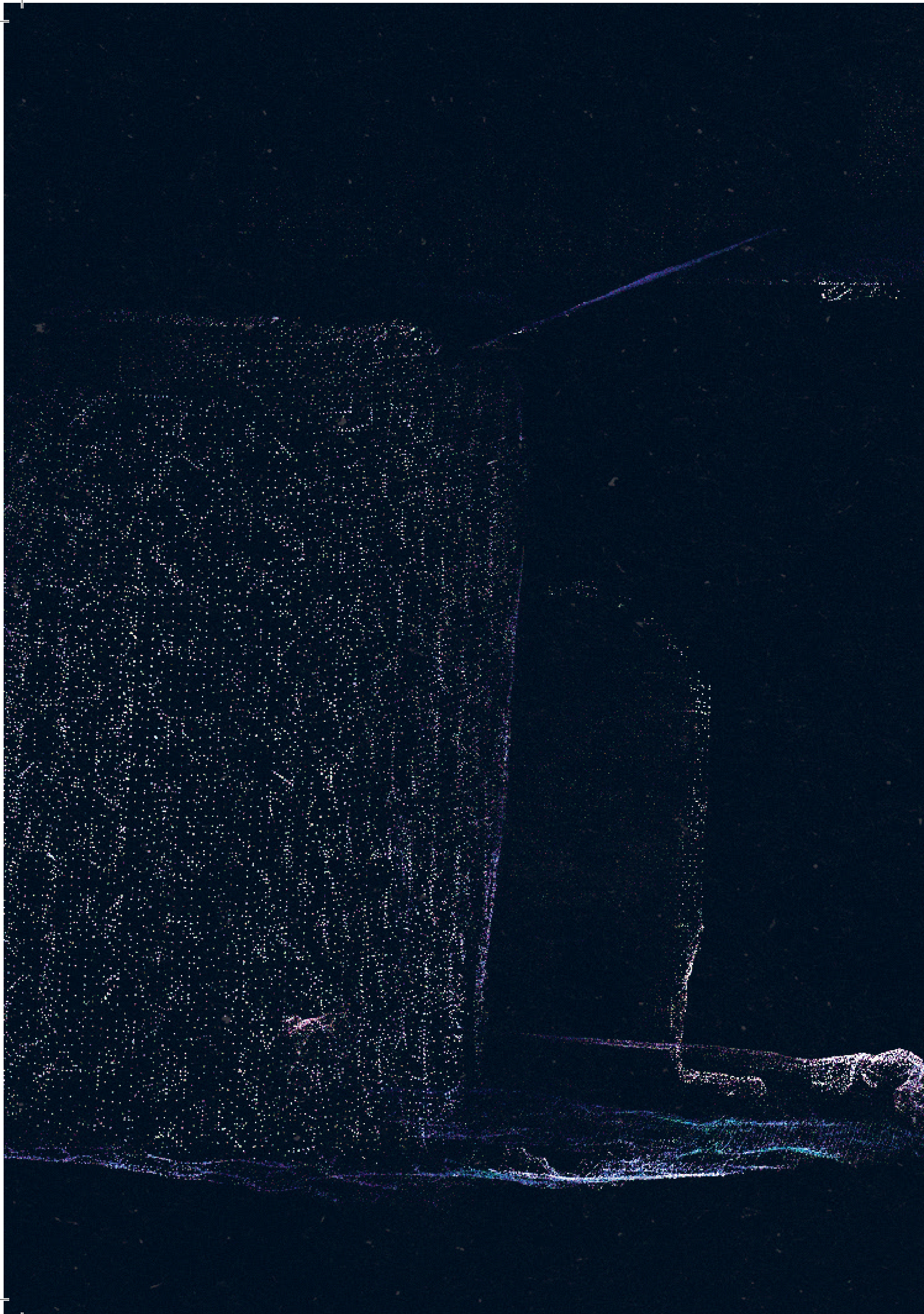


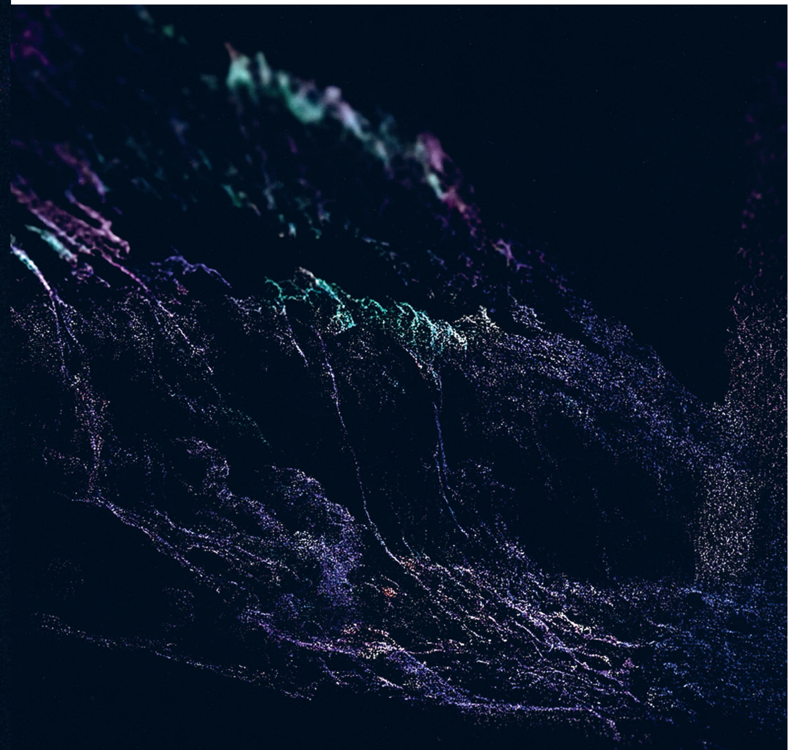
Fig. 5.17. *Act II: Below animation sequence.*

Act III: Above

Fig. 5.18. *Porous Alterities, Act III: Above.*

Fig. 5.19. *Digital composite still.*





Night gathers around the urban glow of the city, and the work transforms again. The jetty is now a portal, soaring through scenes in which soil-tangled tree roots rest against concrete substructures. As the invisible eye moves onward, the concrete now lives alongside nineteenth century graves, marking the location of the Bolton Street Cemetery.

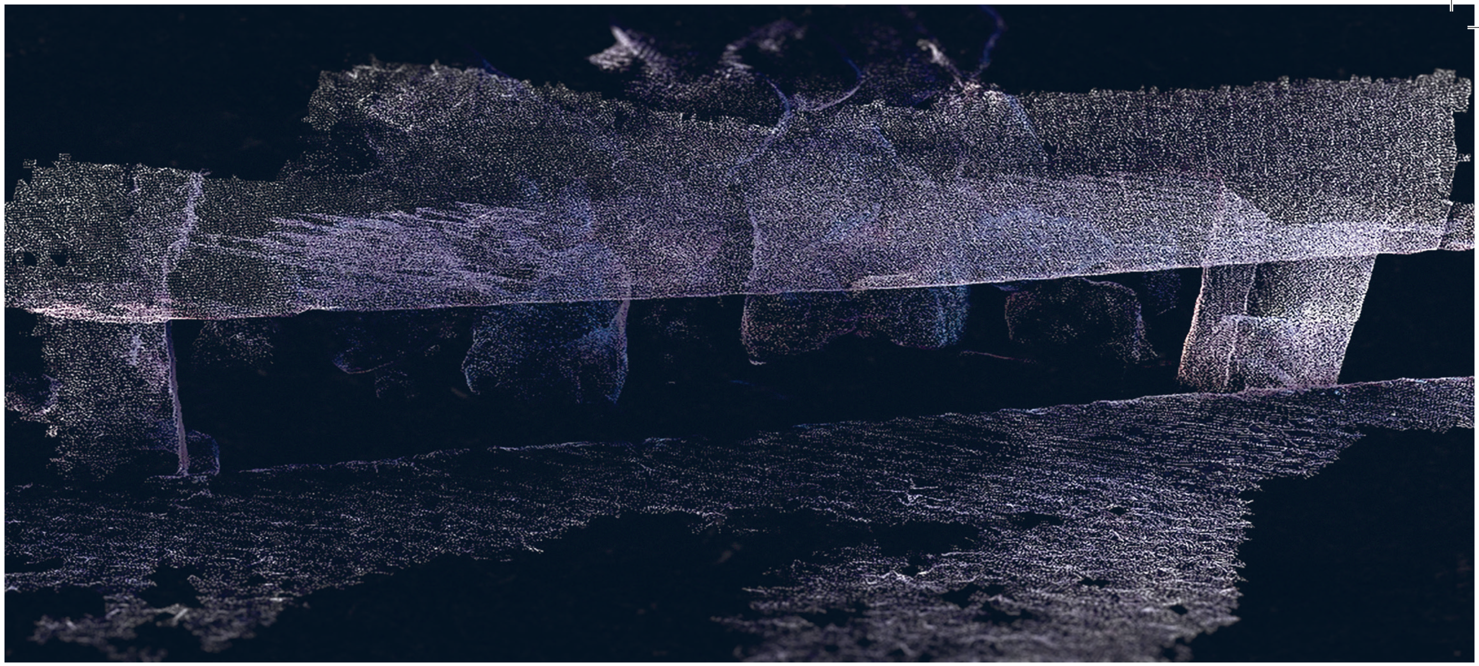


Fig. 5.20. *Act III: Above animation stills.*

A ceaseless rush of vehicles provides an accompaniment to this view, which dissolves into sedimentary clouds that are broken apart with the momentum of urban change. From the darkness, the particles appear to reassemble into the familiar rocks and concrete of the jetty. This journey retraces the path of the dirt, dust, soil, and rocks that once rested in the heart of the city, and which is now buried in the foundations of the waterfront. This earthly matter was exploited for the manmade extension of the city, a commonplace occurrence in the epoch of the Anthropocene, yet a transformation of the landscape that is only made possible by the accumulated wealth and resources of a powerful, human-centred political and cultural system.

The finale of the work, *Act III: Above* generates an encounter between the audience and the intangible human forces that reshaped the shoreline by revealing the relationship between the two sites across the city. The piece examines the overarching forces present within the site through an exploration of the matter used in the construction of the Taranaki Street Wharf. Using digital scanning technology, I was able to map the landscape and re-present the historical context of the site as an experiential encounter which shows how the past actions of our society have impacted the environment. By repositioning the viewer as a participant in this process of change, I seek to generate new knowledge of “the politics of those geographies and of our relationship to and responsibility for them” (Massey 34).

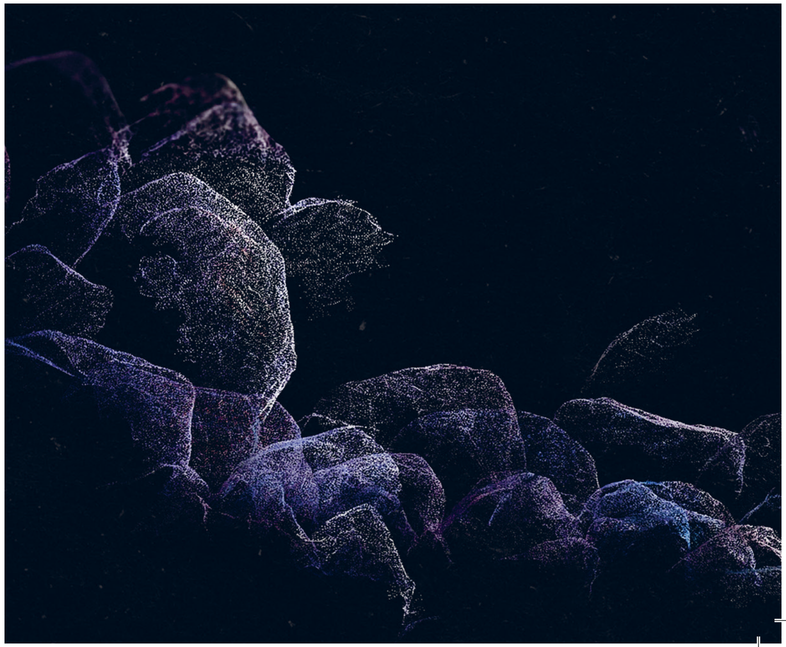


Fig. 5.21. *Digital perspective render.*

Fig. 5.22. *Digital composite still.*

Fig. 5.23. *Digital composite still.*

Figures 5.21-5.23 are digital site renders of *Act III: Above*. Figure 5.24 shows the transformation of the 3D scan of the site on the left, to the final point cloud animation on the right. The two middle images show how the scan is rendered into small rectangular 'pixels' that retain the spatial position and colour information from the original scan. A detailed breakdown of this process is included in Appendix C.

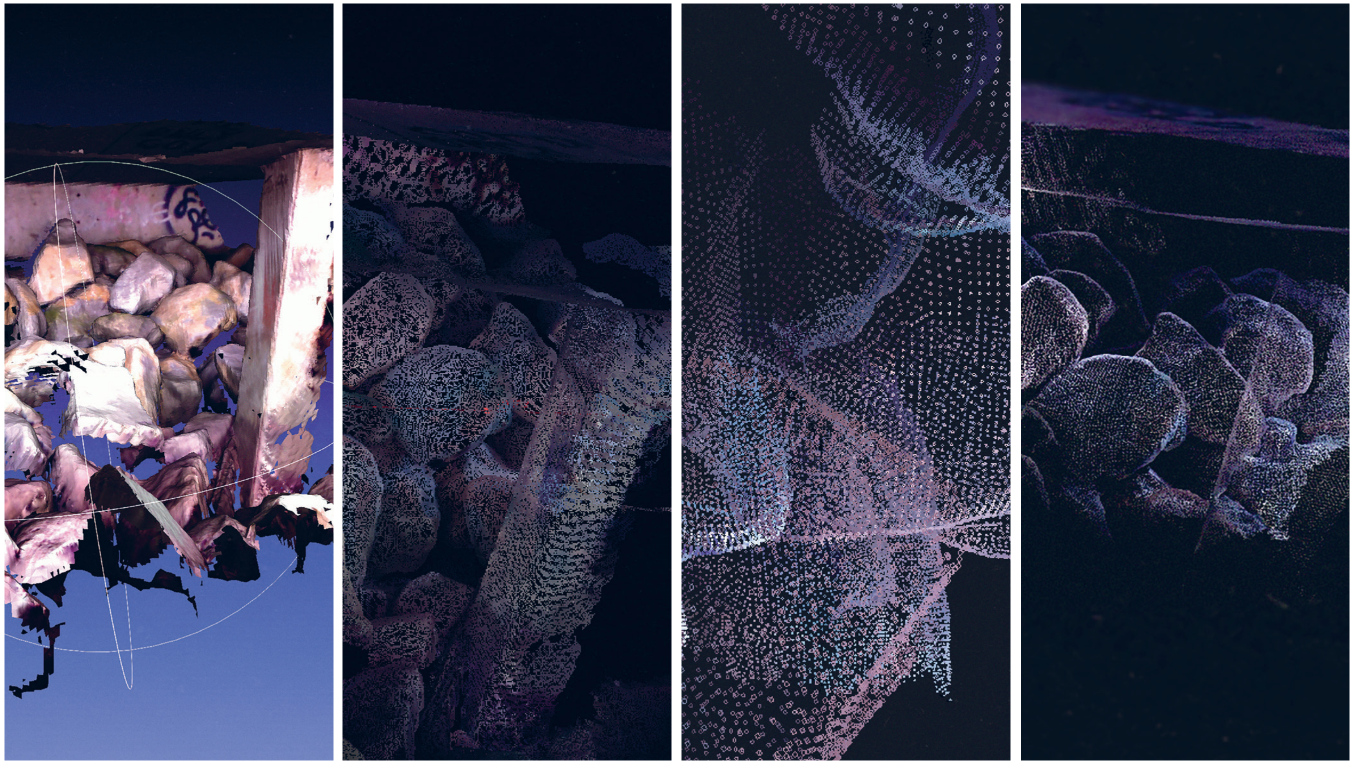
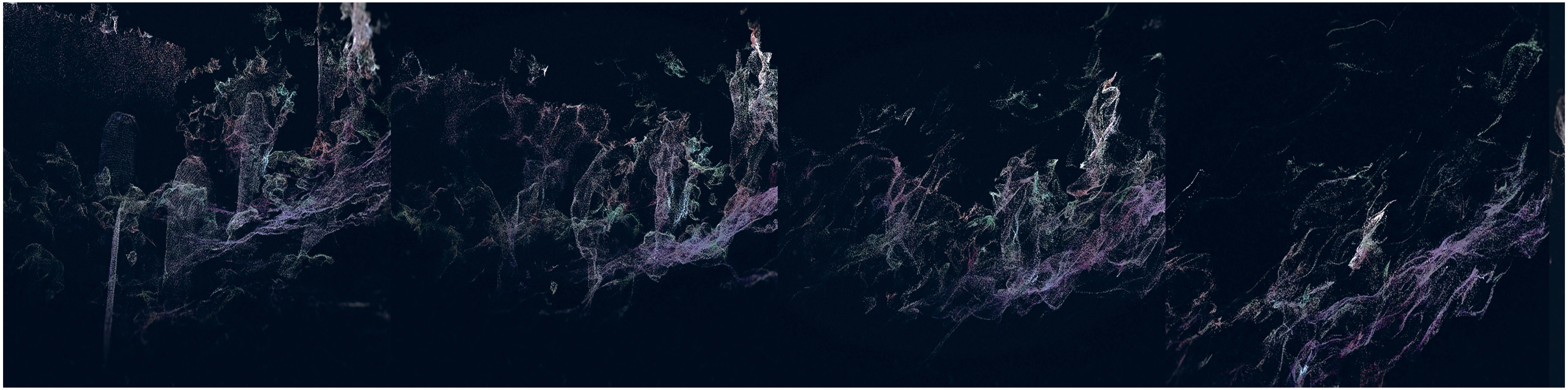


Fig. 5.24. *Act III: Above construction breakdown.*



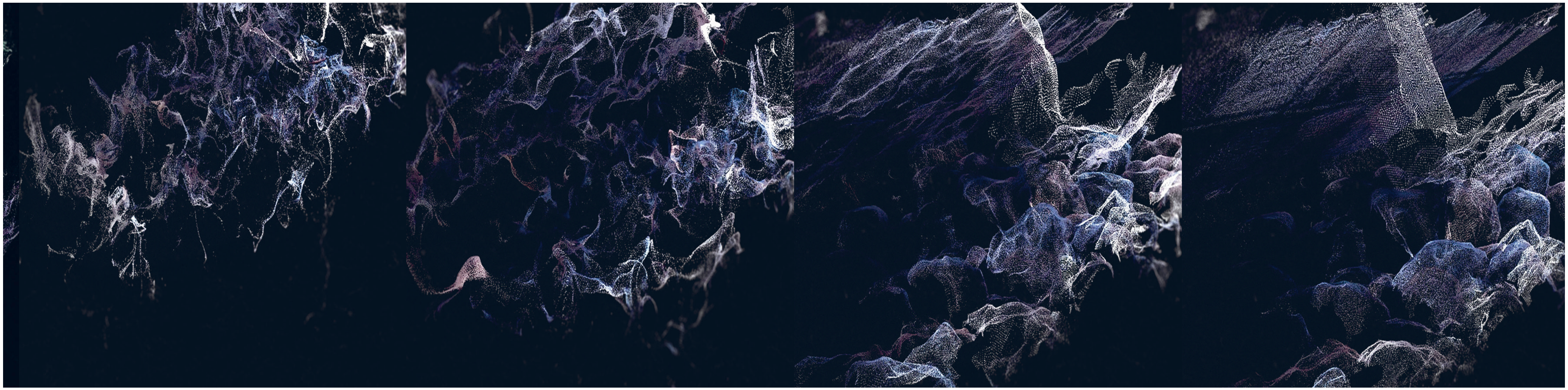


Fig. 5.25. *Act III: Above animation sequence.*

06

Conclusion

The aim of this design-led research inquiry was to develop a site-specific performative intervention that synthesises and reframes the agentic relationships between people, place, and things in an everyday urban space for the benefit of a local audience. It explores the potential of digital media to answer the question: how can a performance design methodology generate an enhanced audience experience that reveals the narratives of human and nonhuman relations within the chosen site? The intention behind this endeavour is to use the site as a case study to re-evaluate our relationship with the nonhuman others that co-exist with our society in order to expand our awareness beyond the limits of human-centrism. In doing so, I frame a global contemporary issue of the Anthropocene era within a local, quotidian context. By situating this critical analysis of the site as an experiential event for a local audience, I seek to enrich the community's understanding of its own urban environment, as Olafur Eliasson commented in conversation with Borch and others, "if we can understand how we produce the climate and how the climate produces us – if we can understand the relationship we have with the climate – then we can also start to develop a sense of responsibility [to it]" (Borch 102). I take this imperative further by bringing the audience into a consideration of the nuances of relational agency between both human and nonhuman alterities.

The offering of this exegesis is *Porous Alterities*, an experiential intervention into Taranaki Street Wharf, in Te Whanganui-a-Tara, Wellington Harbour. The project began with a close investigation of the site which uncovered the layered agentic relationships within the site. In this site research, the key methods of observation and documentation discovered the entangled performing agents of the site. In this way I became familiar with the site's pre-existing atmosphere, its quotidian performances, and its nonhuman inhabitants. Alongside this, archival research unearthed the history of the Council's redevelopment of the waterfront. Three key narratives emerged from this initial research which became the stratified framework of the three physical and conceptual sites: *Between, Below,* and *Above*.

The design development phase used the library of audio and visual material generated from the site documentation to produce three animations that are brought together as the three Acts of *Porous Alterities*.

In this work, the audience first encounters *Act I: Between*, which reveals the unfixed, fleeting interrelationships between people and place that co-produce a performative reading of the site. The first Act introduces relationship between the audience and the site, offering an understanding of urban space as a complex plurality of temporal connections. This interpretation reveals the site as a porous, evolving network of superimposed meanings and relations that coalesce in our momentary spatial experience. By choosing to foreground the experience with this heterogeneous perception of the site, I seek to reaffirm the responsive relationship between people and place. This work was also driven by my desire to contribute to the advancement of critical performance design practices in Aotearoa by demonstrating how performative intervention can apply complex spatial theories to a local site, to produce audience encounters that build our understanding of the spaces in which we live.

The second phase of the work, *Act II: Below* uncovers the entangled mesh of nonhuman actants hidden in the foreshore below the concrete. This piece transforms the site into a window through which the unseen ecology below the jetty can be perceived. As such, it reconnects the audience with the assemblage of rocks, concrete, and marine organisms that thrive below the manmade structure of the waterfront. The work explores the capacity of digital immersive technologies to extend our experience of a site into unfamiliar territory. By using projection mapping, I was able to reassert the presence of the nonhuman actants within the site, while respecting their autonomy by limiting my intervention to an overlay of light and sound into the surface above them. Although the intervention makes use of representational imagery of the nonhuman inhabitants of the site, it is positioned as a disruption of the living relationship between the audience and the hidden nonhuman actants below. In this way the design outcome is a live performance activated by the connection between the audience, the site, and the other-than-human agents within it. To put this in terms of a site-specific scenographic practice, the work seeks to reshape the viewer's experience of place in the context of the ongoing performance between bodies, matter, and environments.

The final movement, *Act III: Above* reconnects the waterfront with its material origins, tracing the journey of the infill from the demolition of Bolton Street Cemetery to the seabed of the harbour today. In this reading I reconsider our relationship to the landscape by drawing on the site's historical context and the hegemonic powers involved with it. Bringing the audience's attention to the materials beneath their feet demonstrates a renewed connection to our urban environment, and an awareness of the political nature of the matter it is constructed from. Through this lens, the reclamation materials become holders of knowledge, living agents from whom we can learn more about ourselves and our environment. This final piece explores the limits of emerging 3D scanning technologies to generate digital spatial maps of found environments. This project utilises these tools to alter the positionality of the viewer, reframing their spatial experience by relocating their point of view. My intention was to illustrate a critical application of these technologies as a method for posthuman performance design practices.

Final Thoughts

This project represents a significant transformation of my creative research practice, and the start of my journey as a performance designer. One of the most challenging learnings from this project has been coming to terms with a different set of basic conditions behind the production of temporal place-based experiences. These are the foundational principles of space, time, and experiential encounter that I gathered during my literature review and strengthened with the iterative process of design development. It was not until I fully internalised this theoretical framework that I could begin to select methods that would enable affective audience experiences with the narratives of the site. In the final design outcome of this project, I responded to this emphasis on the audience's experience by building on the affective qualities of the site. I achieved this by harnessing the site's other-than-human qualities. Moving forward, I intend to continue explore other ways that performative practices can work more co-productively with the nonhuman subjects that it engages with.

Another key outcome of this project was that I learnt to trust the design process. In the early stages of my design research, I took an explorative approach to methods as I experimented with drawing, sculpture, and performance as discussed in Chapter Three. At the time this felt like a time-consuming operation that lacked clarity, however looking back I can see that this phase of research was crucial for several reasons. Firstly, the oscillation between research, making, and self-reflection was a synthesising process which solidified my understanding of the ontology behind my work, and how those fed into my reading of the site's relational narratives. Secondly, this explorative approach allowed me to take a transdisciplinary stance on methods which enabled me to select the most appropriate design strategies that maintained an integrity to my values as a designer and the intention of the work. Through this exploration of methods, I discovered how digital media would allow me to tie the work to the materiality of the site without physically disrupting it. It also gave me a way of allowing the work to become a collaboration between myself and the site rather than being completely an intervention of my own design. While the time I spent laying the foundations for my practice meant I had less time to actualise the final work, I now trust that these supporting principles give the work a clarity that it would otherwise have lacked, and I will be able to use them as the building blocks of future projects.

Through this research I have developed a performance design practice that I will carry forward into future explorations of the cultural and ecological complexities of Aotearoa's urban spaces. My immediate next steps will be to present *Porous Alterities* to the public, to take the project to its intended audience. With this critical analysis of the Taranaki Street Wharf, I have begun to explore practical ways of generating experiences that introduce audiences to alternate ways of relating to the environment beyond human-centrism. By expanding our awareness of the relational interactions that co-produce this public space, I hope to contribute to the emerging field of posthuman performance design. I believe that producing opportunities for the people of Aotearoa to see their urban environment in new ways has the power to influence the way we relate to and take responsibility for our landscape. Positioned at this conceptual interstice between people and place, I intend to grow my practice as a vehicle for cultural critique and as a platform to raise awareness of the nonhuman alterity that our species depends upon.

Appendix A

Mapping

In the early stages of my research I created a large number of maps as I became familiar with the site. I created section and plan drawings of the site as I explored the area (fig. A.1, fig. A.2, and fig. A.7). In further mapping exercises I marked out the habitation zones of wildlife and movement through the space (fig. A.3). I also examined the Wellington City Council's governance by mapping CCTV coverage and the bounary of the Council owned land (fig. A.4). As I considered agency in the site, I mapped the boundaries between public and private spaces (fig. A.5). Finally, as I conducted multiple site visits I created a sensory map in which I recorded the sounds and sights that I had experienced there (fig. A.6).

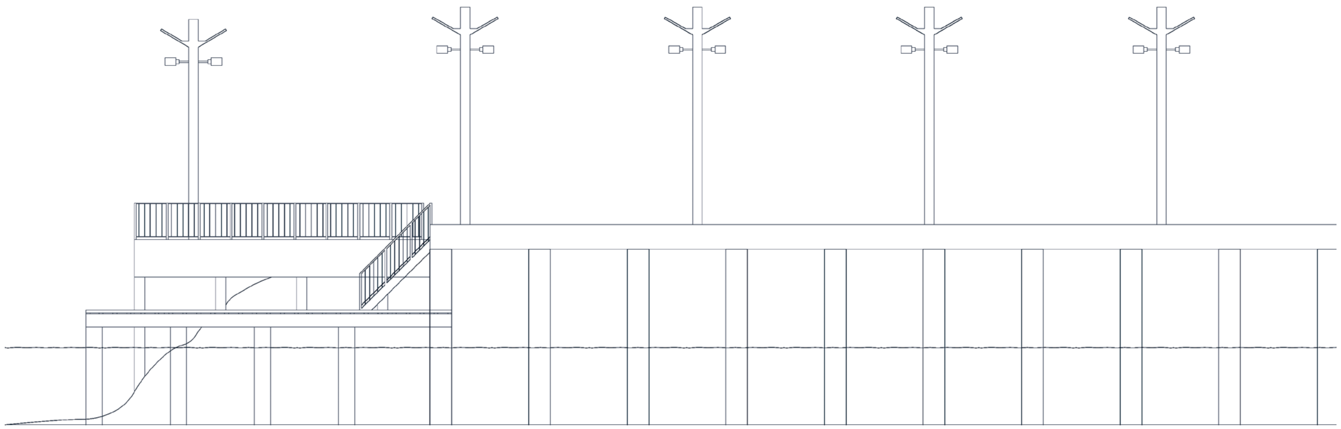


Fig. A.1. *Section facing South.*

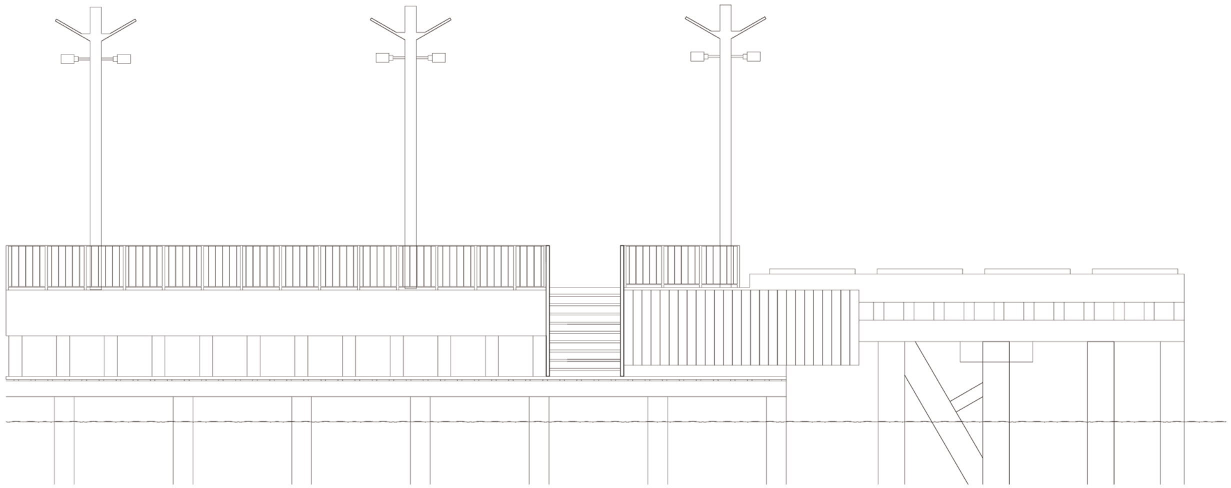


Fig. A.2. *Section facing West.*

Fig. A.3. *Map of actants.*

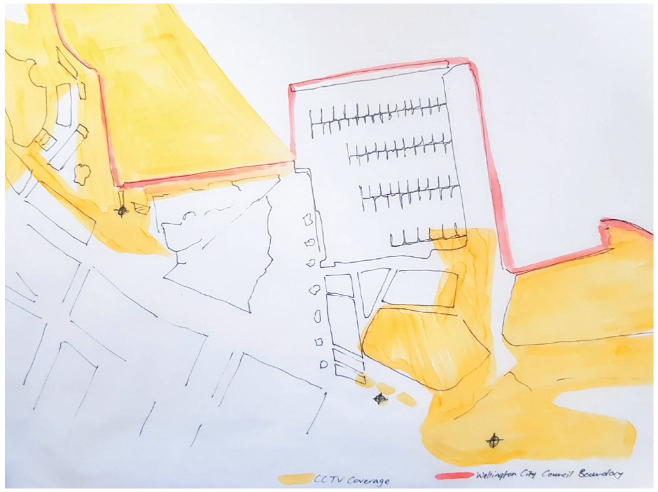


Fig. A.4. *Map of WCC governance.*

Fig. A.5. *Map of private vs public.*

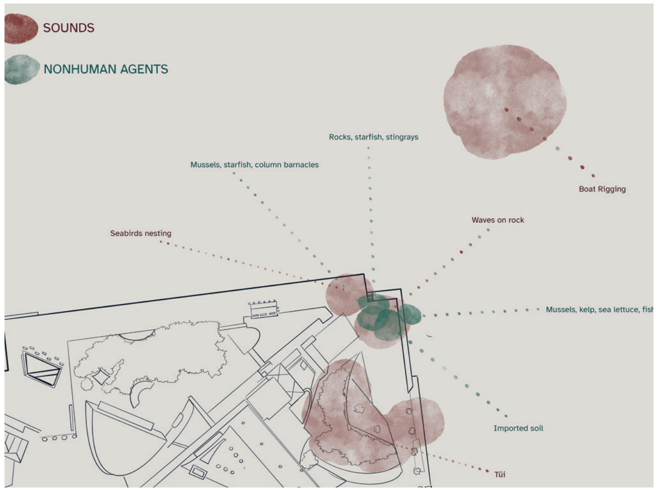


Fig. A.6. *Sensory map of actants.*

Fig. A.7. *Plan map for performance.*

Appendix B

Photo Documentation

Here are further examples of the documentation that I gathered during my close examination of the nonhuman actants within the site. These images pay attention to the interplay between human and nonhuman things and matter, the ways each has acted upon the other.

Fig. B.1. *Photodocumentation of site actants.*

Fig. B.2. *Photodocumentation of site actants.*

Appendix C

TouchDesigner Working

Figure C.1. details the audio reactive animation network that I built in TouchDesigner for *Act I: Between*. On the left is the Audio File In CHOP, where my edited audio file is entered. After this, three channels are split using a Low Pass or High Pass filter to select a frequency range. These three channels are then used to effect the drag, turbulence speed and birth rate of the particle system.

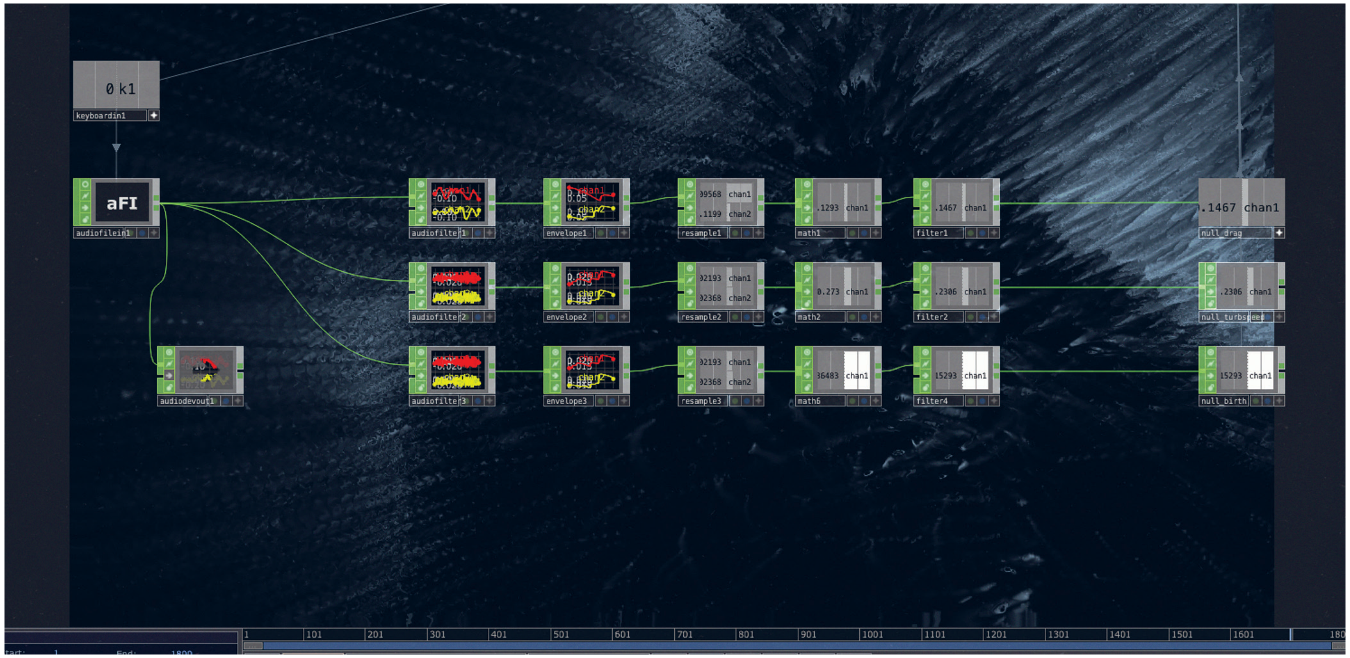
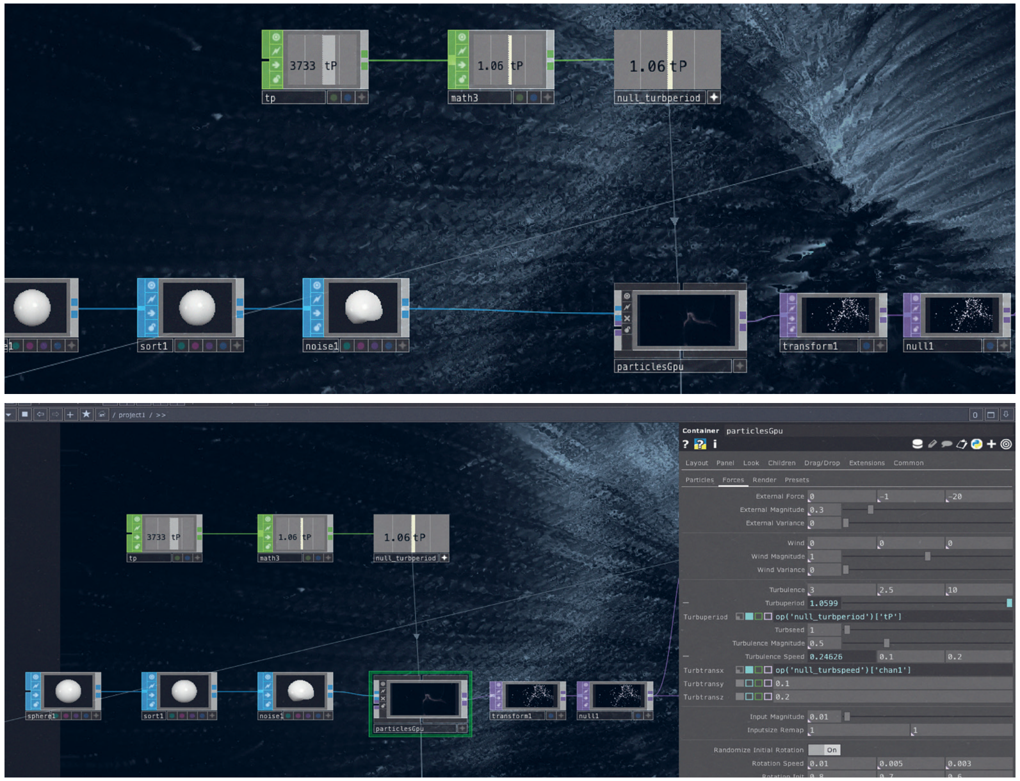


Fig. C.1. *Audio reactive network.*



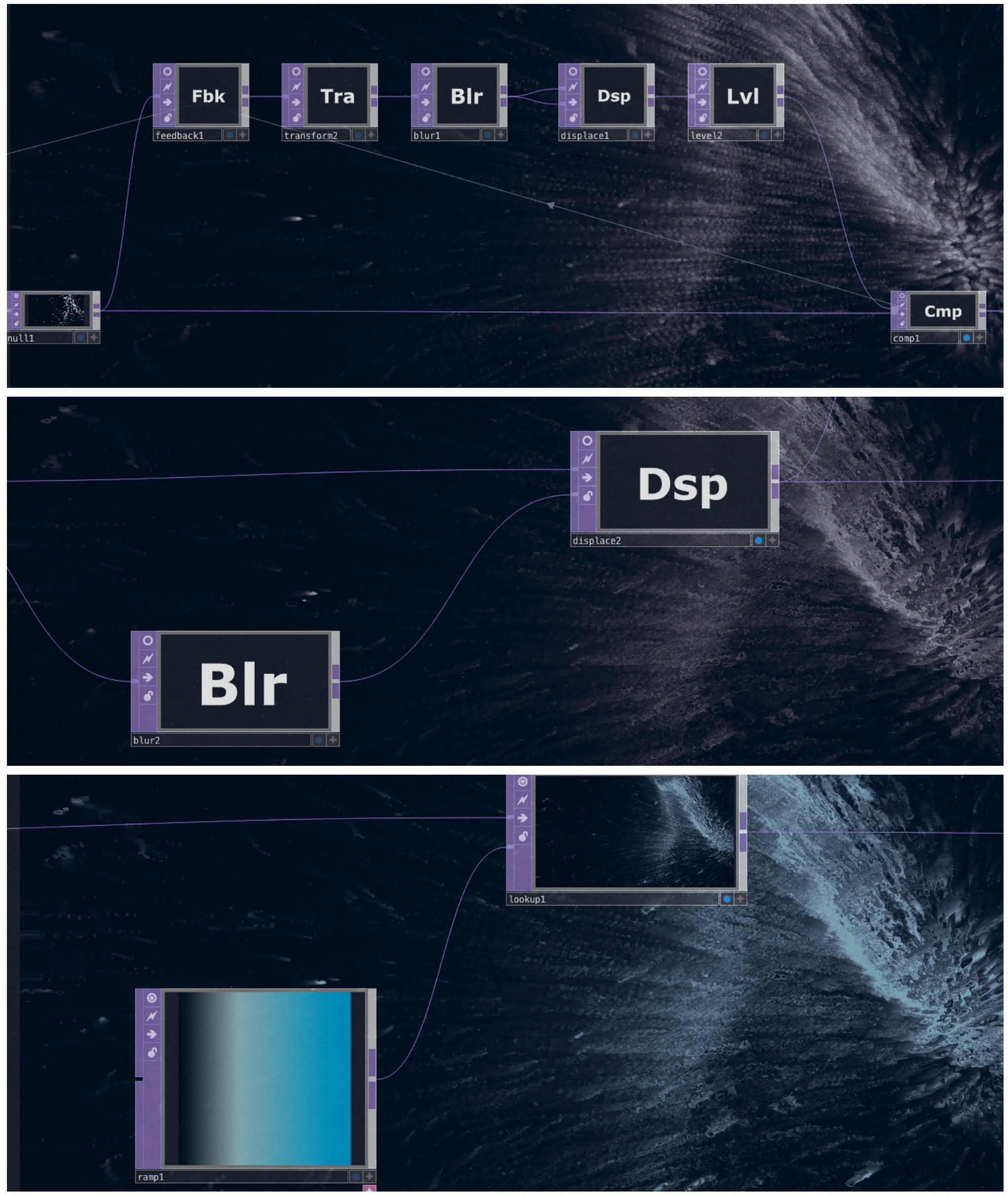
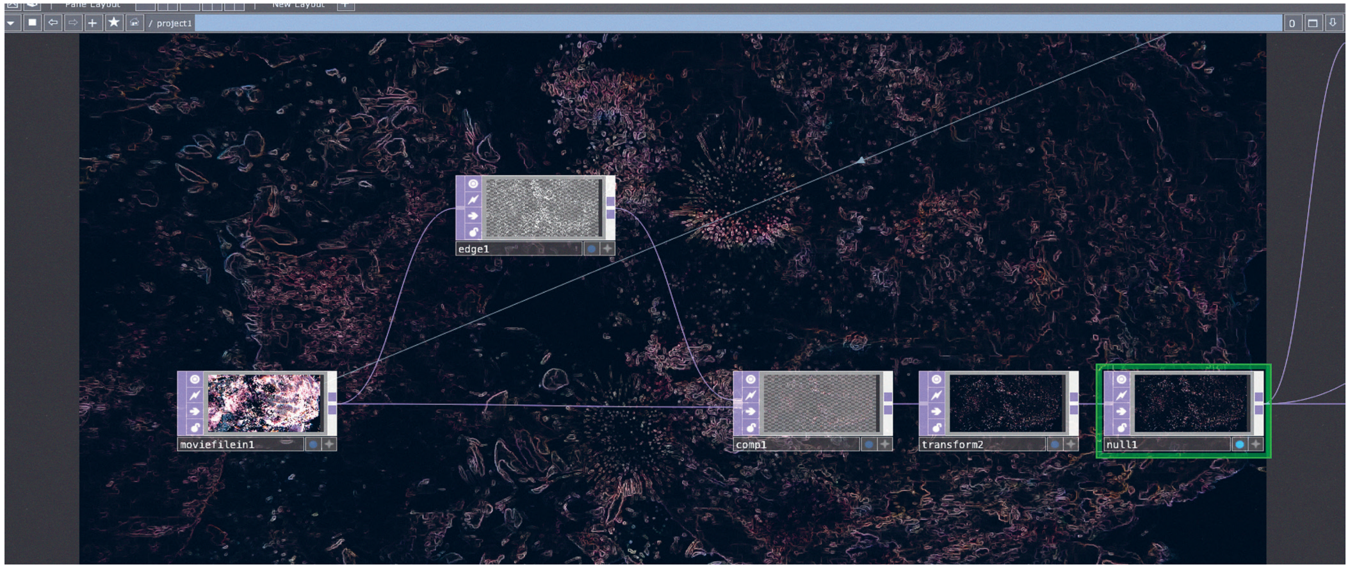
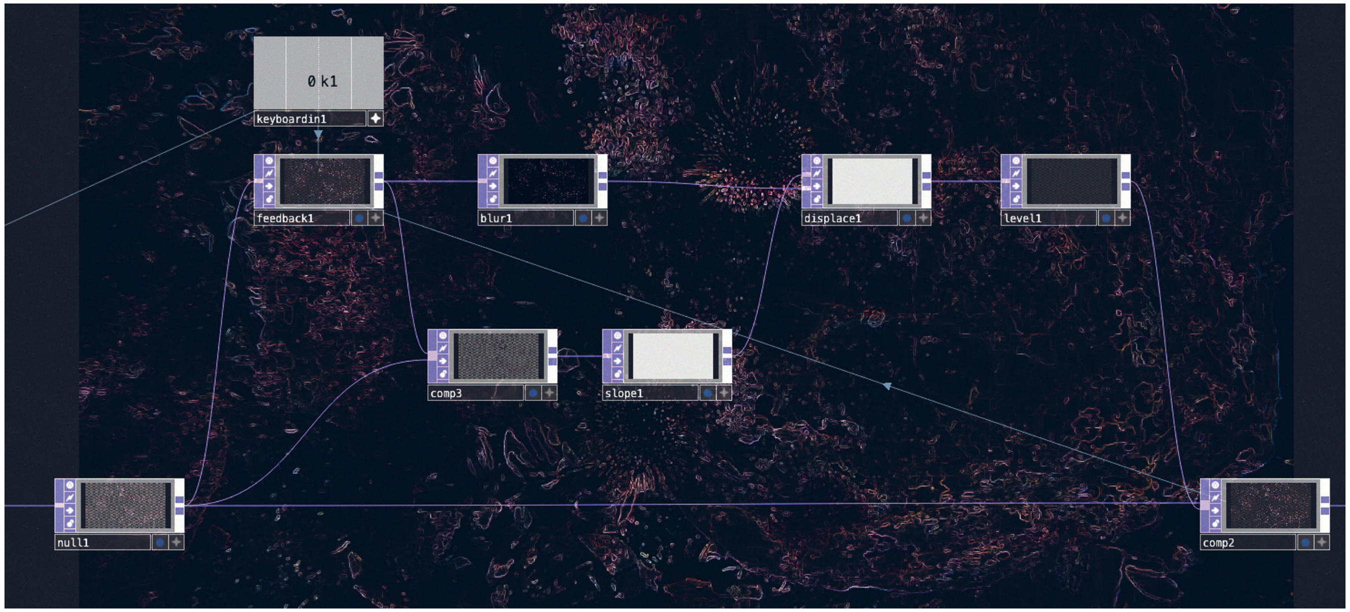


Fig. C.2. *Particle animation network.*

The Figures on this page show how the particle system was configured into a distorted sphere shape. Another CHOP was used to calculate a changing turbulence period, and then the particles were transformed with a feedback loop to get the trail effect. After this, the trails were altered using blur, displace, and bloom TOPs before a ramp was used to change the colour (fig. C.2.).





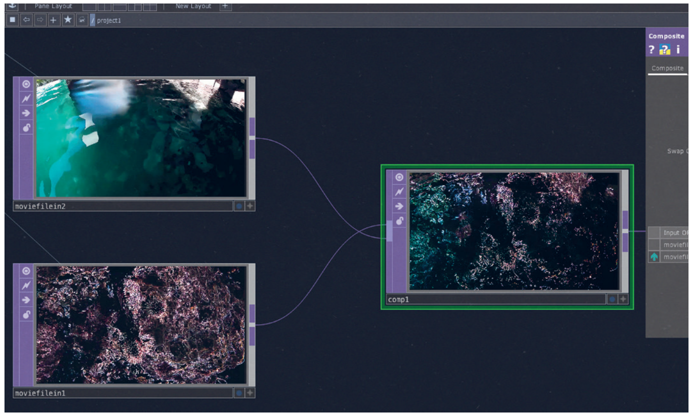


Fig. C.3. *Video manipulation network.*

This page demonstrates the image manipulation techniques used to generate *Act II: Below* (fig. C.3). The top left image shows the original Movie File at the start of the network on the left, over which an edge TOP was used to highlight the details within the image. In the bottom left image, this new detailed version of the video is put through a feedback loop to allow the imagery to grow and change in ways beyond my control. This is what allows the imagery to act on itself as a living visualisation of the site. The top right image shows how the final work was composed by overlaying the manipulated imagery over Go Pro footage that was not processed in TouchDesigner.

Figure C.4. shows how TouchDesigner was used to process the 3D scanned environments for *Act III: Above*. The top image shows how I used TouchDesigner to covert the .obj to a .exr file which included position, colour, UV, and normal position information. The second image shows how I selected and transcribed the channels for position data (tx, ty, tz). This process allowed me to convert the original scans into a point cloud format that I could then animate more easily.

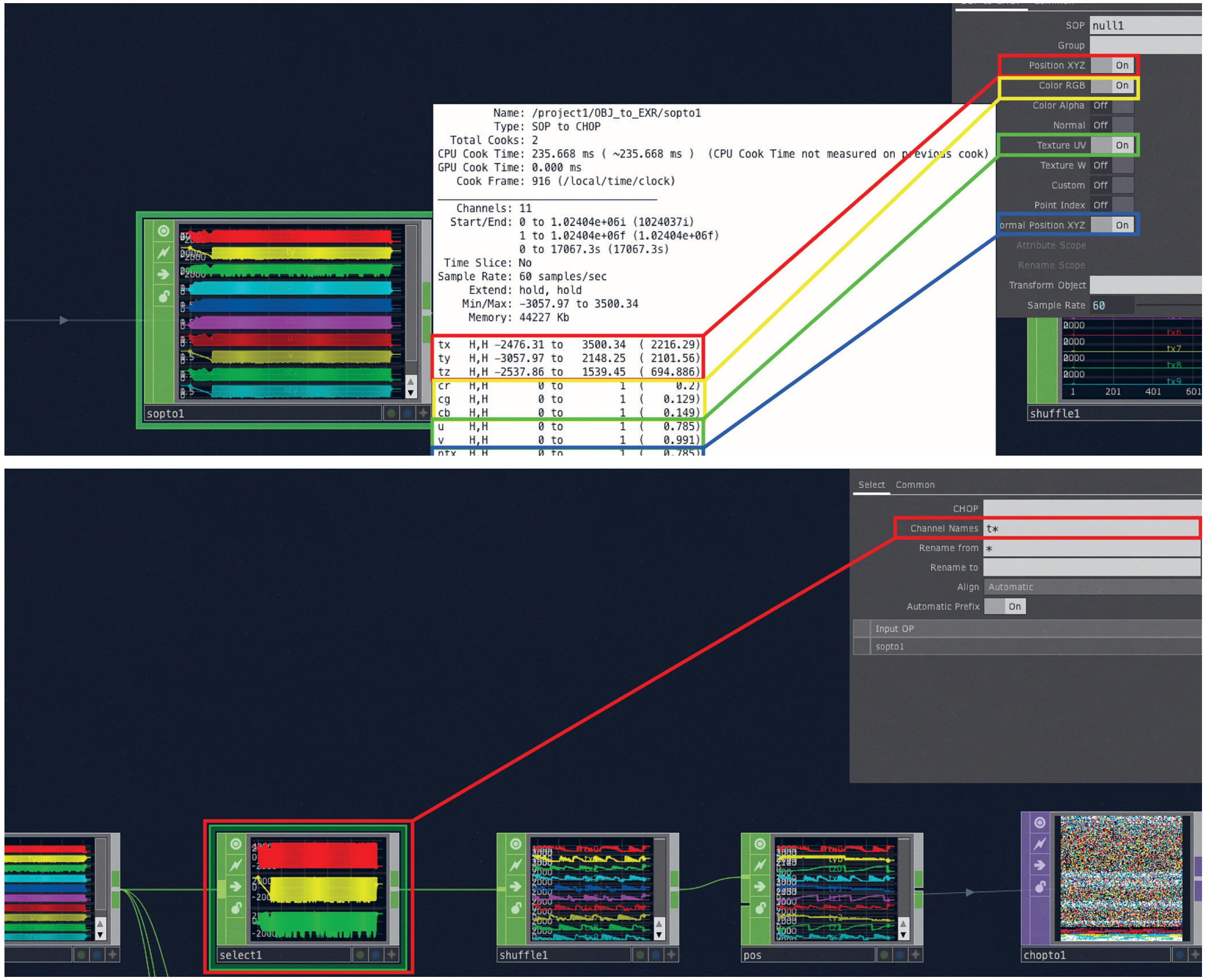


Fig. C.4. *Scan processing network.*

Figure C.5. shows how the point cloud file was rendered and animated in TouchDesigner. The image above shows the render network setup which includes animated camera movements. To improve the efficiency of the render, I chose to use a rectangle as the base geometry for the 'pixels' of the point cloud rather than a 3D shape such as a sphere. The image below shows the feedback loop I used to animate the point clouds dispersing from the shape of the original scan.

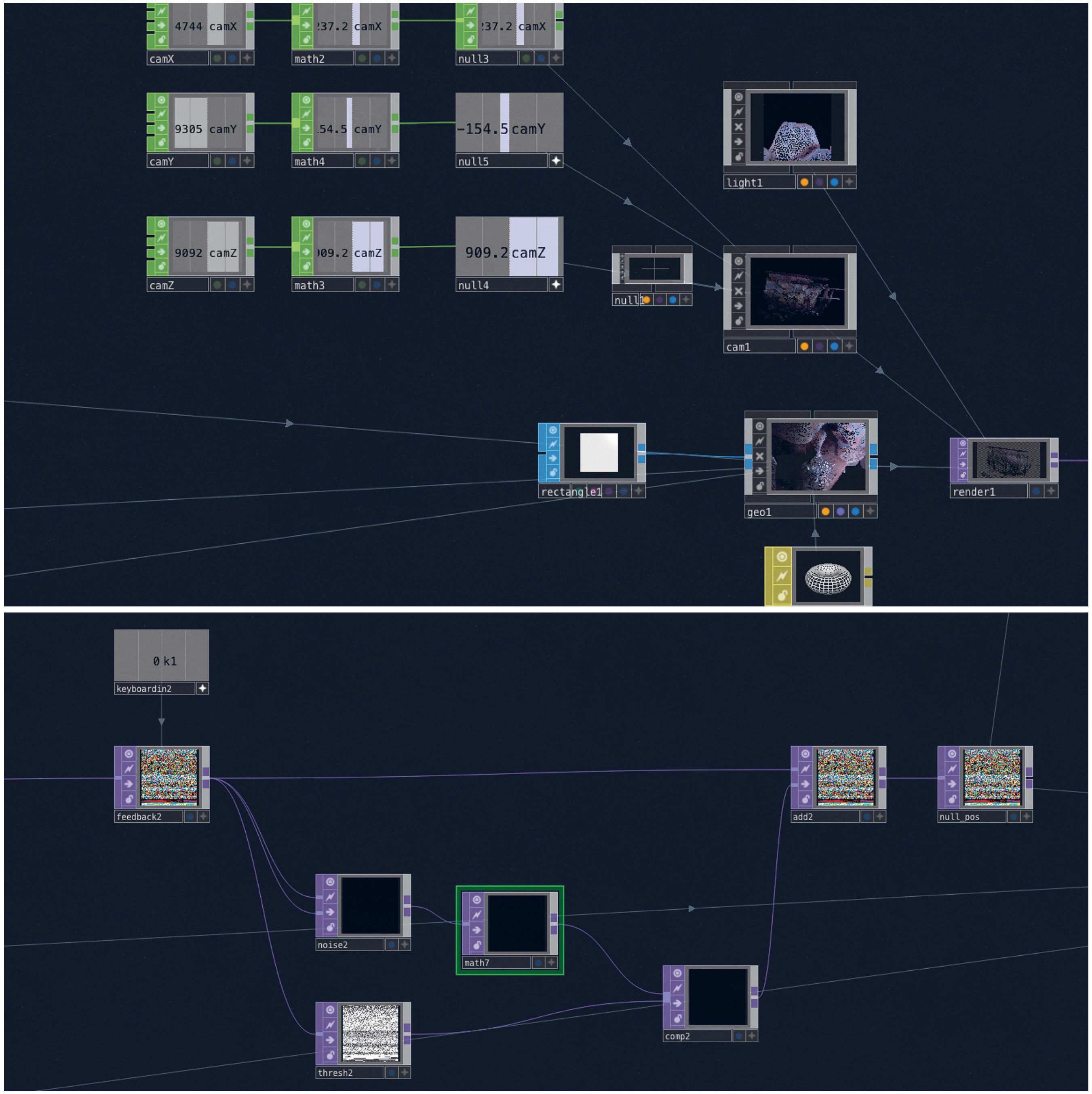


Fig. C.5. *Point file animation network.*

Bibliography

Aronson, Arnold, editor. *The Routledge Companion to Scenography*. Routledge, 2018.

Barnett, Cassandra. “Te Tuna-Whiri: The Knot of Eels.” *Animism in Art and Performance*, edited by Christopher Braddock, Springer International Publishing, 2017, pp. 23–44.

Baugh, Christopher. “Scenography with Purpose : Activism and Intervention.” *The Disappearing Stage*, 2012, pp. 37–48.

Bennett, Jane. *Vibrant Matter: A Political Ecology of Things*. Duke University Press, 2010.

Bimber, Oliver, and Ramesh Raskar. *Spatial Augmented Reality: Merging Real and Virtual Worlds*. CRC Press/Taylor & Francis Group, 2005.

Böhme, Gernot. “Urban Atmospheres: Charting New Directions for Architecture and Urban Planning.” *Architectural Atmospheres: On the Experience and Politics of Architecture*, 2014, pp. 42–59, https://doi.org/10.1515/9783038211785.42.

Borch, Christian. “Introduction : Why Atmospheres?” *Architectural Atmospheres: On the Experience and Politics of Architecture*, edited by Christian Borch et al., Birkhauser, 2014, pp. 6–17.

Borden, Iain, et al., editors. “Part III: Tactics.” *The Unknown City: Contesting Architecture and Social Space*, MIT Press, 2000, pp. 313–405.

Braidotti, Rosi. *The Posthuman*. Polity Press, 2013.

Candy, Linda, and Ernest Edmonds. “Practice-Based Research in the Creative Arts: Foundations and Futures from the Front Line.” *Leonardo*, vol. 51, no. 1, Feb. 2018, pp. 63–69. DOI.org (Crossref), https://doi.org/10.1162/LEON_a_01471.

Christouli, Vasiliki. *Site-Specific Art as an Exploration of Spatial and Temporal Limitations*. University of the Arts London, 2016.

de Almeida, Miranda. “Chapter 4: From the Iron Cage to the Mediated City.” *Digital Futures and the City of Today: New Technologies and Physical Spaces*, edited by Glenda Amayo Caldwell et al., Intellect Ltd, 2016, pp. 67–84.

de Certeau, Michel. “Practices of Space.” *On Signs*, The Johns Hopkins University Press, 1985, pp. 122–45.

de Certeau, Michel. *The Practice of Everyday Life.* University of California Press, 1984.

Doherty, Claire, editor. *Situation*. MIT Press, 2009.

Douglas, Mick, editor. *Performing Mobilities*. RMIT School of Architecture & Design, 2016.

Fischer-Lichte, Erika. *The Transformative Power of Performance: A New Aesthetics*. Routledge, 2008.

Foster, Stuart, and Kura Puke. “Kapo , Ka Pō Ka Awatea.” *Memory Connection*, vol. 3, no. 1, 2019.

Foucault, Michel. “Of Other Spaces.” *Diacritics*, translated by Jay Miskowiec, vol. 16, no. 1, 1986, pp. 22–27.

Frayling, Christopher. “Research in Art and Design.” *Royal College of Art Research Papers*, vol. 1, no. 1, 1994.

Grant, Stuart. “Performing an Aesthetics of Atmospheres.” *Literature and Aesthetics*, vol. 23, no. 1, 2014, pp. 12–32.

Gregson, Nick, and Rose Gillian. “Taking Butler Elsewhere.” *Environment and Planning D: Society and Space*, vol. 18, 2000, pp. 433–52.

Hadjilouca, Marina. *The Social Turn: The Performance Designer as Trigger for Active Co-Existence*. Royal College of Art, 2021, PhD dissertation.

Hannah, Dorita, and Olav Harsløf, editors. *Performance Design*. Museum of Tusculanum Press, 2008.

Hannah, Dorita. “Fluid States Pasifika: Spacing Events through an Entangled Oceanic Dramaturgy.” *Global Performance Studies*, vol. 1, no. 1, 2017,

Hannah, Dorita. *Event Space: Theatre Architecture and the Historical Avant-Garde*. Routledge/Taylor and Francis Group, 2019.

Hirsch, Nikolaus, and Markus Miessen, editors. *What Is Critical Spatial Practice?* Sternberg Press, 2012.

Ingold, Tim. “The Textility of Making.” *Cambridge Journal of Economics*, vol. 34, no. 1, July 2009, pp. 91–102, https://doi.org/10.1093/cje/bep042.

Irwin, Kathleen. “The Ambit of Performativity: How Site Makes Meaning in Site-Specific Performance." *Performance Design*, Museum of Tusculanum Press, 2008.

Klein, Julian. "What Is Artistic Research?" *Journal for Artistic Research*, 2010.

Lefebvre, Henri. *The Production of Space*. Blackwell, 1991.

Lehmann, Hans-Thies, and Karen Jürs-Munby. *Postdramatic Theatre*. Routledge, 2006.

Lotker, Sodja, and Richard Gough. "On Scenography: Editorial." *Performance Research*, vol. 18, no. 3, 2013, pp. 3–6.

MacDonald, Shana, and Brianna I. Wiens. "Mobilizing the 'Multimangle': Why New Materialist Research Methods in Public Participatory Art Matter." *Leisure Sciences*, vol. 41, no. 5, 2019, pp. 366–84, https://doi.org/10.1080/01490400.2019.1627960.

Massey, Doreen B. *For Space*. SAGE Publications Ltd, 2005. Open WorldCat, https://rbdigital.rbdigital.com.

Massey, Doreen. "Space, Place and Gender." *Gender Space Architecture: An Interdisciplinary Introduction*, edited by Iain Borden et al., Routledge, 1999.

McDowell, Linda. "Space, Place and Gender Relations: Part II. Identity, Difference, Feminist Geometries and Geographies." *Progress in Human Geography*, vol. 17, no. 3, 1993, pp. 305–18.

McKinney, Joslin, and Helen Iball. "Researching Scenography." *Research Methods in Theatre and Performance*, 2011, pp. 111–36.

McKinney, Joslin, and Scott Palmer, editors. "Scenography Expanded: An Introduction to Contemporary Performance Design." *Scenography Expanded*, Bloomsbury Methuen Drama, 2017.

McKinney, Joslin. "Vibrant Materials: The Agency of Things in the Context of Scenography." *Performance and Phenomenology: Traditions and Transformations*, edited by Maaike Bleeker et al., Routledge, 2015.

Morton, Timothy. "Thinking Big." *The Ecological Thought*, Harvard University Press, 2010, pp. 20–58.

Page, David, and Tripti Singh. "Durability of New Zealand Grown Timbers." *NZ Journal of Forestry*, vol. 58, no. 4, 2014, pp. 26–31.

Pallasmaa, Juhani. "Space, Place, and Atmosphere: Peripheral Perception in Existential Experience." *Architectural Atmospheres: On the Experience and Politics of Architecture*, edited by Christian Borch et al., 2014, pp. 18–41.

Pötzsch, Holger, and N. Katherine Hayles. "Posthumanism, Technogenesis, and Digital Technologies: A Conversation with N. Katherine Hayles." *The Fibreculture Journal*, no. 23, 2014, p. 13.

Preston, Julieanna, and Jen Archer-Martin. "Performing Bitumen, Materialising Desiré." *Architectural Materialisms: Nonhuman Creativity*, edited by Maria Voyatzaki, Edinburgh University Press, 2018, pp. 132–58.

Preston, Julieanna. *Performing Matter: Interior Surface and Feminist Actions*. Spurbuchverlag, 2014.

Pyle, D. J. *An Historical Overview of Lambton Harbour*. 5ever, 2021.

Reclamation Wellington Harbour. Wellington City Council Archives, https://archivesonline.wcc.govt.nz/nodes/view/704239. 00009-22/173, Part 2. Accessed 29 Aug. 2021 p.255.

Rendell, Jane. *Art and Architecture: A Place Between*. Tauris, 2006.

Rendell, Jane. *Site-Writing: The Architecture of Art Criticism*. I. B Tauris & Co Ltd, 2010.

Schechner, Richard. "What Is Performance Studies?" *Rupkatha Journal on Interdisciplinary Studies in Humanities*, vol. 5, no. 2, 2013, pp. 1–11.

Skogstad, Lauren. *Polyrhythmic Landscapes: BodyDressCity*. Massey University, 2010, Master's thesis.

Slager, Henk. *Critical Spatial Practice*. no. 2, 2016, pp. 1–2.

Soja, Edward W. "The Socio-Spatial Dialectic." *Annals of the Association of American Geographers*, vol. 70, no. 2, 1980, pp. 207–25.

Strauss, Carolyn F., editor. *Slow Spatial Reader: Chronicles of Radical Affection*. Valiz, 2021.

The Wellington Waterfront Framework: Report of the Waterfront Leadership Group. Wellington City Council, 2001, https://wellington.govt.nz/-/media/your-council/plans-policies-and-bylaws/plans-and-policies/a-to-z/waterfrontframewk/files/framework.pdf.

Trubridge, Sam, and Mick Douglas. "Concurrent Practices." *Performance Research*, vol. 21, no. 2, 2016, pp. 96–107.

Trubridge, Sam. *Pelagic States: Beyond Nomadic and Oceanic Practices*. Massey University, 2018, PhD dissertation.

Tschumi, Bernard. *Architecture and Disjunction*. MIT Press, 1996.

Wang, Qingchun, et al. "Arts-Based Methods in Socially Engaged Research Practice: A Classification Framework." *Art/Research International: A Transdisciplinary Journal*, vol. 2, no. 2, Aug. 2017, p. 5. DOI.org (Crossref), https://doi.org/10.18432/R26G8P.

Werry, Margaret. "Sea-Change: Performing a Fluid Continent: 2nd Oceanic Performance Biennial: Rarotonga, Cook Islands, 8–11 July 2015." *Performance Research*, vol. 21, no. 2, 2016, pp. 90–95.

Whatmore, Sarah. "Materialist Returns: Practising Cultural Geography in and for a More-than-Human World." *Cultural Geographies*, vol. 13, no. 4, 2006, pp. 600–09.

List of Figures